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THE ARCHITECTS' JOURNAL & Architectural Engineer

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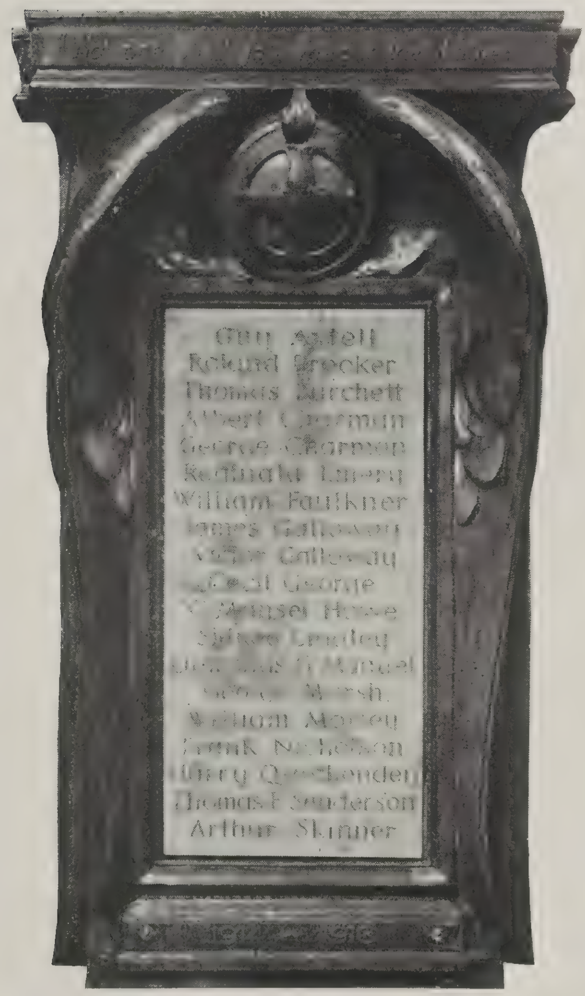
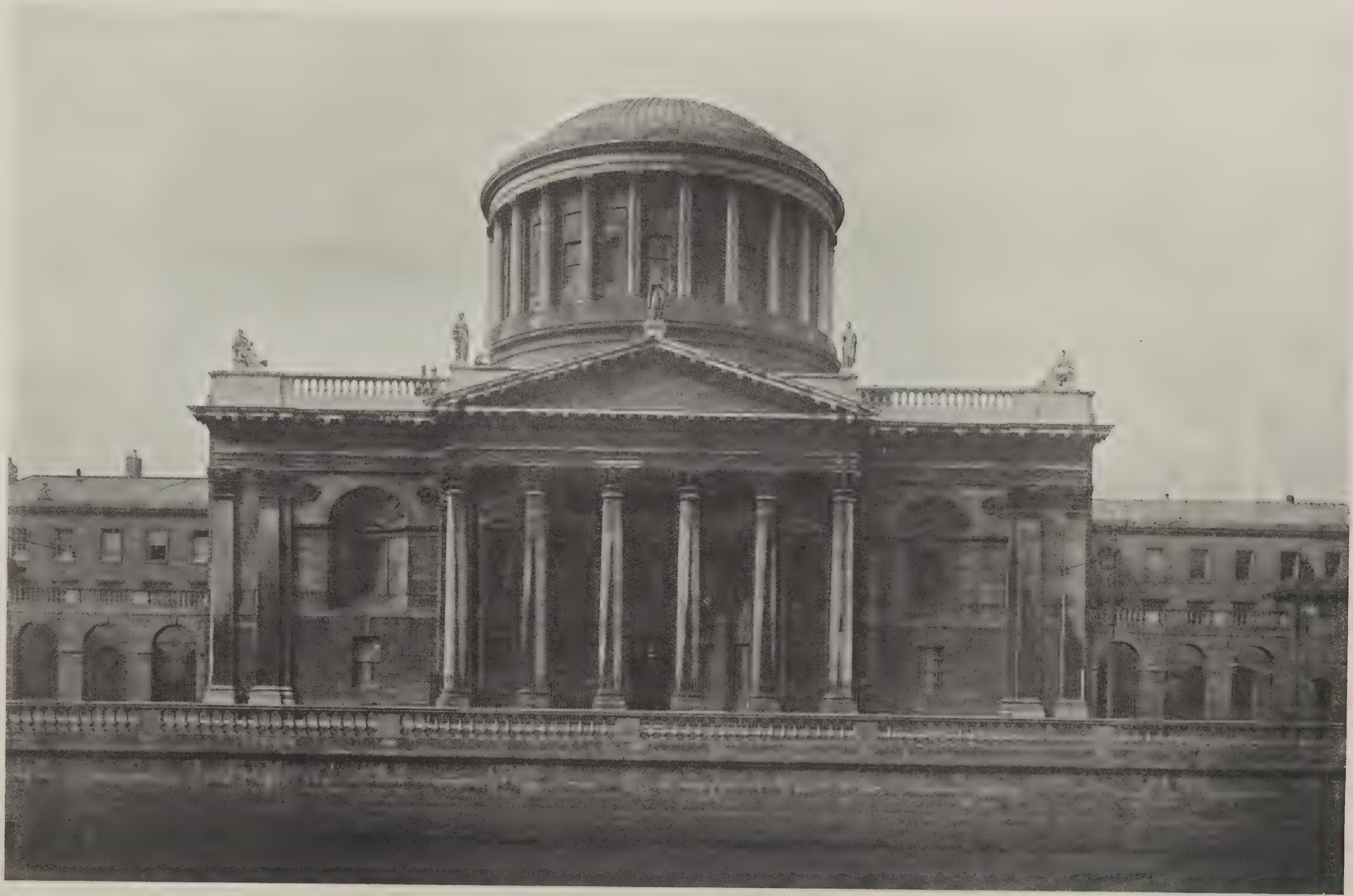


BLINDLEY HEATH WAR MEMORIAL.
W. K. McDERMOTT, A.R.I.B.A., ARCHITECT.

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Eighteenth Century. 18.—The Four Courts, Dublin: River Front

Thomas Cooley, Architect



The Four Courts building (which was burnt out during the civil warfare which broke out last week in the Irish capital) was designed in 1776 by Thomas Cooley. It was completed by James Gandon, the architect of the Custom House—another building that has suffered extensively as a result of the unsettled conditions in Ireland.

ARB

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, July 5, 1922 Volume LVI. No. 1435

The New Land Laws and the Building Industry

LAND-LAW reform has come at last, or is well on its way. It should give an immediate impetus to building. But does the architect, or does the builder, realize all that it means for him? Of course not; for it may turn out that the most important consequences are impossible to foresee, and will become apparent through experience of the working of the new law.

This new property law—the Birkenhead Act, as it has been promptly christened—has come upon us so suddenly and so noiselessly, if not altogether unexpectedly, that the architect and the builder, than whom nobody is more intimately concerned in its effects, have had but scanty opportunities of considering what the voluminous Act means to them in its professional and business aspects. They are, we think, in general agreement as to the salutary character in freeing the land from many impediments to its easy transference from vendor to purchaser, and by removing many anomalies of tenure.

Wonderful in the telling, land-law reform has come to us through the lawyers, who were always popularly regarded as its chief opponents. It were as ungracious as futile to speculate as to whether the lawyers have acted on the instinct that, reform being imminent and inevitable, it had better come voluntarily from within rather than compulsorily from without; but certainly the new law is peculiarly qualified to be considered lawyer-made, for Lord Birkenhead and the Solicitor-General, in drafting the property reforms Bill which when these lines were written awaited the Royal assent to become in a double sense "the law of the land," have had the assistance of the Honourable Society of Lincoln's Inn and of the Law Society.

On the face of it, this zeal for the simplification and consolidation of our complicated and lawyer-ridden property laws is an act of extraordinary self-abnegation. But lawyers have never been popularly credited with a reckless disregard for their own professional interests; and, in dealing on former occasions with this same question of the reform of our antiquated and almost prehistoric land laws, we have always held that what the various grades of conveyancers chance to lose on the roundabouts (a term of special significance where legal procedure is involved), they will certainly recover on the swings. That is to say, in simplified land transfer there will be quicker movement if less circumlocution.

It is hardly possible to secure drastic reform of any kind without disturbing vested interests; but as the Birkenhead Act is not to come into operation until 1925, those persons—and there is a large army of them—whose livelihood largely or entirely depends on conveyancing fees, stewardship, estate management, and the like, will have a fair amount of time in which to adjust themselves to the new conditions. For there can be no doubt that the new law will render obsolete many activities and much knowledge relating to hoary and complicated customs that will now disappear as an inevitable consequence of consolidating, revising, reforming the laws and abolishing many of the customs relating to the land.

Simplification being the primary object and the dominant keynote of the Bill, it was necessary above all things to unify the diverse systems of tenure—freehold, leasehold, and copyhold—and it was impossible to expect that so radical an operation could be entirely painless.

Already a bitter cry has gone up concerning the abolition of copyhold tenure, of which ancient system the doom was foreshadowed in the report issued by the Land Enquiry Committee in 1914. The first paragraph in their "Summary of Conclusions" pronounced copyhold to be "an inconvenient and irritating form of tenure which has long since outgrown its usefulness," and recommended in plain terms that "it should therefore be abolished immediately." This advice the promoters of the new Bill have taken to heart.

Sir G. A. Clayton East, however, deplores the effect of the abolition of copyhold. In this respect, he declares, the new law "imposes a cruel tax upon those persons who, like myself, are tenants on a copyhold property. We have paid our fines," he continues, "and the tenancy was a practical freehold during our lives. Now, whether we like it or not, we shall be compelled to purchase the freehold, which we do not want." He adds, with some causticity, "it is an admirable Bill for enriching lawyers." If that be so, the Bill simply follows well-established legal precedent; and it is to be feared that many worldly-wise persons, on observing a measure prepared by lawyers with the ostensible object of simplifying the law, will indulge certain philosophic doubts, suspecting "a catch somewhere."

Copyholders ought not to suffer hardship and loss from the abolition of this essentially feudal system of tenure. Sale under it was a clumsy enough process. "Should the tenant wish to sell his holding, he must follow the always cumbrous system of the manor. Instead of conveying directly to his purchaser, he first enters into a 'covenant to surrender' his holding to the lord; next he executes an actual surrender, and the lord then admits the purchaser to the holding as a tenant. A 'fine,' sometimes fixed, sometimes arbitrary, is payable to the lord on the transaction." When the holder dies his successor must pay the "fine." Sometimes the tenant must pay an annual "quit rent," in lieu of the services or supplies exacted by the old feudal lord; and some copyhold tenancies are subject to "heriots"—that is, when a tenant dies, the lord may claim his best chattel or beast; and if that beast happens to be a thoroughbred horse, or valuable bull, sheep, pig, coursing dog, its value may be—and has been known to be—greater than that of the holding on which it was bred or fed.

There are other quaint iniquities and anomalies of copyhold tenure: among them this—that a copyhold tenant may not cut down the timber on his holding, nor need he permit the lord to enter on his land to do it—a dog-in-the-manger arrangement that has given rise to many a Gilbertian situation. Nor has the tenant any mineral rights. They belong to the lord of the manor, who, however, may not dig for them without his tenant's permission. Under the new law such anomalies will cease; but there is some ground for Sir Gilbert Clayton's alarm about enfranchisement; for the copyholder must either relinquish, in 1925 or thereabouts, the holding which he had reason to suppose to be his for life—a privilege for which he had paid by the customary "fine," or he must be prepared to pay a further amount which will be calculated on an estimate of the "fines" that would accrue to the lord's estate on successive changes of tenancy, and on the estimated value of timber and mineral rights. In compensating the landlord and the steward for the loss of these and other rights and privileges, the small man may come nigh to financial ruin. The copyholder has a distinct grievance against the Bill.

As to leasehold tenures, these are not to be renewable for shorter terms than 2,000 years; and the additional rent to be exacted from the lessee in commutation of fines for renewal will be regarded by most holders as an unfair burden which is being imposed on them for the benefit of posterity. Leases now terminable by the death of the lessee are to be converted into leases for ninety years—a salutary change that will be beneficial to business in general and to the building industry in especial. It will be seen, indeed, that greater security of tenure, equally with simplification of transference, is a cardinal feature of the new law, which is less feudal than the old, and more equitable as between landlord and tenant. Greater security of tenure, less arbitrary power on the part of the landlord, will encourage tremendously the desire and the resolve to build, to repair, to improve, to decorate. The simplified law will be a sharp spur to enterprise. The shopkeeper, for instance, will be free from the haunting dread that any improvements or developments he may effect on his business premises will, on the expiration of his very short lease—three to six years, perhaps—add enormously to the cost of renewing that lease, whether he himself take it up or relinquish it to some possible rival in trade. Under the much longer term of enjoyment conferred by the new law, he will be able and anxious to spend money on building and decoration, from which the short-lease system had deterred him. Under the longer term many more theatres, cinemas, commercial premises, factories, workshops, warehouses, will spring into existence or be renovated or rebuilt.

Other aspects of the Birkenhead Law deal with such matters of importance in relation to buildings as easements, way-leaves, and rights of light; but consideration of these issues must be deferred to another occasion.

Town-planning and Fire Hazards

In matters of town-planning we English have been always absurdly happy-go-lucky. In the unusually large number of fires reported in the papers a few days ago our chronic weakness in this respect was emphasized in several instances. A fire occurred at the Metropolitan Railway power-generating sub-station in Moor Lane, Fore Street, in what is known as the City "danger zone." It was put out before the mischief could spread; but was it necessary to place an electricity generating station within the "danger zone" of a great city? And why should there be a "danger zone"? None would have grown up if, in the early days, the City had been properly town-planned; "the danger zone" came into existence before the need for town-planning had been realized. Then, from the report of a timber-yard fire at Redhill, it appears that the firemen "succeeded in confining the area of the fire, and prevented it from spreading to the gasworks and to premises in which were stored large quantities of petrol." Very courageous and clever of the firemen; but how comes it that the gasworks, the petrol store, and the timber-yard, are in proximity? Our municipal local authorities seem to need elementary lessons in town-planning—nay, in common sense. Will not the "Safety First" sages take them in hand? The burgesses who permit in such a town as Redhill the assemblage of gasworks, petrol stores, and timber-yards, should be put under restraint. In the account of the great fire at Pembroke Dock, which occurred at about the same time as the above-mentioned fires in London and at Redhill, it is grievous to read that some relics of wooden men-of-war, some figureheads captured by Nelson, some models of ships, and a number of valuable records, were all destroyed in the fire. That this interesting collection of combustibles was lodged in a moulding shop we cannot well believe; the reporter must have been misinformed.

Mr. Taft and Sulgrave Manor

Large numbers of American citizens kept Mr. Taft company on his visit to Sulgrave Manor last week-end. It was a proud day for "The Daily Telegraph," by whose efforts the home of George Washington's ancestors was purchased as a memorial to the Father of his Country and as a monument to the amity of the two great English-speaking nations. While the manor is more interesting historically than architecturally, it is, nevertheless, a typical specimen of its period and provenance. On that account it will be admired by the American visitors, who, however, would regard it with equal reverence if it had much less claim, or none at all, to any sort of architectural distinction. It was the ancestral home of the Washingtons, and that is enough to constitute it a shrine to which all good Americans must needs make pilgrimage before they recross the Atlantic *en voyage* for the Statue of Liberty. England is indeed honoured by the almost simultaneous visits of two such distinguished Americans as Mr. Taft and Mr. Thomas Hastings—a great statesman and a great architect; and considers herself indeed fortunate in being able to engage and to share their interest in such a monument to kinship and amity as Sulgrave Manor.

The Danger to Dublin Buildings

It is only too certain that some fine Dublin buildings will have suffered cruelly in the siege operations to which they have been subjected. The Four Courts, we know, is in ruins. According to the latest reports, repair is entirely out of the question: "Destruction," says a daily newspaper correspondent, "more terrible and complete it is hard to imagine. A few frail walls hang together, but they are shattered and shaken and may tumble at any moment . . . The interior of the building simply does not exist: it is burned away." It is devoutly to be hoped that no harm may befall the other noble buildings, Trinity College and the City Hall, for instance, in which, for so comparatively small a city, Dublin is—or was, it may be, alas!—singularly rich. Their quiet dignity is a silent reproach to the base uses to which they have been turned by the belligerents on both sides. The Courts were begun in 1776, from designs made by Thomas Cooley, who, however, died before the building was far advanced, and it is probable that in taking over the work Gandon did not vary it much, except in a few details. With the destruction, first, of the Custom House, and now the Four Courts, the work of Gandon has suffered heavily in Dublin.

The Alhambra in Decay

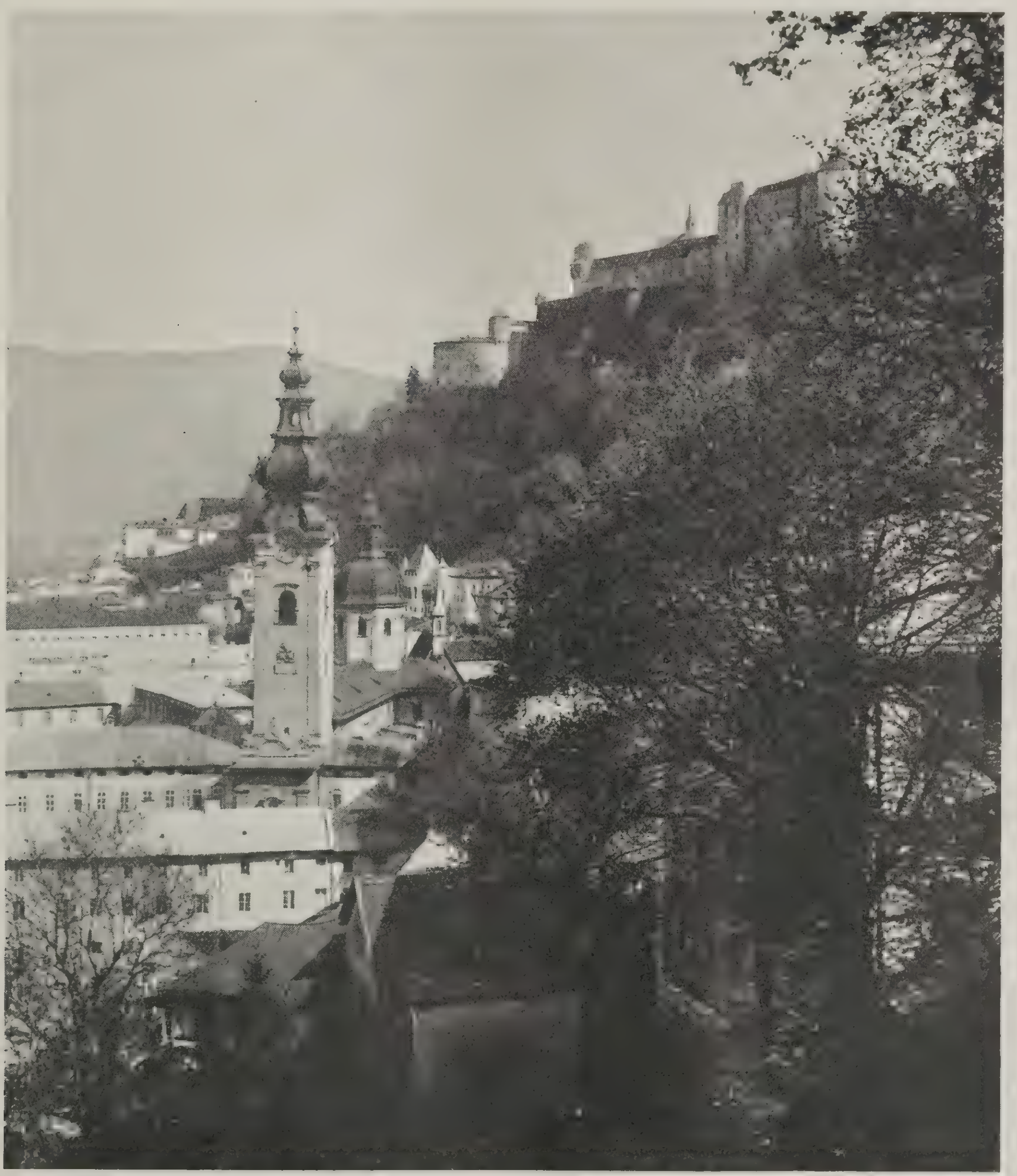
A writer in "The Times" having drawn attention to the neglect of the Alhambra, Granada, two correspondents of our contemporary confirm the lamentable report that parts of the Palace are being allowed to fall into "visible decay." The city is wealthy enough to afford the cost of repair, but it seems that there is a little difference of opinion as to how the repair should be done. Some would have it restored in Moorish style, and would, indeed, like "to get rid of every vestige of Renaissance building, and to restore the Palace to what it originally was before the arrival of Ferdinand and Isabella." Others think the Renaissance parts as beautiful as anything in the building. What is wanted, however, is, as Mr. J. B. Trend remarks, not restoration, but preservation. It is a pity there is any disagreement about it; for while the doctors are quarrelling the patient is perishing for want of a little timely attention—first aid, indeed, seems all that is necessary.

Salzburg

By H. J. BIRNSTINGL, A.R.I.B.A.

ON arrival at a strange town, especially at one about which there has been much pleasant anticipatory speculation, the mind, in its avidity to secure a quick impression, is apt to seize upon any evidence, such as may be afforded by the character of the streets or by a conspicuous building, and at once to assume it to be typical of the whole town. An impression so formed, however erroneous, is subsequently readjusted only with much difficulty. The mind is particularly liable to such a mistake in those towns which are dominated by one large building, so disposed upon an eminence as to be always visible, so that it appears to brood over the town, which is seen rather as a subsequent and dependent growth, as if men had consciously sought for inspiration or protection under its shadow. As, indeed, has so often happened. But whereas the town itself may, in the course of time, have undergone many ravages from fire or warfare, so that but little of its original fabric now remains, the presiding building maintains, to some extent, its ancient form, and so it is that any connection that may still exist between the two in the mind of the beholder is in its nature subjective rather than objective.

Such a town is Salzburg. Part hewn out of, and part built upon, high impregnable rocks, so that at times it seems more like a growth of nature than a building of man, is the old fortress; a vast and complicated structure which, despite additions and alterations of successive ages, still retains its mediæval character, a character that it seems to impart to the whole town, whose constant yet ever-changing background it is. This building, together with the confined position of the town in a narrow strip of the Salzach valley held by rocks and tree-covered hills, sufficiently excuses a quick impression of mediævalism: an impression which is slowly modified upon further acquaintance.

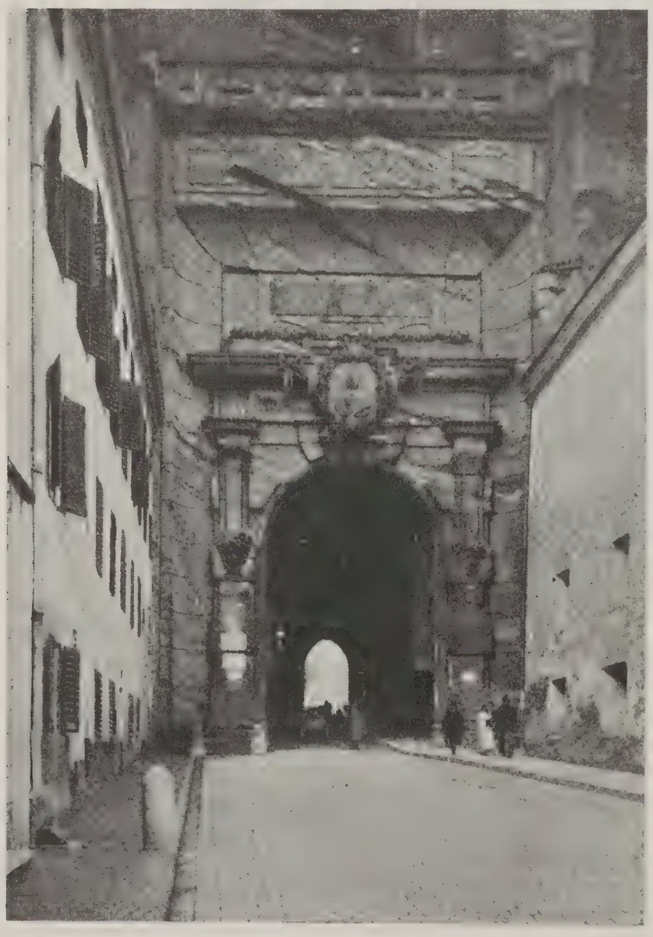


SALZBURG: SHOWING ST. PETER'S IN THE FOREGROUND, THE DOME OF THE CATHEDRAL, AND THE FORTIFICATIONS

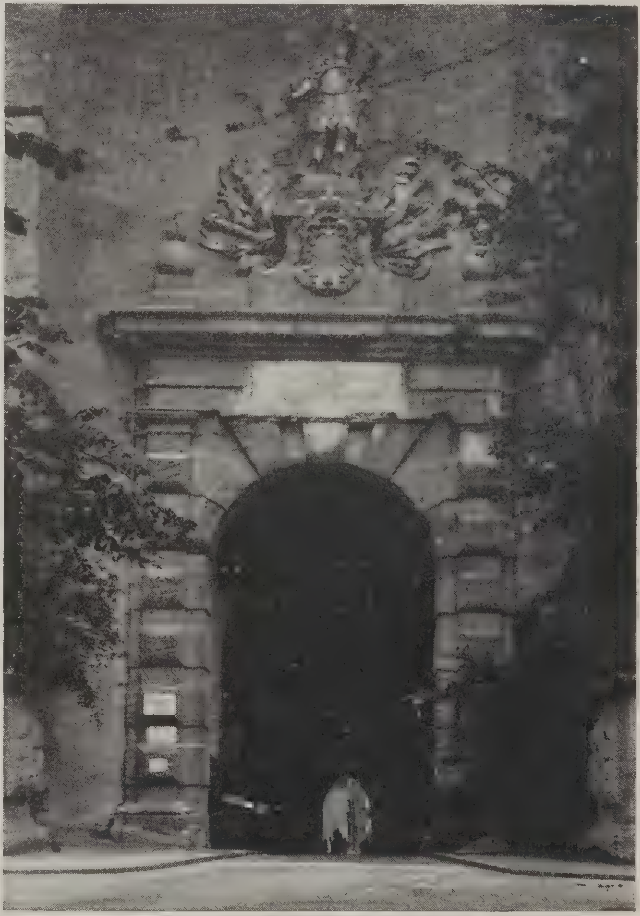
It is soon apparent that the town, for the most part, is the work of the seventeenth and eighteenth centuries, and where the visitor expects to find narrow tortuous streets, revealing but a strip of sky between the overhanging upper parts of the houses, he is amazed at an arrangement of fine spacious squares flanked by churches and placid-fronted palaces, leading from one into the other up to the very base of the confining rocks. Fountains there are, too, and steps, so that he is slowly reminded of Italy, and more particularly Rome, except when he walks along the river, which evokes memories of the Lungarno. And there is ample justification for these thoughts, for the spirit of Italy has indeed been imparted by some of a succession of pleasure-loving and politically intriguing archbishops who for a thousand years lived in and dominated Salzburg, seeking to realize in their city some of the wonders that had amazed and delighted them on their pilgrimages to the papal throne. From this union of Latin and Teuton influences a particular charm emerges: a splendour modified by the simplicity of the North, and an austerity modified by the gaiety of the South.

Salzburg was the birthplace of Mozart, and this fact has more than the usual historical significance that attaches itself to the birthplaces of great men. The spirit of Mozart can be felt to-day, so that he has become as much a factor in moulding the city's character as the archbishops who moulded its form, albeit an influence less easy to define. For whereas, in his music, Mozart stands for the classical, for restraint, for pure form and economy of material, the contemporary architecture shows a superabundance of ornament, an utter disregard of classical form and idiom, which it distorts and degrades. Yet it is not without a certain coarse grace, a clumsy elegance; but the connection would appear to be primarily one of association. For Mozart has, in our minds, a particular eighteenth-century setting; a setting in which secular and ecclesiastical architecture are drawn closely together, for to both church and theatre the same abundance of decoration has been applied. And thus it is to-day: to assist at high mass is to witness a scene in which ornate figures move slowly to an accompaniment of a hidden orchestra and a choir of boys' voices, in a building profuse with twisted columns, with broken or inverted pediments, with figures of every conceivable scale, with huge cherubs seated on plaster clouds that break into the main entablature, with small cherubs swinging swags of fruit, with ceiling paintings from whose complicated perspectives emerge the heads of saints or the feet of apostles, with pulpits that look like opera boxes, and with altar-screens that look like triumphal arches. But that all this riot of ornamentation was spontaneous there can be no doubt. How else can we account for the treatment of the Franciscan Church, between the tall arches of whose beautiful Late Gothic chancel there has been added a series of erections looking like highly decorated eighteenth-century house-fronts, complete with balconies and glazed windows? These incongruous additions would seem to be a kind of overflow from the Residence Palace, which adjoins the church, and to which it is connected by an upper passage, so that by a quick transition the archbishops could pass from temporal seclusion to the supervision of spiritual duties, without too sharp a shock to their architectural susceptibilities. The Residence Palace still maintains its eighteenth-century splendour, and the visitor may pass through an endless succession of magnificent apartments in which both French and Italian influence is apparent. From other great palaces the glory of the past has vanished. One of them, euphoniously called the Palace Mirabell, was built by Archbishop Wolf Dietrich for the delight of his mistress, and still retains its elaborate marble staircase, upon the voluptuous curves of whose balustrade cherubs disport themselves; another has been taken over by the municipal authorities.

If proof were needed of the assertion that the eighteenth century was an architecture-loving age, it is afforded here in Salzburg, where there are more churches built within a short period than are to be met with in most other towns

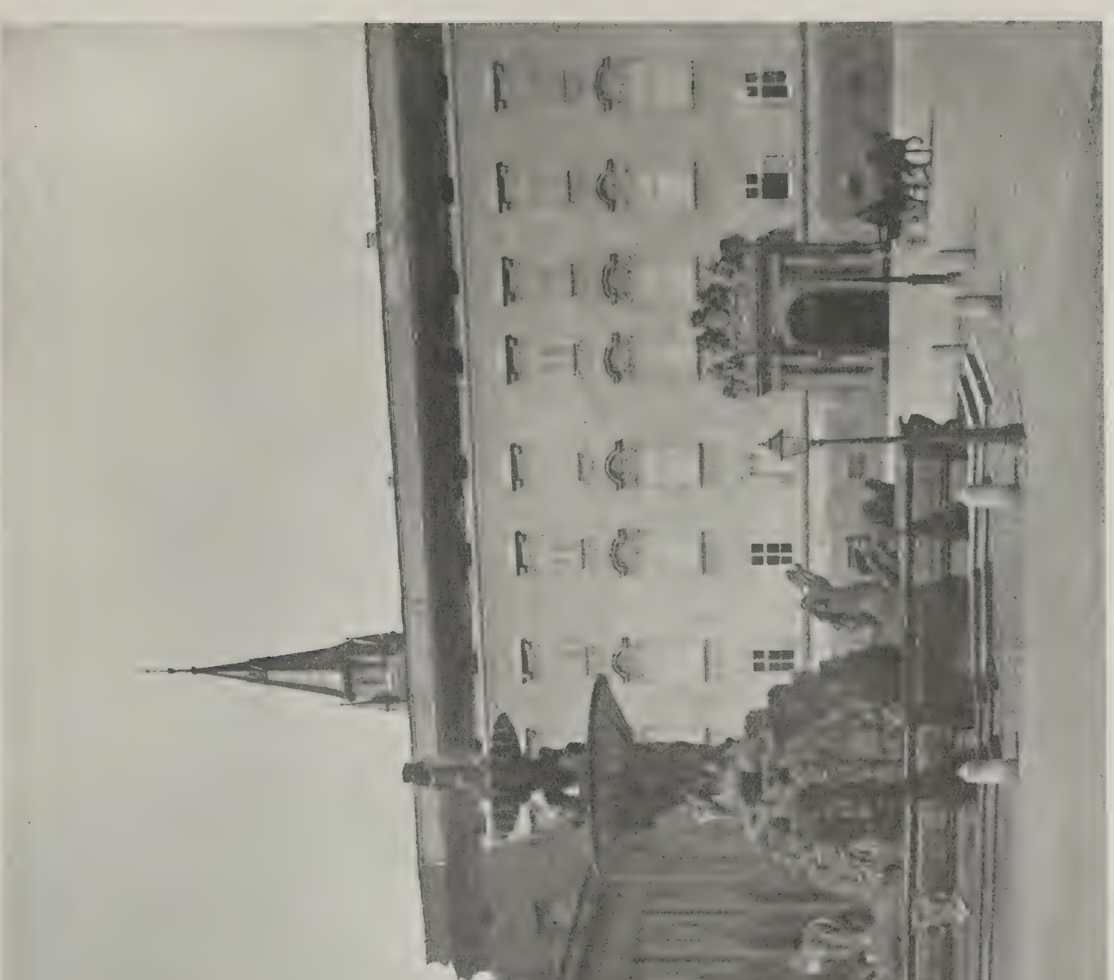


NORTHERN ENTRANCE.



SOUTHERN ENTRANCE.

THE TUNNEL, SALZBURG.

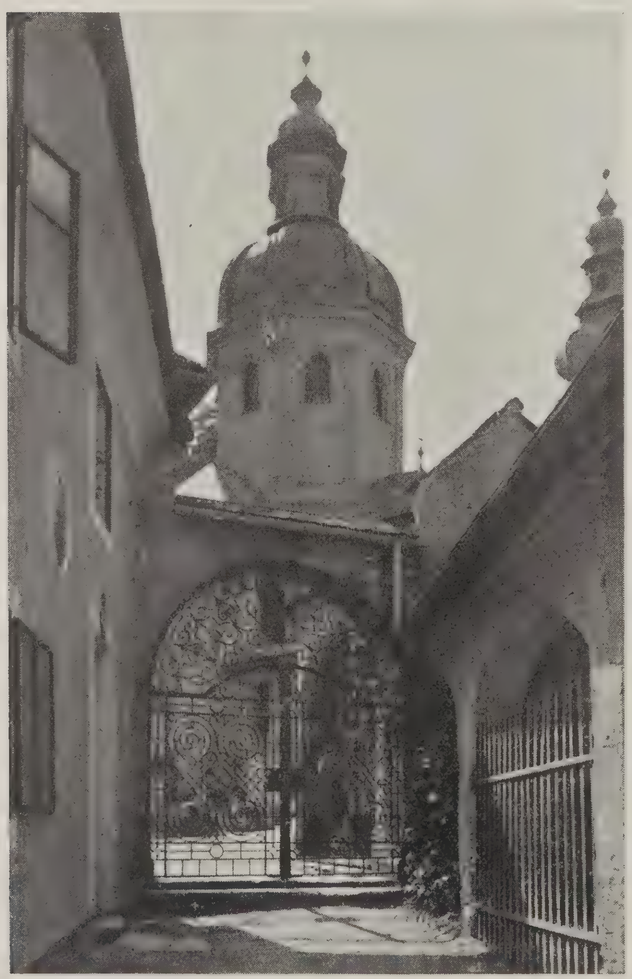


RESIDENZ PLATZ, SALZBURG.

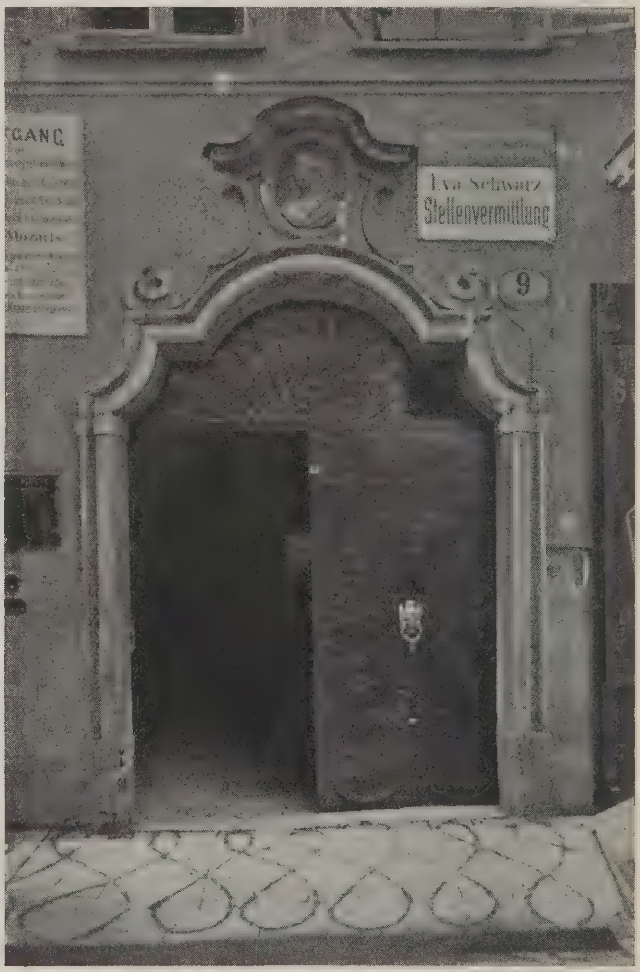
of like population. The Cathedral, built in the seventeenth century upon the site of its eighth-century predecessor, which was burned, so a rumour has it, by the then archbishop that he might have a grand new church in the fashionable classical style, is a vast, cold, and pompous building designed by Santino Solari and modelled, at the episcopal command, upon St. Peter's, of Rome. But lack of funds, the Thirty Years' War having seriously depleted the exchequer, necessitated sudden economies, so that only the western front shows the architect's original intentions. The Collegian Church has all the rich voluptuousness of the succeeding century, and St. Peter's is an orgy of febrile Rococo ornament grafted on to a Romanesque portal. St. Sebastian is a more delicate contemporary, in which is the grave of Paracelsus. But it was not only by means of ecclesiastical buildings that these archbishops sought to enrich their town. From visits to Rome they had learnt that a town may be beautified and the spirit refreshed by the sight of running water, and so an abundance of fountains was designed; the spirit of emulation going so far as to seek direct inspiration from the Fontana Trevi, which is here to be seen in miniature. Another, the work of Antonio Dario, is a bold composition of men and horses, such as the Italians love, hewn out of a mighty monolith..

It must not, however, be presumed that these churchmen were so devoid of inspiration that they must needs ever turn to Rome. One of them conceived the idea of hewing three tiers of galleries from the solid rock from which he might look down into a grass arena upon equestrian sport, and so that in winter he might not be denied this pleasure he built alondside a winter riding-school with sumptuously fitted marble mews. Another, Archbishop Sigismund, pierced the wall of rock with a tunnel, and so allowed the hitherto compressed town to expand southwards, hewing, as he did so, upon the solid faces of the breccia two fine architectural compositions around the arched openings.

Political intriguing and schemes for self-aggrandisement, of which the beautifying of their town was but an outward manifestation, did not, it would seem, occupy all the time and energies of this worldly line of prelates; and at Hellbrunn, about three miles outside the fortifications of Salzburg, Archbishop Marcus Settich built himself a summer palace. Here, between two tree-capped knolls in the middle of the fertile Salzach valley, which stretches like a riband of luminous green between the purple and sepia tones of the mountains streaked with snow and with the sinister shades of firs and pines, he laid out pleasure grounds which combine with the formality of the French gardens the romance of the Italian. But the particular spirit of the age, which was one that loved graceful pleasures, and of the country, which is one that loves simple toys, projected itself, for the delectation of the archiepiscopal humour, into a series of fountains and water toys. Here native craftsmanship, which excels in the execution of painted wooden figures—the plentiful supply of soft wood providing an industry whose wares still fill the toy shops of the world—aided by foreign ingenuity, has produced a series of mechanical toys whose motive power is running water. Flanking a formal avenue the visitor is surprised to find sheltered amongst the thick green foliage a row of minute grottoes, each enshrining a little set-piece which springs to life and performs a series of angular convolutions. In the choice of the subjects a fine eclecticism has been displayed, classical myth and local activities alike supplying the subject; thus side by side Perseus rescues Andromeda, and the potter turns his wheel. But the masterpiece of the collection is a theatre

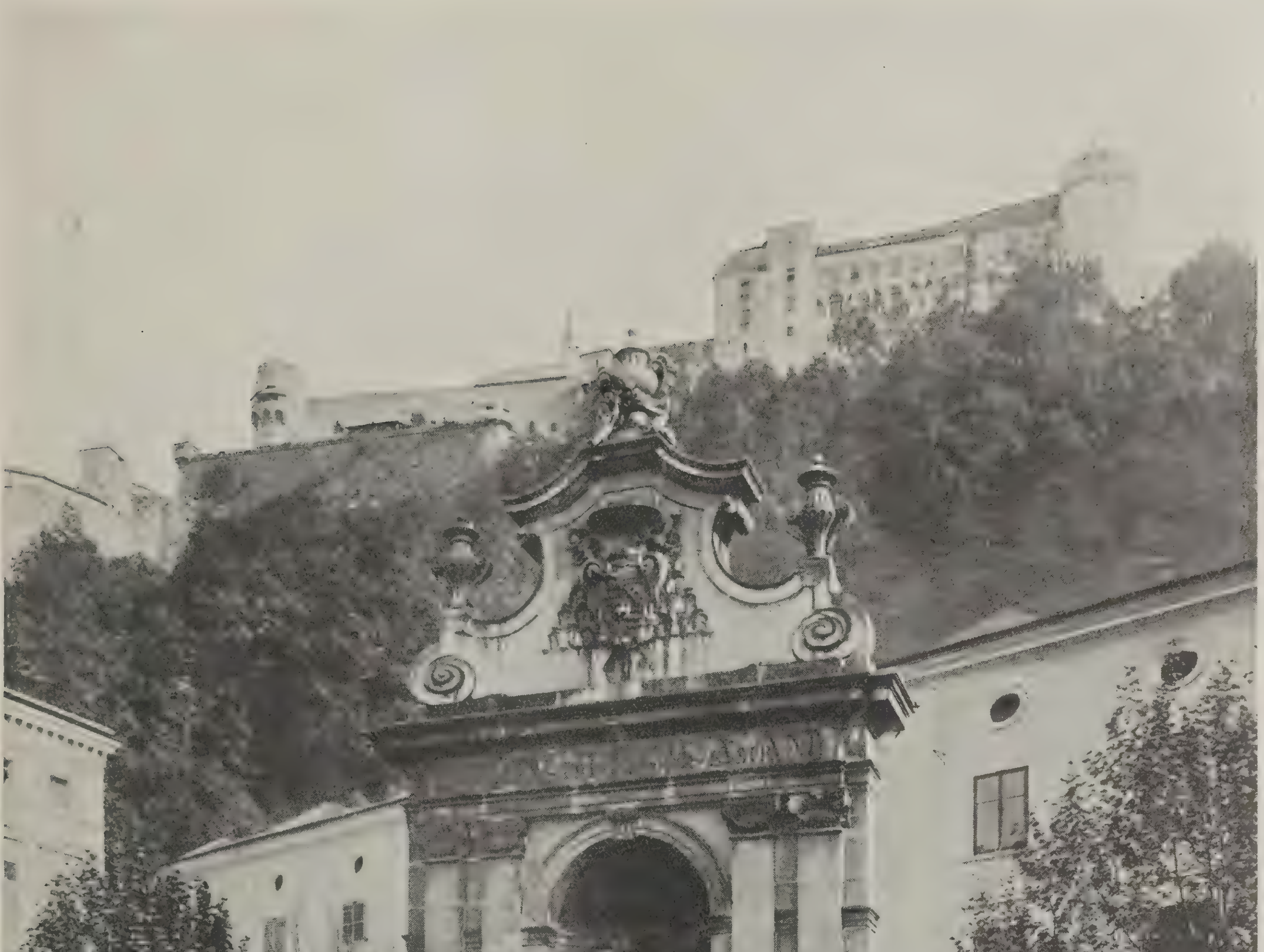


THE CATHEDRAL FROM ST. PETER'S CEMETERY,
SALZBURG



AN EIGHTEENTH-CENTURY DOORWAY,
SALZBURG

The Neptune Fountain, Dom Platz, Salzburg



Salzburg, a picturesque town of Austria, adjoining Bavaria and the Tyrol, is built against high impregnable rocks. It contains a wealth of eighteenth-century architecture, whose distinctive character is well shown in this view of the Neptune Fountain. The fortifications are seen in the background.

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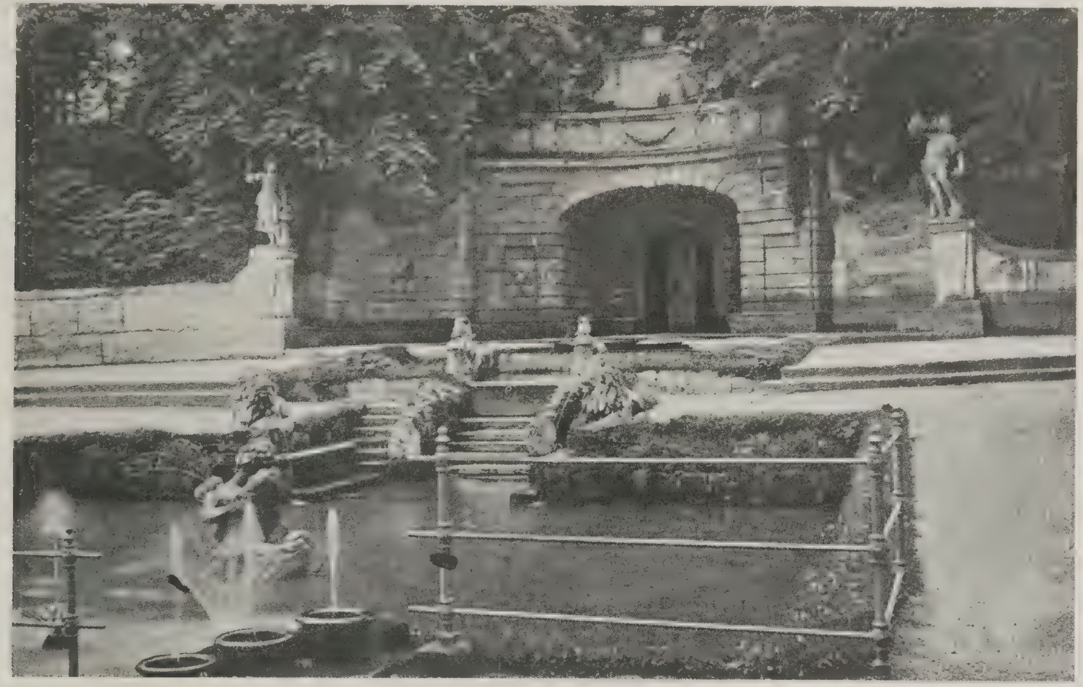
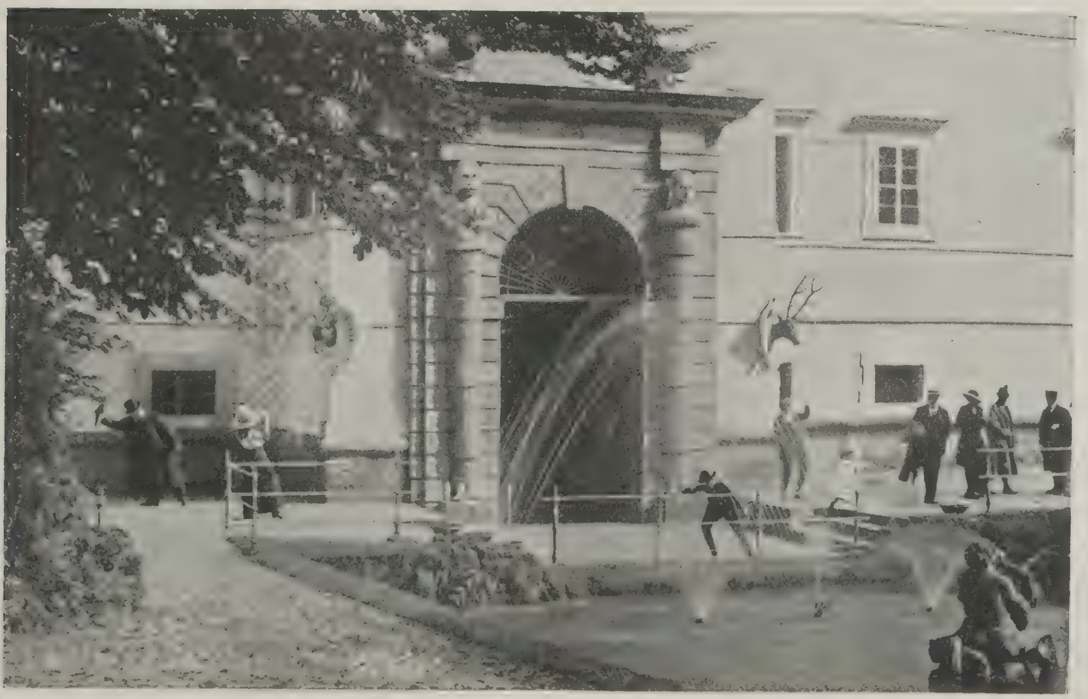
set with hundreds of figures, which, upon the turning on of a tap, are all set in motion to a subdued organ accompaniment. In the square of a busy town every kind of activity and occupation is animately shown: the performing bear, and the itinerant dancer; the barber shaving his customer; the bootmaker, the smith, and the baker; the fine lady and her attendants; the politician addressing a crowd from a central monument; the quack doctor, the lawyer, and the beggar; while on one house which is in course of construction the entire hierarchy of the building trade is seen at its labours. (See page 12.)

The fountains themselves, some of which display an inventive ingenuity, as when a crown is slowly raised and lowered on a jet of water, or when a sheet of water encircles, without moistening, a freshly gathered bunch of flowers, often show a certain vein of practical humour, so that an unconventional welcome might easily have been prepared for any unsuspecting visitor. Water is made to spurt from the ground or from the horns of antelope, or artificial rain descends in torrents from the ceiling of a grotto. To those now reconciled to the harsh bargain by which leisure is sacrificed to speed, these amusements may seem fatuous and scarcely worthy of the high dignitary of the Church at whose command they were devised.

But nothing which assists in an understanding of the spirit of a past age is to be despised, even by those whose minds are now attuned to other things. And these toys, with their innocent childlike simplicity, afforded a rich contrast in leisure hours to brains wearied with politics and intrigue, and to minds burdened with a constant administration of spiritual matters, and they indicate to us something of the mentality of those to whom they yielded a brief relief. The palace itself, in which a small and insignificant chapel seems to confirm an impression that here at least an indulgence in temporal pleasures is of more importance than attention to religious duties, is not of much architectural value. Its mural decorations by Mascagni are examples of that skilful perspective with

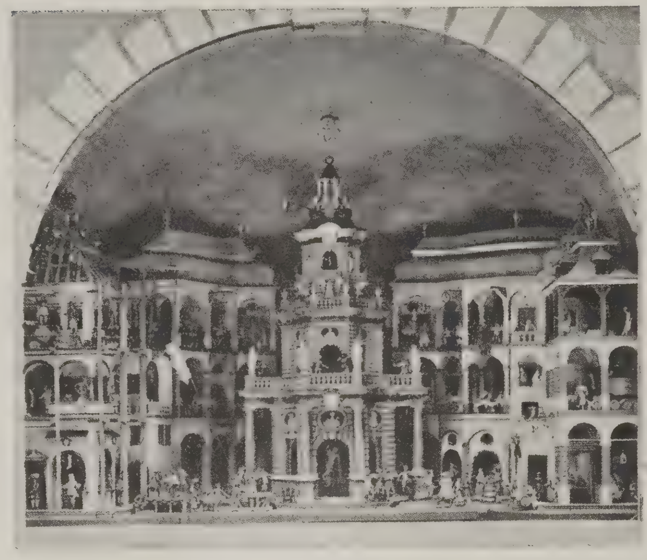




GROTTO AND FOUNTAINS, HELLBRUN CASTLE.

which the walls and ceilings of so many contemporary buildings, both ecclesiastical and secular, are covered.

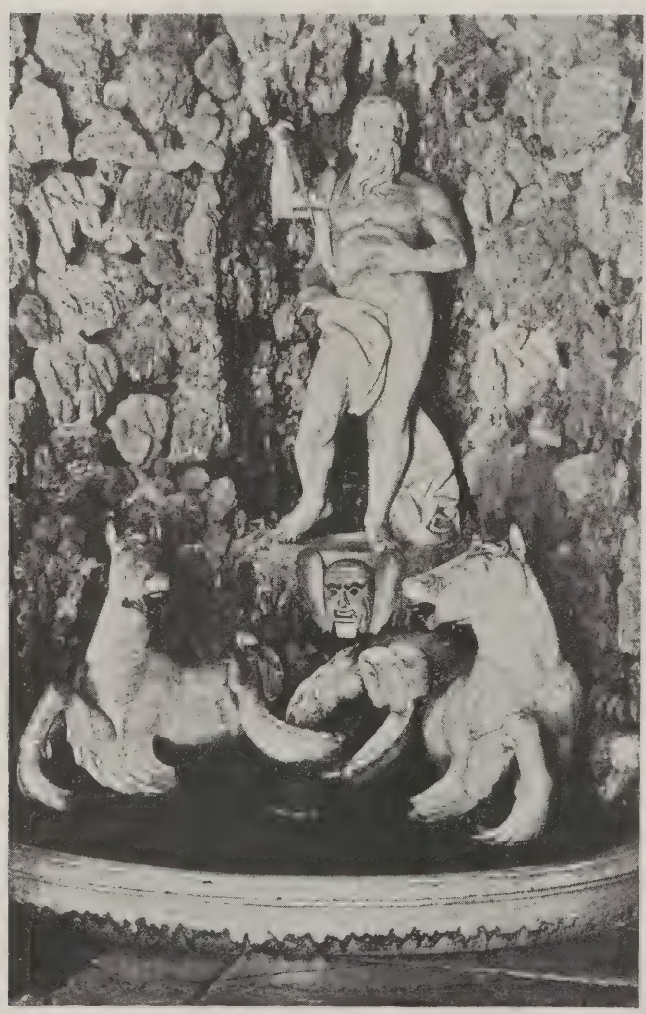
A popular manifestation of this love of simple objects is to be seen in the many brightly coloured wooden figures that abound in churches and in the wayside shrines, and of simple amusements in such devices as a set of mechanical chimes and a mechanical organ, which, thrice daily, like huge music-boxes, lisp faltering tunes to a spellbound multitude. The fact that these inventions were built from public funds as recently as in the middle of last century shows that something of the spirit that animated the archbishops at Hellbrun is still surviving to-day.



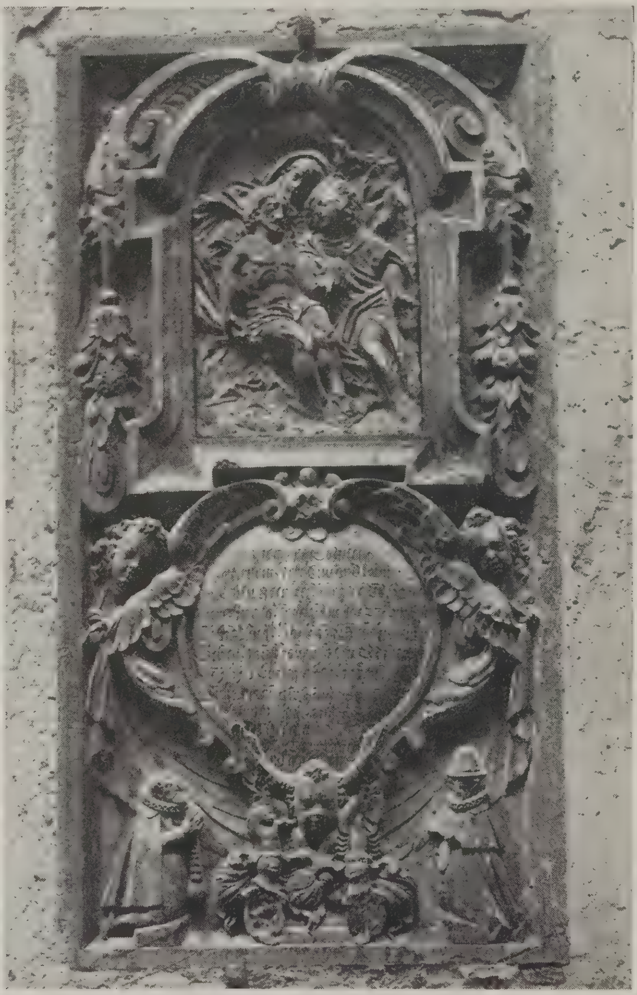
THE MECHANICAL THEATRE, HELLBRUN CASTLE.

In earlier centuries, when the activities of the Church and her ministers were more obviously militant, the dominating fortress of Hohensalzburg, which dates from the twelfth century, was the archiepiscopal dwelling. And gradually a veritable township grew up behind the three ranges of encircling fortifications, which guaranteed immunity from the fiercest attacks. The succeeding centuries saw many additions to the structure, and in the Late Gothic state apartments the rich polychromatic effects of the period have been preserved. The present church, appropriately dedicated to St. George, which stands in the innermost court of the fortress, was built by Archbishop Leonhard at the beginning of the sixteenth century, and on one of the exterior walls of the church he is seen in marble relief, fully robed and with his arm extended in an act of benediction. Despite the presence of a ubiquitous restaurant on one of the walls, and a total negation of the castle's erstwhile defensive isolation by its present connection with the town by an unobtrusive cable railway, the fortification still affords a rare opportunity for those bent on studying the architecture, defences, or habits of the middle centuries.

On the northern side of the river the confining hill is of a gentler configuration, whose natural roundness is further softened by a wood of beech-trees, the young leaves of which in springtime transmute the sunlight into a bright pellucid green. Perhaps it is this fact, coupled with its unsuitability for defensive purposes, that caused its dedication to less vigorous pursuits. An arched doorway from the street below leads to a long flight of steps which, flanked by life-sized groups of plaster figures in fourteen shrines representing the stations of the cross, forms a veritable Calvary, at the head of which, behind the crucifixion, there

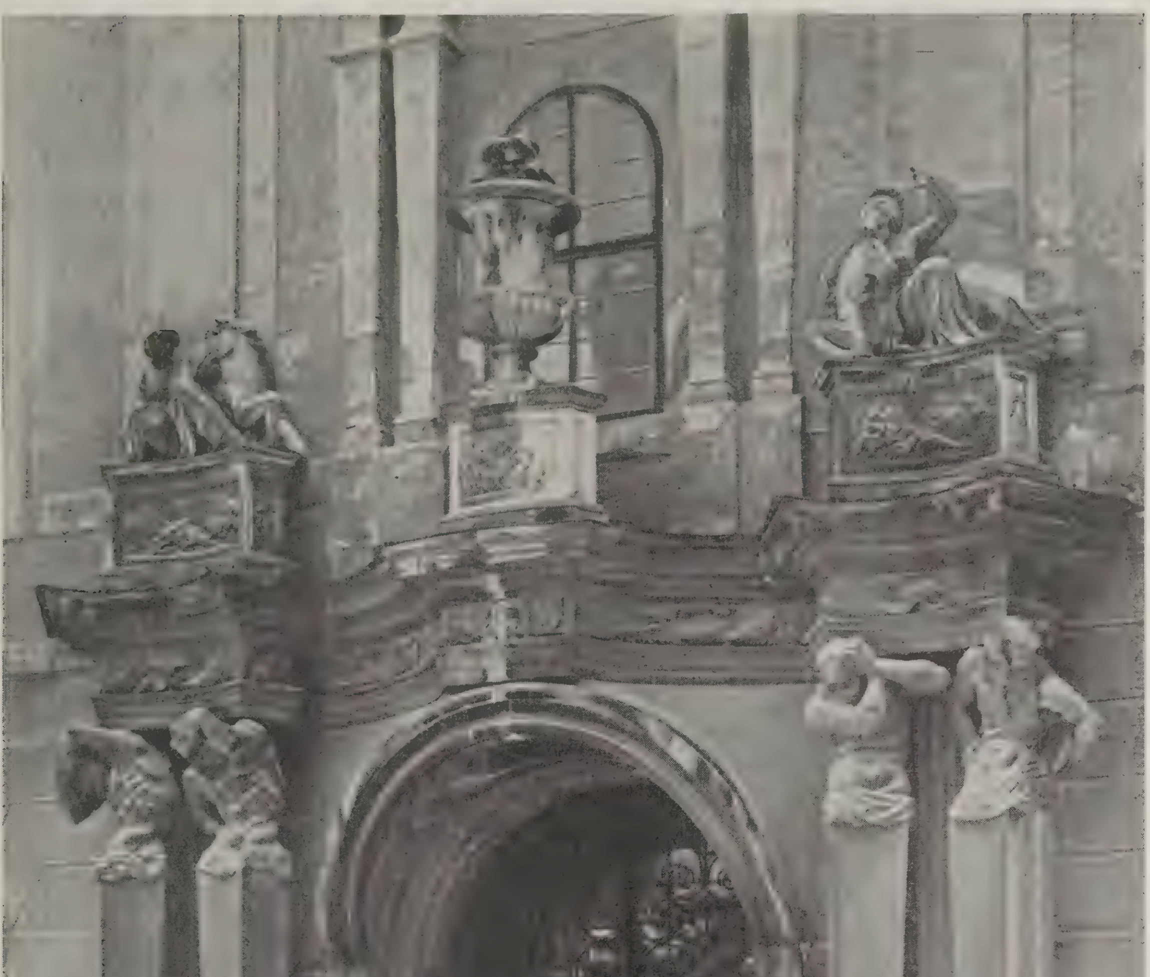


NEPTUNE FOUNTAIN, HELLBRUN CASTLE



A SIXTEENTH-CENTURY TOMBSTONE, ST. PETER'S CEMETERY, SALZBURG.

A Typical Baroque Doorway, Salzburg.



Salzburg has its due quota of Baroque work. The above doorway lacks nothing of the grace of contour and fluency of line that are commonly associated with the style in its highest development in rather more famous cities of Central Europe.

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stands a Capucine monastery. Also on this hill there has been re-erected the little wooden summer-house in which Mozart composed "The Magic Flute."

Within the ancient boundaries of the town the nineteenth and twentieth centuries have scarcely made their mark, and the only notable addition, which owes its existence to an earlier influence, is the Mozarteum, an institute endowed by lovers of music whose nationality is in no way restricted to that of their patron. The building was completed in 1914, and it is a fine example of modern German architecture. It is simple and dignified, free from an everlasting enslavement to the orders, and purged of the aggressive spirit of the earlier work of this century. Yet, despite its modernity, from it there emanates something of the eighteenth-century tradition; something Mozartian. This is particularly noticeable in the smaller concert hall, which is decorated with large bolection-moulded irregular-shaped panels, in a scheme of gold and white and cream, with expanses of pale mauve and green. It is, in its secession from a cold classical restraint, somewhat reminiscent of that architectural gaiety that constituted the background for Mozart's activities, and the simple boldness of the mouldings and the fresh brightness of the colours seem to be indigenous to a wood-carving country and the counterpart of its abundant painted and gilded figures. In it the traditions of the past press forward into a strong and vital modernity, and the test is its complete harmony with surroundings so richly laden with far-reaching historical associations. In Salzburg, indeed, succeeding centuries had added to, but never disturbed, the city's charm, and there are few incongruities. Even the announcement on the label of a beer bottle that the brewery was founded in 1380, or over the door of a chemist that his business—now represented by a precise array of bottles and medicines—is directly descended from a fifteenth-century predecessor, whose concerns, it may be presumed, were rather with the transmutation of metals and the discovery of the elixir of life than with the sale of prophylactics, constitutes a sentient thread, trailing away into the past, that is not without its value to the imaginative traveller.

Presentation of the Royal Gold Medal to Mr. Thomas Hastings

As an observer of the presentation, at the R.I.B.A., of the Royal Gold Medal to Mr. Thomas Hastings, I was deeply conscious of a quiet and simple quality of the dramatic in the proceedings. It would have been difficult to escape it, or lose its significance. One of the greatest honours in the artistic professions was about to be conferred on a man of international repute, and not only were there present the great men that we have in and around our profession, but the character and personality of Mr. Thomas Hastings himself is such that it immediately commanded one's attention and admiration. I am old-fashioned enough to expect a great man to look great, and Mr. Thomas Hastings did not disappoint. One knew of what he was capable by what he has done. But one likes to see the man from whence it all comes, and be satisfied.

One was first of all impressed by the clear-cut quality of the jaw and especially the turn of the underlip, then the immense forehead, then the eyes. He has energy; he has strength; he has firmness and decision; one could see that, and from his eyes one could see that he is sensitive and humorous.

Mr. Paul Waterhouse's finely constructed address was impressive and very sincere, for in the fullest beauty of our mother tongue he said what all those present would have said.

"In the name, Mr. Hastings, of our Gracious King, and as the spokesman of my brother architects of England, I transfer to you the greatest testimony we have to offer, and in doing so I thank you and your colleagues in America for the encouragement you give to our ancient art, and congratulate you with the warmest cordiality on the fact that your line of thought, your line of work, and your spirit of achievement are the very spirit, work, and thought that have for centuries bound into a timeless brotherhood the architects of Europe."

A simple and impressive scene, and no one was more sensible of it than Mr. Hastings. If we are to allow emotion to come into our professional life then surely this was the moment.

Mr. Hastings's reply to the address of Mr. Waterhouse, which was published last week, is given below. It is worth reading again and again. In it, one feels that he has summed up a great deal of his life's experience. He has discovered, as we all shall discover eventually, that Truth and Beauty are one.

"Truth is Beauty, and Beauty Truth. That is all ye know on earth, And all ye need to know."

The artistic interpretation of a problem is in fact the practical one. But the so-called Practical man is a danger to civilization.

Was it not Napoleon who said "A practical man is a man with one eye and a bag of tools"?

F. E. T.

Mr. Hastings's Reply.

Mr. Hastings thanked the Royal Institute not only for the great honour which had just been conferred upon him, but also for the fact that he had lately been admitted among them as a member. He said that while Americans had inherited the English language, and, consequently, had no right to complain, he must confess that on that occasion he found the English vocabulary quite inadequate—there were no words to express his grateful appreciation of the honour which His Gracious Majesty the King had conferred upon him. Realizing that it was prompted by the action of that time-honoured Institution, he would like to feel that it was in recognition of such services as the profession in his country had rendered in the interest of contemporaneous architectural education. In all sincerity he would rather believe that by example he had, in some way, influenced others in the right direction than to be conscious of individual success, or feel that what he had done were worthy of their commendation.

As they knew, he believed they should return to follow and respect the tradition which obtained before the present modern confusion, that they should be careful of the direction in which they worked, and thoughtful of their influence upon future generations. While the question of modernity was most important, it was, after all, the true inborn sense of beauty which assured the architect his success. Goethe said: "The Beautiful is a manifestation of secret laws of nature, which, but for this appearance, had been for ever concealed from us."

The layman, too frequently, only superficially understood beauty in defining its attributes, as though it were a mere appeal to the emotions, a pleasure-giving luxury, or a refining influence. It was rather an organic vital provision of nature, manifestly a part of the order of the universe—divinely ordained for the specific purpose of promoting permanency in all things, and giving life and enthusiasm wherever it might find its resting-place. It was, indeed, a force in life capable of stimulating the noblest endeavour, and capable of making virtue appeal to the senses, and making truth endure.

Nowhere was that so vividly illustrated as when they considered architectural design. The practising architect, if he continued, as he should, to be a draughtsman all his life, must realize that beauty of design and line build well in construction, and with greater economy and endurance than construction which was mere engineering. All form and all design were the natural and legitimate outcome of the nature or purpose of the object to be made. The practical and the artistic were inseparable. There was beauty in nature because all nature was a practical problem well solved. The truly educated architect would never sacrifice the practical side of his problem. Some of the greatest economic as well as architectural calamities had been executed by so-called practical men with an experience mostly bad, and with no education.

The science of modern engineering had too frequently divorced the architect from many of the larger and more interesting so-called utilitarian problems of construction. Some of them were entirely and legitimately architectural problems, while in other cases the architect should collaborate with the engineer. There might be no question of decoration or ornament involved, but architecture and practically all construction should be inseparable. An earnest appeal should be made for that collaboration, not merely in the interest of beauty, but rather in the interest of economy—beauty would follow in its natural sequence.

In the first years of his architectural career he was accused by his fellow-countrymen of attaching too much importance to the artistic study of the floor plan; it was constantly asserted that he was trying to inculcate the Paris Beaux-Arts methods of education into their American architectural practice, his critics not realizing that those methods of study in plan had been adhered to at all times since the beginning of architecture.

They little realized that if the floor plan, determining two of the three dimensions in space, was well studied, beautiful in proportions, with a proper distribution of piers, thickness of walls, logically disposed and with good circulation, there would be no structural difficulties, and that that principle had obtained ever since the dawn of architectural history. The plan lent itself to thinking in three dimensions. When the plan looked well it built well, constructed well, so that they found they needed very little of the analytical mathematics to assist them, excepting as a mere matter of verification. Until modern times, architects knew but little about analytical mathematics as compared with what they were now given to learn, but they knew their stereotomy better than most of them did to-day. They knew but little about the strength of materials, but they understood constructive principles; for, after all, analytical mathematics was a comparatively modern science. While there existed graphical rules for the approximate determination of the thrusts from arches as early as the thirteenth century, yet it was practically only within the last century that the correct principles of constructive analysis had been fully developed.

If an arch or a bridge looked well it would build well, when it was the outcome of a well-studied plan. There must have occurred many serious calamities in the past because of bad art and no analytical means of verification; but, just as nature was beautiful when fit to survive, so the great buildings and monuments of the past that had survived were beautiful in plan, form, and proportion. He believed that buildings had stood for centuries solely because their plans, as seen on paper, were so thoroughly artistic and beautiful. They were told that the cell of the bee was built at that angle which gave the most strength with the least wax, so that the line of beauty was the result of perfect economy. Emerson realized the truth when he said it was a rule of largest application, true in a plant, true in a loaf of bread, that in the construction of any fabric or organism any real increase of fitness to its end was an increase of beauty.

They Americans too little realized that they really came to Europe in a large measure because of what man had done with art to beautify nature. As music was more beautiful than any merely natural sound, so Nature was generally either greatly enhanced by the human interest when man had made his impress upon it, or it was cruelly and unnecessarily sacrificed.

Art and a proper artistic sense of the fitness of things completed the picture. When far away from civilization, surrounded by primeval nature, a man, if in his normal state of mind, soon longed for the warmth and colour of fertile fields, the thrift of farms; he thought of forests interwoven by winding roads or vistas intelligently conceived. The pageantry of sea and sky, the starlit night, the rugged mountains or deep crevices, the bewildering beauty of the flowers, could never awaken the same human emotions and sympathy as when, with art, they were made more beautiful, wedded to weather-beaten walls, the castle or the shrine, or the distant romantic village nestled in the crevice or perched on the mountain-side.

He had said that he believed it to be a law of the universe that the forms of life that were fittest to survive—indeed, the very universe itself—were beautiful in form and colour, and that nature's selections were beautifully expressed. Ugliness, deformity, and self-indulgence were synonymous. And so it was in every economy of life; what would survive must be beautifully expressed.

It was equally true that one trained in the understanding of beauty could more profoundly fathom the laws of nature than one who had neglected to develop that side of his education. Indeed, if the way of the artist was undertaken with philosophy and humility, the things that were divine, God in the universe, would be believed, be more clearly revealed to him, more impressively, more convincingly, than when approached by way of theological discussion or scientific research. The horizon of his vision contained more, within a larger circle, with visions of things more ennobling, more uplifting.

Truth or precept, as well as fiction, would only penetrate the human heart and demand respect and obedience when clothed in beauty. The proverbs, the bywords of the ages, were only familiar truths beautifully expressed with forceful simplicity and precise epigram; even mathematics had a beauty of their own, and, while in some ways allied with beauty in art, both were different phases of what they might call generalized beauty. Every mathematical equation had a certain quality of beauty because it was orderly and complete in its visible expression of a truth. All the natural lines of stresses and strains in a solid were things of beauty, and every structure built to those true lines, *ipso facto*, was beautiful.

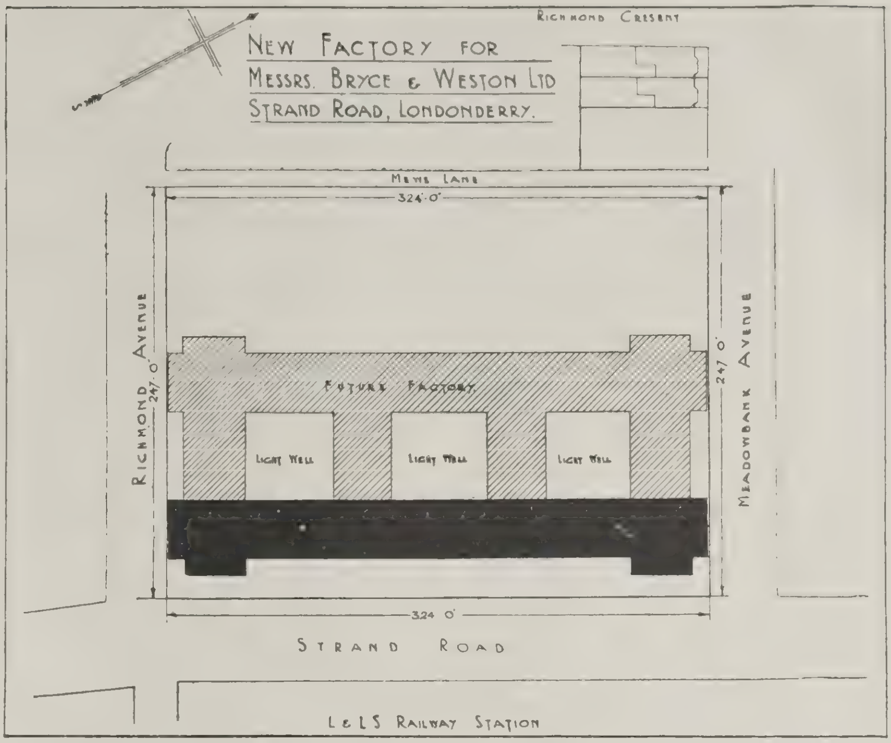
Newton's laws of motion, so simple, so fundamental, so inclusive in their scope, could only be formulated with such elegance of expression as to make their enunciation endure for ever. The divine word of God, as it had been revealed in any enduring philosophy or religion, had always been enshrined in language immortal. There was beauty everywhere, and there was no such thing as poverty, if only they realized the universal ownership of beauty in nature and art.

They might own the land, but not the landscape! They might have physical possession of a great picture or a building, but if they were really great the man who truly owned them was the man who most appreciated their beauty. In the light of that truth in written word, in painted canvas, or chiselled stone, or in the harmonies and melodies of sound and in the beauty of nature all around, the happiest and richest man in the world was he who saw most and best understood the laws of nature as expressed in beauty.

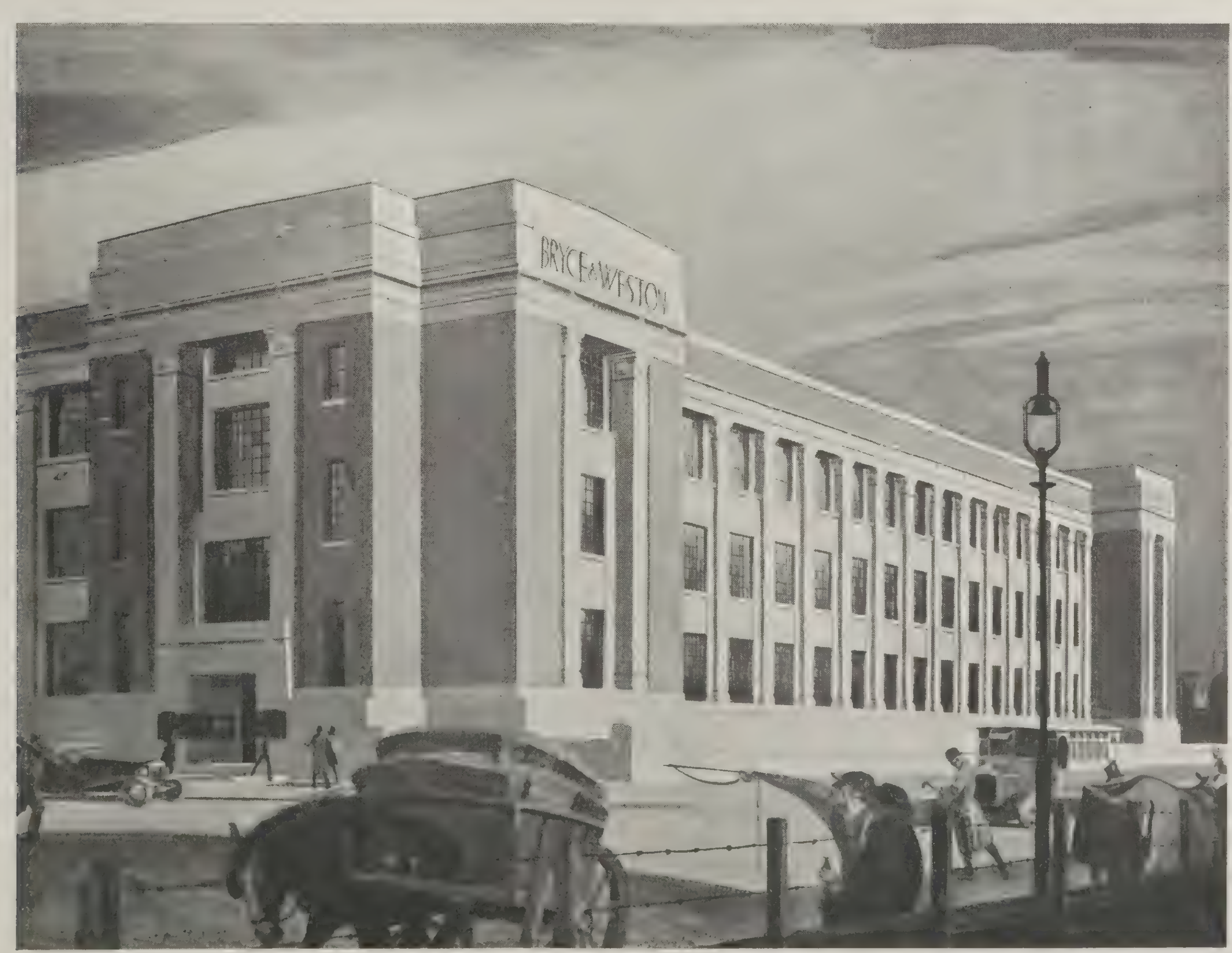
A New Factory at Londonderry

THIS steel-framed building has been erected on an island site in Strand Road, Londonderry, overlooking Lough Foyle, by Messrs. Bryce and Weston, Ltd., of London, for the manufacture of shirts and collars. Mr. P. J. Westwood, A.R.I.B.A., was the architect. The accompanying block plan shows the final lay-out of the buildings. The portion now completed faces Strand Road, and has a frontage of 324 ft. The building has been set back 25 ft. from the main road, and the forecourt is grassed. Red brick pavilions have been designed at the ends of the building. All the other bricks are of concrete (brick size) pressed on the site, those for the interior being finished smooth face, and those for the exterior being cemented. Cast concrete has been used for the caps to the bases and cornices, and the floors are of reinforced concrete finished in wood.

The basement, which is 70 ft. long, was partly blasted out of rock, and in it are placed the laundry and heating boilers, fuel, and engineer's shop. On the ground floor are offices of a temporary character (until the future office block is erected), cutting-machine room, stock room, and laundry, on the first floor an ironing room, with a local lift to the ground floor, sorting and boxing and stock rooms. The second floor is devoted entirely to sewing



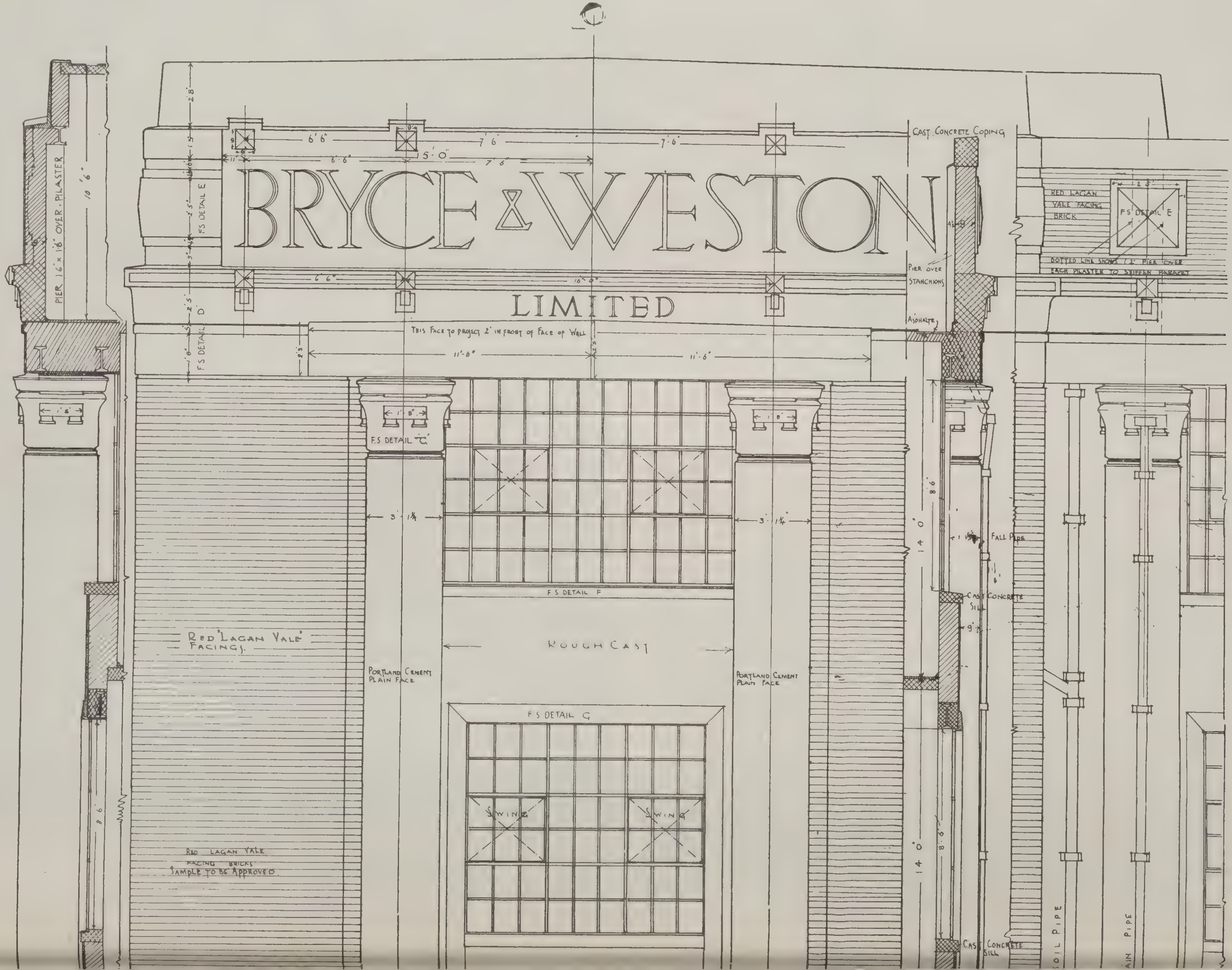
PLAN SHOWING (IN BLACK) PART OF FACTORY NOW BUILT, AND (HATCHED) FUTURE EXTENSION.

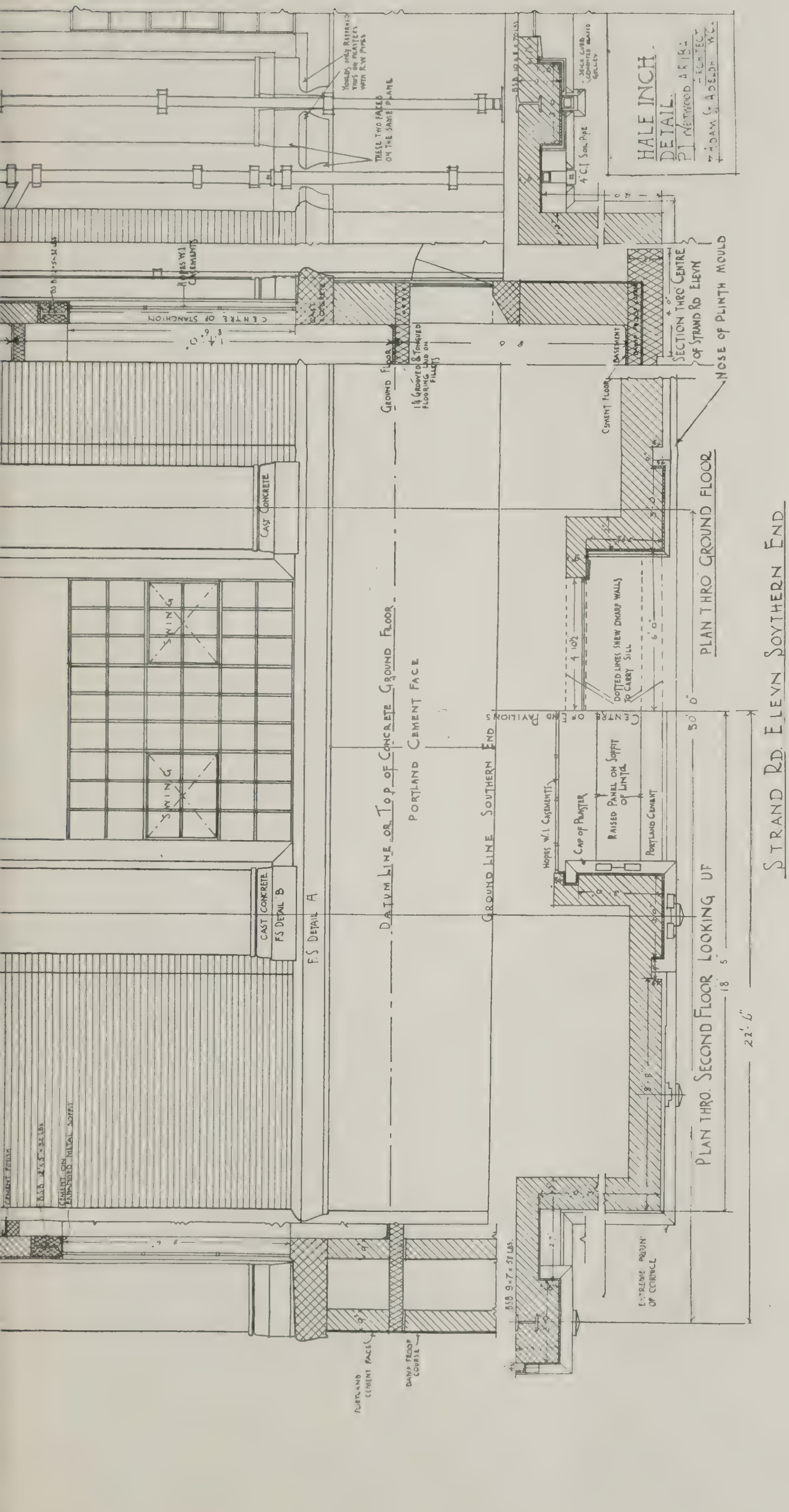


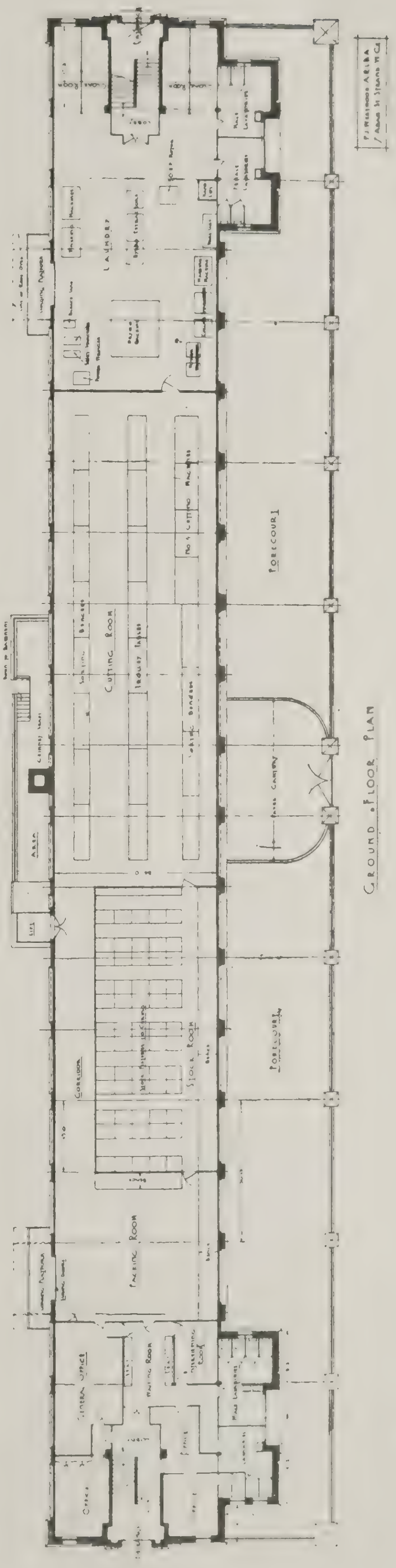
NEW FACTORY FOR MESSRS. BRYCE AND WESTON, LTD., LONDONDERRY.
P. J. WESTWOOD, A.R.I.B.A., ARCHITECT.

Architects' Working Drawings. 57.—New Building for Messrs. Bryce and Weston, Ltd., Londonderry: Detail of End Pavilion

P. J. Westwood, A.R.I.B.A., Architect







This building is of steel-frame construction, the pavilions at each end of the principal elevation being of red brick. Cast concrete is used for the caps to the bases and cornices, the floors being of reinforced concrete finished in wood. Further particulars and illustrations are given on page **17.**

machinery and tables for completed work. The upper portions of the pavilions are fitted as canteens, with doors at roof level, and the flat roof can be used partly for recreation and partly for storage of cases, etc. Machinery and lighting are by electrical power. At present the main goods lift is exterior to the building, but it will come within a future addition. This lift delivers from the basement to the roof level.

The general contractors were Messrs. Robert Colhoun, of Strand Road, Londonderry; the chief sub-contractors being as follows: Messrs. Redpath Brown, Ltd. (steel and erection); Messrs. C. P. Kinnell & Co., Ltd. (heating); Mr. May, Londonderry (electric lighting); Messrs. Henry Hope and Sons, Ltd. (steel sashes); Messrs. Aublet Harry & Co., Ltd. (laundry machinery and equipment complete); Messrs. Smith, Major and Stevens (lifts); and Messrs. Yannedis & Co. (ironmongery).

Messrs. Sir Douglas Fox and Partners were consulting engineers; Messrs. Buchanan and Reid, civil engineers, Londonderry, superintended the erection under the architect's direction.

Parliamentary Notes

BY OUR SPECIAL REPRESENTATIVE.

Housing by Local Authorities.

Sir A. Mond, in reply to a question from Mr. Gilbert, said that there was nothing in the Housing Acts to prevent a local authority at present from building houses on its own responsibility and without any approval from the Ministry of Health, except in the case of schemes intended to rank for assistance from the Exchequer. Where, however, a local authority desired to raise a loan for the purpose of a housing scheme, his sanction was required, and he should be glad to give the most favourable consideration to all applications of this kind. In the case of Metropolitan borough councils, the sanctioning authority for loans was the London County Council. He had no doubt that their policy in the matter would be the same.

Conversion of Houses into Flats.

In answer to Major Barnes, Sir A. Mond said that schemes for the purchase and conversion of houses into flats had been carried out by or on behalf of forty-six local authorities; the number of flats provided being 752. In respect of 319 flats on behalf of eight local authorities, the work of conversion was undertaken by the Office of Works; in other cases by the local authorities themselves. The properties were in the possession of the local authorities concerned.

Housing Progress.

Sir A. Mond further stated that 116,000 houses had been completed to date by local authorities under the Housing Acts of 1919, but the bulk of these were included in contracts still proceeding. Final accounts had been passed at the end of April for less than 5,000 houses, and the actual cost of building in these cases worked out at an average of £916 for the house alone. It was estimated that the total "all-in" cost of the houses would be £1,076 each.

Book Notice

Fletcher's History of Architecture.

Our old friend "Fletcher's Comparative" has been amplified and improved almost out of knowledge. Always an unfailing help on all that pertained to the history of architecture, it is now, in the sixth edition, so comprehensive in scope and detail as to be positively encyclopædic in character. The student who contrives to master its contents need fear no examiner in the history of architecture, and the practising architect who has it on his shelves will find in it every item about which he can reasonably desire information relating to the history of architecture, on which subject there is no better work of reference in existence. It might be said with equal confidence that there is no modern work in English that, all things considered—the fact that it is in one volume instead of several, while its three thousand five hundred illustrations are so finely produced and are so conveniently arranged for instant and instructive comparison, taken in conjunction with the admirable efficiency and clearness with which so vast a mass of matter is digested and classified—can be said to equal it in merit. The author triumphantly demonstrates the comparative method that, we believe, he was the first to adopt for a history of architecture. Not that he invented the comparative method, but he has certainly applied it with unqualified success to a subject for which it is peculiarly suitable. So familiar is "Fletcher's Comparative" that there is no need to describe its contents in detail—to do so, in fact, would take up an inordinate amount of space. It is sufficient to say that the work has been re-written and enlarged, and—what will seem impossible to readers acquainted with the earlier editions that seemed to have reached finality—is greatly improved in the process; and it has been amplified throughout. This, in fact, is no merely perfunctory re-issue of a standard work, but a complete remodelling of it, to unquestionable advantage. The labour bestowed on it must have been prodigious, and has certainly placed it beyond all hope of rivalry.

"A History of Architecture on the Comparative Method for Students, Craftsmen, and Amateurs." By Sir Banister Fletcher, Architect, F.R.I.B.A., etc., etc., Barrister-at-Law of the Inner Temple, etc. Sixth Edition, Rewritten and Enlarged, with about 3,500 Illustrations. London: B. T. Batsford, 94 High Holborn. Price £2 2s.

A.A. Visit to Rushymead

A large number of members of the Architectural Association paid a visit, on June 24, to Rushymead, of which Messrs. A. Dunbar Smith and the late Cecil C. Brewer were the architects.

Rushymead is a post-war house situated at the top of Coleshill, Amersham, and commanding an extensive view of Buckinghamshire. Happily for its owner and its architects the house shows no lack of good materials, and its breadth of treatment almost convinces one that it belongs to pre-war days.

At the present moment few opportunities occur for architects to design houses on this scale. Domestic architecture, while showing healthy signs of recovery, has not yet reached its pre-war stride, and Rushymead is probably one of the few houses that equals the work done in the more generous days of 1914.

The house is built of 2 in. multi-coloured bricks, with wide joints and with stone dressings. The beautiful wall texture has already a charm of colour to which green shutters are in delightful contrast. Externally the house is Queen Anne in feeling, but there are many successful touches that reveal the skilful departure from the traditional motifs.

Internally the rooms are simple and unaffected, both in disposition and decorative treatment. Of the many rooms seen, the drawing-room with its apsidal ends, and the octagonal dining-room, are particularly successful. The staircase hall, with its curved stairs and balustrading, is also a fine example of design and craftsmanship, and this success is repeated where the first-floor corridor ends and the staircase to the second floor begins.

The house throughout reveals the personality of the architect, and in the kitchen and bathrooms much thought and ingenuity has been displayed in masking the necessary plumbing without sacrificing the need for easy access should things go wrong.

Not the least of the merits of Rushymead is the way in which the subsidiary buildings take their place in the garden scheme. The chauffeur's and gardener's cottages are particularly charming, both in their design and setting.

The members were entertained to tea by the owner, Mr. Forbes. Mr. Dunbar Smith was present and explained the many points and difficulties of the problem he has solved in so splendid a fashion.

R. W. S.

Measured Drawings: An Invitation to Readers of "The Journal"

The Editors of THE ARCHITECTS' JOURNAL are always glad to receive measured drawings of fine old buildings and fine craftsmanship, and they herewith invite readers to send in any drawings they may have by them with a view to publication in these pages.

There is no restriction as to subject, so long as the example is good of its kind; but preference is naturally given to work that is capable of a modern application.

Plans, sections, and elevations of old work—domestic, communal, ecclesiastical, and so forth—are welcome, and drawings of special architectural features and of decorative detail are particularly desired.

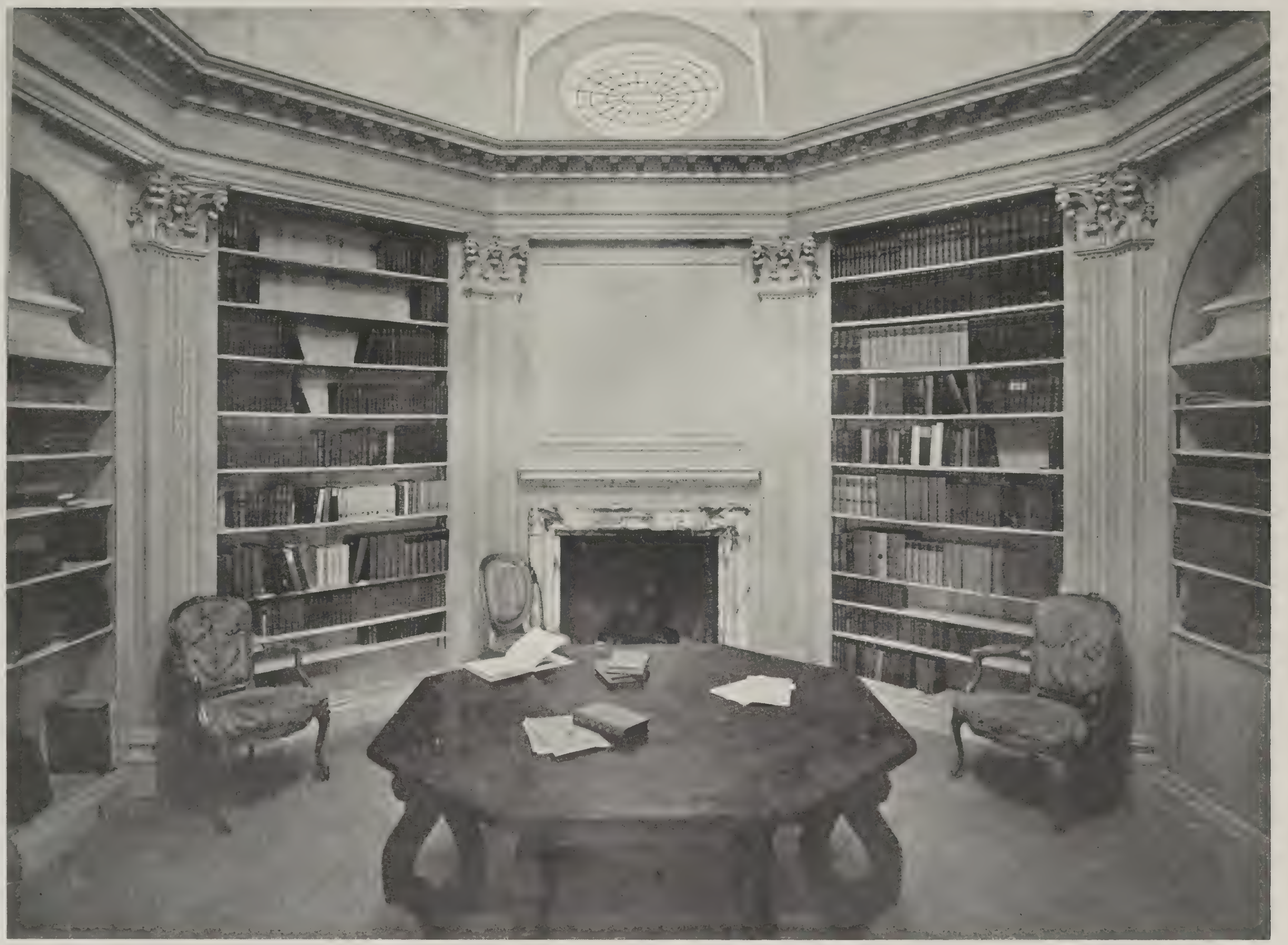
For example: Doorways, chimneypieces, architraves, cornices, friezes, ceilings, staircases, consoles, balustrades, balconies, windows, chimneystacks, mouldings, and decorative detail of all kinds—woodwork, ironwork, and plasterwork.

Drawings—which should preferably be in line, though wash rendering is also acceptable — should be sent to the Editors of THE ARCHITECTS' JOURNAL, 27–29 Tothill Street, Westminster. All drawings accepted will be paid for.

Photographs, if they are available, should be sent with the drawings, together with descriptive notes.

Modern Domestic Architecture. 39.—A Library Interior

Philip Tilden, Architect



This is a view of the small octagonal library in Sir Philip Sassoon's house at Lympne, Kent. The room is panelled in sycamore. A special feature is a domed ceiling with ornamental plasterwork.

THE LIBRARY
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The British Pavilion at the Rio de Janeiro Centenary Exhibition

THE British Pavilion at the Rio de Janeiro Centenary Exhibition is being erected from the designs of Messrs. John W. Simpson and Maxwell Ayrton, FF.R.I.B.A., architects. The building is of concrete-steel and brick construction, finished with white cement stucco, the terrace and portico being paved with black and white marble. Above the windows at the back of the portico are three centre panels in coloured faience representing the Royal Arms and the Arms of Brazil and Rio respectively. These tablets were designed by Harold Stabler and S. Kruger Gray, and executed by Messrs. Carter, Stabler, and Adams, of Poole, Dorset. The main frieze running round the buildng is filled with tiles of a transparent blue colour. Bronze grilles are fitted to the windows, bronze being also used for the entrance doors and the standard amps on the terrace piers.

The main floor, which is on the higher evel, 17 ft. above the pavement, is reached by wide flights of steps at either end of the terrace, which is 14 ft. wide. The portico or loggia is 19 ft. deep and 70 ft. long, with entrances at each end to the galleries and staircases down o the lower or street level. The central hall or gallery is 46 ft. square and 32 ft. high, with a well 24 ft. square open to the lower floor. Entrance lobbies separate the central hall from the two side galeries, which are each 58 ft. long by 25 ft. wide and 28 ft. high. All three galleries are top and side lit. Large mural paintngs representing the Seven Seas form the decoration of the walls of the central hall, and the dome ceiling light is filled with tained glass. On the lower level are hree galleries of the same dimensions as those above, but 12 ft. 6 in. high.

Before being shipped out to Rio de Janeiro the interior decorations were exhibited at No. 9 Clifford Street, London, ent for the occasion by Messrs. Clayton and Bell, the artists in stained glass to he King. The panel of the North Sea, which will decorate the main hall, is 10 ft. 6 in. by 10 ft. 6 in., and is the work of Mr. Charles Sims, R.A., R.W.S., Keeper and Trustee of the Royal Academy, and Trustee of the National Gallery of British Art. Four panels of similar size representing the North and South Atlantic are by Professor Gerald Moira, R.W.S., Professor of the Royal College of Art at South Kensington. Professor Moira's best known work was the mural decoration of the Central Criminal Court and of Lloyd's Register, London.

The triptych by Professor Moira presents in the centre panel a large central figure symbolical of Brazil with typical figures on either side. The small panels depict the North Atlantic, England bordering one side with Canada on the other. The garland which is the connecting link between the three panels represents the interchange of produce between the countries shown and the sea at the base.

A model of the pavilion made from the drawings of the architects by Messrs. Kerridge, of Cambridge, to a scale approximately ½ in. to the foot, was also exhibited. The back of this model is removable, and a good idea of the interior of the central hall and its flanking galleries can be obtained, the interior having been decorated and containing scale copies of all the mural paintings and a scale model in colour of the large central dome which has been painted in glass by Mr. Reginald Bell, of the partnership of Messrs. Clayton and Bell.

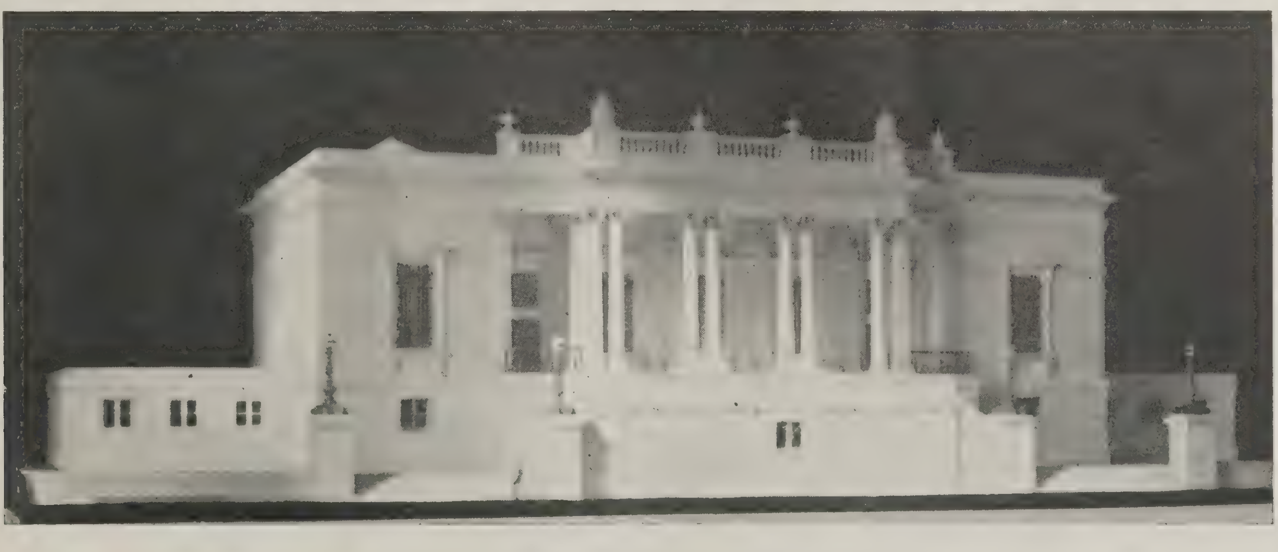
A full-sized panel by Mr. Anning Bell, A.R.A., Professor of Design at the Royal College of Art, whose mosaic tympanum over the main entrance at Westminster Cathedral is well known, was also shown. This panel represents the Mediterranean.

In the stained-glass dome itself Mr. Bell has used some 6,500 pieces of glass, held together by over 7,000 ft. of leaded strip. This dome surmounting the central hall occupies 270 sq. ft. of ceiling space, and contains over 400 ft. of richly coloured glass weighing approximately three-quarters of a ton. The predominating colour is blue. The four curving sides taper upwards to a circle at the summit in which is set a sun with radiating shafts of gold, surrounded by the star of the Southern Cross, which form a part of the Brazilian national emblem. Each of the four curving side panels contains a symbolical figure, one of which represents the British Empire and the Eastern World, and another the Brazils and the Western World. At night the dome will be illuminated from the exterior.

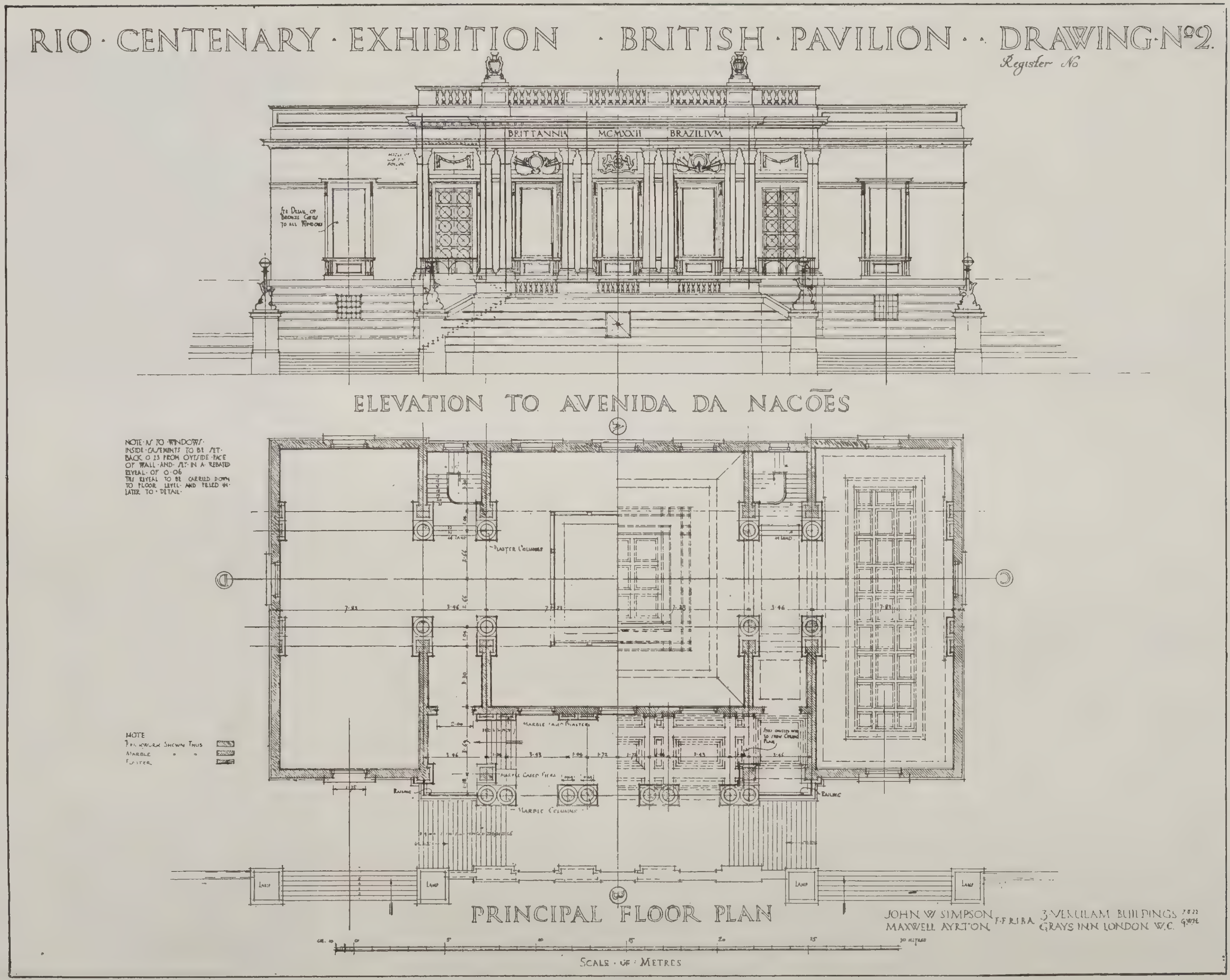
The building and decoration of the pavilion signalizes a very definite step in the attainment of that ideal combination of the architect and the artists responsible for the decoration. These gentlemen have been in the closest collaboration throughout, thus assuring that the whole building from foundations to the frescoes on the walls and the stained glass in its windows shall be one complete and harmonious whole. Signs are not lacking that the art of stained glass has regained its position as an architectural decoration which it held during the Middle Ages, and in this case the stained glass has been considered from the first as part and parcel of the scheme of interior colour decoration.

The erection of the building was begun on December 28, 1921, and the roof timbers were already being fixed on April 17, 1922, and the entire building is to be completed by August 1, 1922. The building of the pavilion is being undertaken by the English contractors in Rio de Janeiro, Messrs. Scott and Urner, to whom great credit is due for the excellence and speed of their work.

Among the sub-contractors associated with the work are the following: Associated Portland Cement Manufacturers, Ltd. (cement); British Challenge Glazing Co. (glazing bars); F. Braby & Co., Ltd. (copper sheets); Pilkington Bros., Ltd. (plate glass); Blundell, Spence & Co., Ltd. (paints and varnish); Dryad (cane furniture); British Thomson-Houston Co., Ltd.,



PHOTOGRAPH OF A MODEL OF THE PAVILION.
JOHN W. SIMPSON AND MAXWELL AYRTON, FF.R.I.B.A., ARCHITECTS.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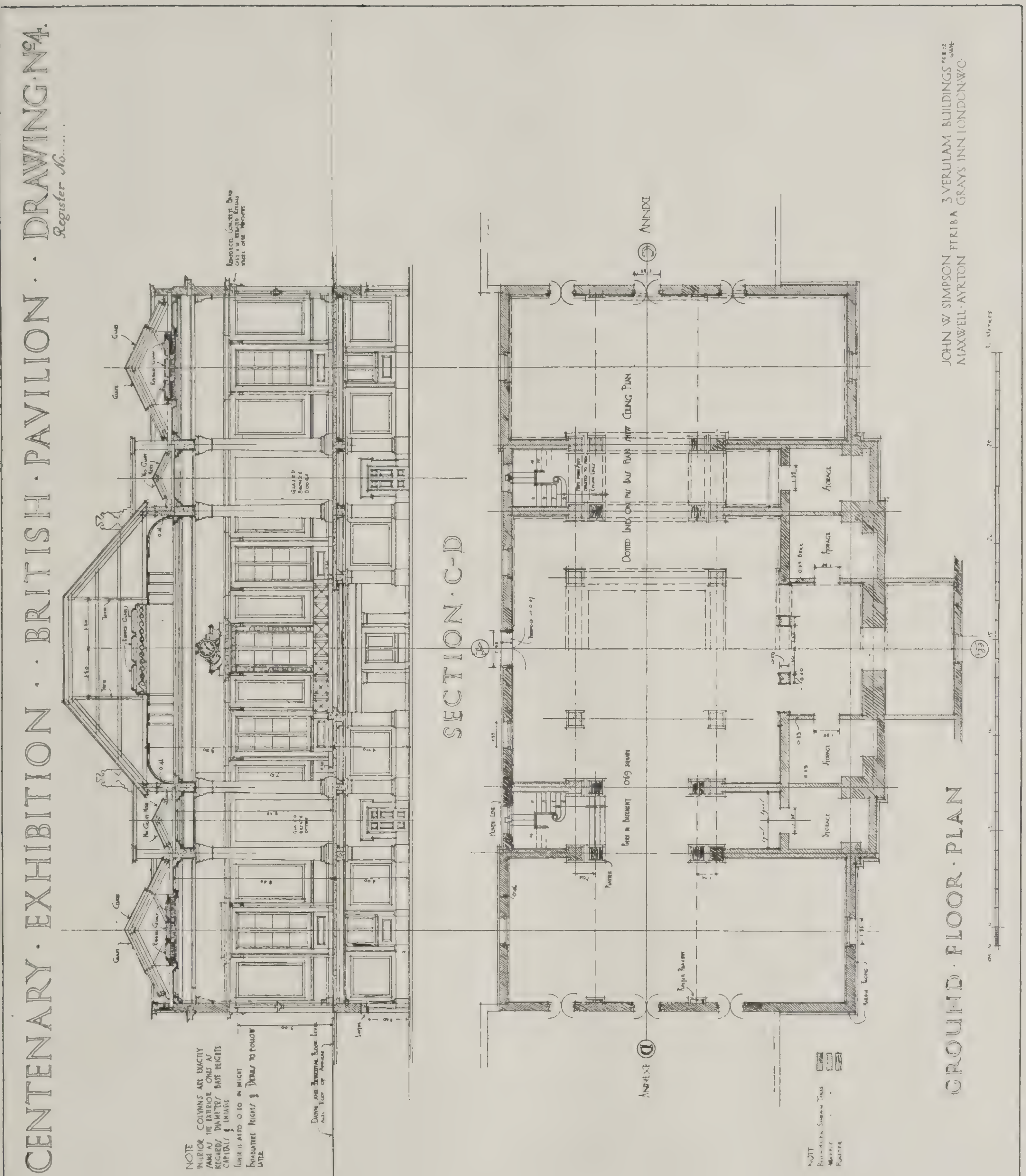
JOHN W SIMPSON AND MAXWELL AYRTON, FF.R.I.B.A., ARCHITECTS.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INTERIOR COLUMNS ARE EXACTLY SAME AS THE EXTERIOR ONES AS REGARDS DIAMETERS BASE HEIGHTS CAPITALS & ENTASIS
JOHN W SIMPSON FF.R.I.B.A. 3 VERULAM BUILDINGS
MAXWELL · AYRTON GRAYS INN LONDON W.C.

JOHN W. SIMPSON AND MAXWELL AYRTON, FF.R.I.B.A., ARCHITECTS.

and General Electric Co., Ltd. (electric lamps and fittings); Ewart and Son, Ltd. (reflectors); Anderson, Belfort (Rox roofing; J. Freeman, Sons & Co., Wandsworth (cement colours); Doulton & Co., Ltd. (sanitary fittings); Bells Decolite flooring; Turner Bros. & Co., Ltd. (asbestos sheets); Crittall Manufacturing Co., Ltd. (metal windows, grilles, and bronze doors); Decorative Tile and Woodblock Co., Ltd. (black floor tiles); Cashmore & Co. (lead rainwater heads). Henley's wiring has been used throughout the building.

Advice to Engineering Students

Sound advice to intending students of heating, ventilating, and domestic engineering is given in a booklet which has just been prepared by the Education Committee of the Heating and Domestic Engineers' National Joint Industrial Council. It is now generally admitted that no satisfactory progress can be expected in the study of any branch of engineering unless the student is taught to develop his faculties in several directions, and that no single subject or branch can be profitably pursued without some training in other subjects and branches which are nearly akin to it. It is essential, therefore, that the instruction should be organized in group courses. The syllabus of studies at evening classes outlined in the booklet cover a period of six years.

According to Mr. Ernest M. Beal, M.I.Mech.E., President of the National Association of Master Heating and Domestic Engineers and Chairman of the Heating and Domestic Engineers, National Joint Industrial Council, who has prepared notes on the booklet, the Joint Industrial Council are now forming local Education Committees—consisting of three employers, three operatives, and a representative of the local education authority—in the following centres, to advise students, watch their progress, and develop the technical education work in the industry: London—Brixton School of Building, East Ham Technical School, Willesden Polytechnic, Kilburn, N.W.; Birmingham — Municipal Technical School; Liverpool—Municipal Technical School; Manchester—School of Technology; Newcastle-on-Tyne—Rutherford Technical School; Sheffield—Department of Applied Science, St. George's Square; Bristol—Merchant Venturers School; Leicester—Municipal Technical School; Nottingham—University College; Norwich — Municipal Technical College; Brighton—Technical College. The booklet can be obtained, price 2d., from Mr. W. G. Hollinworth, secretary to the Heating and Domestic Engineers National Joint Industrial Council, 38 Victoria Street, S.W.1, or from the secretary of the National Association of Master Heating and Domestic Engineers, 12 Great James Street, Bedford Row, London, W.C.1. The booklet is carefully compiled and sets out in concise and methodical terms information of the greatest importance to engineering students.

The Stability of Walls.—VIII. The Pressure on Foundations

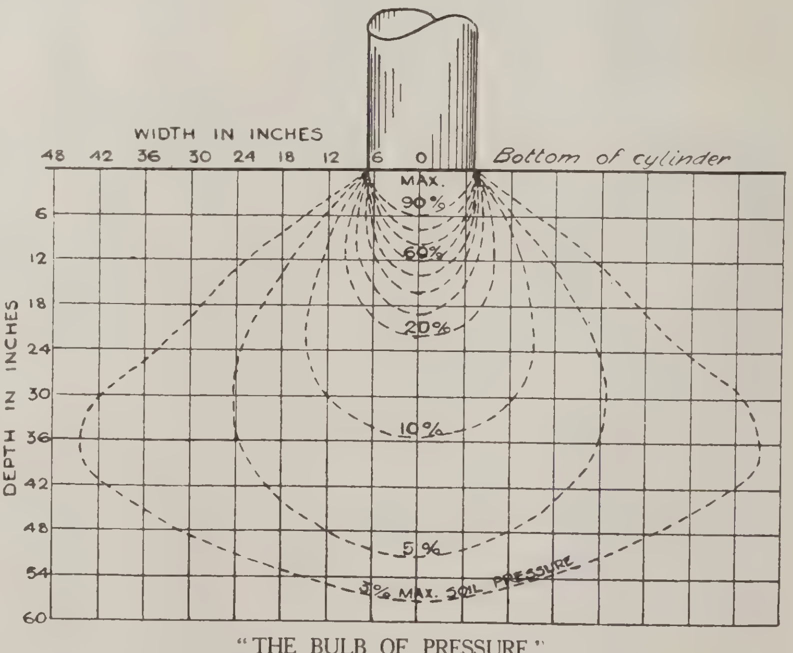
By PROFESSOR HENRY ADAMS, M.Inst.C.E.

It has been shown by Prof. Unwin that the pressure due to a uniformly loaded foundation is not spread uniformly over the soil beneath, but that, owing to the greater facility of the earth round the margin to escape from the pressure, it is less there than in the centre. He found that the mean pressure over the whole area being taken as p, the maximum in the centre will be about $\frac{8}{5}p$, and the minimum at the edges about $\frac{4}{5}p$, so that if a foundation be designed to give a pressure of $1\frac{1}{2}$ tons per square foot over the whole area, the actual pressures will be about 2·4 tons per square foot in the centre, and 1·2 tons per square foot round the edges. Roughly, we may say that at the centre the pressure will be $1\frac{1}{2}$ times the mean and round the edges $\frac{3}{4}$ of the mean, but it would naturally vary with the area compressed. As a general rule no attention is paid to this variation of pressure in designing foundations and no mishap seems to have resulted from ignoring it.

In American practice the carrying of concentrated loads on a poor soil depends upon what is called the "bulb of pressure," which is fully described by Mr. A. E. Wynn, B.Sc., A.M.Am.Soc.C.E., in a paper in "Concrete and Constructional Engineering" for June 1922. The explanation is as follows: "The pressure in a soil carrying a load is distributed in all directions, and varies in intensity from a maximum immediately under the load to a minimum a certain distance out from and beneath the load. The shape of the surface formed by joining up all points of equal pressure is approximately a bulb. It is the soil within the bulb which sustains the load by the cohesion of its particles. So long as the load is kept constant the bulb of pressure will be maintained, but if part of the load be removed the cohesion amongst the particles will be broken and the soil will be incapable of carrying its former load until a new bulb of pressure is set up by the addition of more load. This will explain why piles which have successfully withstood certain test loads will often settle when much smaller loads are later applied."

The details of the bulb of pressure were determined by the engineers of the U.S.A. Public Service Commission, and are extremely interesting. The accompanying diagram, inserted by permission of the Editor of "Concrete and Constructional Engineering," shows the extent of various contours of equal pressure due to a concentrated load. When the load is closely concentrated, as in this case, there will not be much variation of pressure on the soil immediately under the load, but as the effect widens out so the intensity is reduced, and practically proves the common assumption that a point load on a surface reduces in proportion as the sub-area increases, taking an angle of 45 degrees all round.

(*To be continued.*)



"THE BULB OF PRESSURE."
(Carrying of concentrated loads on poor soil.)

Correspondence

Some Pricing Puzzles

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I enclose lists of tenders and would draw attention to the extraordinary disparity between the estimates of the various builders tendering in several of the lists. Perusal of the tenders received in recent months for building work shows this disparity is by no means exceptional, even in cases in which proper quantities have been supplied. I can only suggest that pricing is not as closely studied by builders as the subject warrants.

F. S. I.

[The following particulars are abstracted from the lists enclosed: Coventry painting work, eight tenders varying from £119 (accepted) to £639 17s.; Gloucester, redecoration of Guildhall, eleven tenders varying from £355 to £1,140 12s. 2d. Lowest but one, for £622, accepted. Walker (Northumberland), twenty-two tenders, block of thirty-six flats, varying from £8,900 to £15,987. Lowest accepted. Perhaps some of our readers may be able to offer an explanation of the extraordinary differences shown in these prices.—Editors A.J.]

Co-operation between Architect and Craftsman

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I was much interested in the views of Mr. Voysey on the above subject published in your issue for June 21, but why should he go to the trouble of making a full-size drawing of his panel if he wishes the sculptor to feel quite free to do what he himself thinks best? Surely this will have the opposite effect? Obviously he intends the sculptor to execute his design, or, as he says, decline the commission.

I would suggest that a much more satisfactory way of co-operating with the sculptor would be to furnish him with a small sketch of what is intended, and ask him to develop it on a full-size drawing if he requires one. It is an architect's business to select a sculptor whose work is likely to be in harmony with his style of building.

Much of the dull, uninteresting, and lifeless work on modern buildings is, I am well aware, executed from architects' full-size details, and by so-called craftsmen, who naturally have no other interest in the job than the amount of money to be made out of it.

The fact is that no good work has ever been done from full-size drawings made either by the architect or the sculptor. Is it conceivable that the fine figure and ornamental sculpture of Chartres or Wells was done in this way? Surely not. Was t not designed and executed "in situ" by men who were thoroughly conversant with their material, and were able to work it freely and spontaneously unencumbered by drawings or models?

Every sculptor knows that in working stone or marble in this way delightful qualities of form, texture, and design reveal themselves, and the material will design for him if he has the courage to let it! But, of course, the result may not be in harmony with the architect's Néo-Grec or sham Gothic building, and woe betide him if he lets himself go in this way!

ARCHITECTURAL SCULPTOR.

Unification & Registration

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have been out of town, and have only just seen Mr. Hiorns' letter in your issue for June 7, in which he pays me the compliment of criticizing at some length certain views which I expressed in a letter which appeared in "The Daily Telegraph" and other newspapers, and which you were kind enough to quote in your issue for May 24 last.

I see no reason to modify the views and statements which I then expressed, nor the necessity for adding to the information I then gave as to the probable extent to which the practice of architecture is regulated in other countries.

Mr. Hiorns appears to be a pessimist in regard to the prospect of Statutory Registration, and possibly he objects altogether to the proposal. However that may be, the position is that the appointed representatives of the profession on the Unification and Registration Committee have decided in favour of Statutory Registration, and any differences of opinion are confined at present to the question as to whether Unification is to precede or to follow Registration. Personally I think that Unification in some form, not necessarily as at present proposed, is essential as a preliminary to obtaining Statutory Registration, but I am not prejudiced in favour of that proposal to the exclusion of any others; all that I am concerned with is to obtain Statutory Registration at the earliest possible moment.

C. McARTHUR BUTLER,
Secretary of the Society of Architects.

Competition News

Newport War Memorial.

Mr. E. Guy Dawber, F.R.I.B.A., the assessor, has made the following awards in the Newport War Memorial Competition:—

First (Design No. 16): Messrs. Cyril F. Bates, A.R.I.B.A. and Colin L. Jones, M.S.A., Newport (Premium £100).

Second (Design No. 10): Messrs. V. O. Rees, A.R.I.B.A. and V. Ware, A.R.I.B.A. 32 Blandford Road, Bedford Park, London, W.4.

Third (Design No. 17): Messrs. Griggs and Vaughan, Newport.

Highly Commended.—Design No. 3: Messrs. Cyril F. Bates, A.R.I.B.A., and Colin L. Jones, M.S.A., Newport; No. 6: Messrs. Wheeler Bros. (of Reading), Ltd., 6 Suffolk Street, Pall Mall, London, S.W.1; No. 9: Mr. G. Valentine Shepherd, Newport; No. 18: Mr. John Hall, F.R.I.B.A., 28 John Street, Sunderland; and Design No. 22: Mr. E. A. Remnant, P.A.S.I., 9 Southampton Street, Bloomsbury, London, W.C.1.

Mr. Guy Dawber, in the course of his report, says: I have examined the twenty-three designs submitted for the Newport War Memorial to be erected in Clarence Place. I have visited the site and considered the position selected at the junction of the various roads and approaches, and have borne this in mind in judging the drawings submitted. I have made a detailed and exhaustive examination of the whole of the designs, and with few exceptions they are of a high order of merit and show that the competitors have carefully studied the problem and produced some admirable solutions. I have no hesitation in placing first the design marked No. 16, a fine dignified composition, which, although frankly based on the Whitehall "Cenotaph," would look well in the position selected. The detail is restrained and suitably treated, and concentrated with bold effect at the top of the memorial. The absence of any unnecessary ornament, panels, or inscriptions, and the well-placed wreaths at either end, all mark this design as one eminently suitable for its purpose. The bronze wreath lying on the top might be omitted, as only the edge would be seen, and this would be better in stone. At the same time I would suggest the entire memorial from above the steps being in Portland stone, as there seems no adequate reason for using granite in the lower portion, and it is questionable whether the variation in colour and texture would be satisfactory. I consider the memorial could be erected well within the stipulated sum. There are many other excellent designs, and I would place them in order of merit: Second No. 10, and Third No. 17, and Highly Commend Nos. 3, 6, 9, 18, and 22.

Big American Competition.

To commemorate its seventy-fifth anniversary "The Chicago Daily Tribune" is offering prizes aggregating $100,000.00 for designs which shall provide the "Tribune" and the city of Chicago with the most beautiful building in the world. Competitors must submit a design showing only the south and west elevations of the structure, and a perspective from the south-west. The competition will be conducted under the rules of the American Institute of Architects, and will open August 1, 1922, and close November 1, 1922. The accepted design will be executed regardless of cost. The material in which their designs shall be executed is left to the discretion of competitors. The jury of award will include the Chairman and next President of the Illinois Chapter of the American Institute of Architects. The prize money will be distributed as follows: $50,000.00 for the design selected; $20,000.00 for the design ranking next; $10,000.00 for the third; ten prizes of $2,000.00 each will be awarded to ten architects to be especially invited to enter into this project. The competition is open to architects of all countries.

Little Harwood War Memorial.

The design of Messrs. L. H. Maxwell and G. G. Dickinson, of Blackburn, architects, has been accepted in competition for the Little Harwood War Memorial.

(*The list of competitions open remains the same as published last week.*)

Rome Scholarship Awards

As briefly announced in our last issue the Rome Scholarship in Architecture has been awarded to Mr. Stephen Welsh, A.R.I.B.A., and the Henry Jarvis Studentship offered by the R.I.B.A. to Mr. George Checkley, A.R.I.B.A. These awards have been made by the Commissioners of 1851 on the recommendation of the Faculty of Architecture of the British School at Rome.

Mr. Stephen Welsh is a student of the University of Liverpool, is thirty years of age, and was born at Forfar, where he served his articles. He afterwards acted as architect's assistant in Glasgow for two and a half years, during which time he attended the Glasgow School of Architecture. He served during the war for over four years with the Royal Engineers.

Mr. George Checkley is twenty-seven years of age, and was born at Akaroa, New Zealand. He also is a student of the University of Liverpool, which he entered with a New Zealand Government Scholarship after serving for three and a half years with the New Zealand Expeditionary Force.

The Rome and Jarvis Scholarships are of the value of £250 a year, tenable at the British School at Rome for a period of three and two years respectively. Both awards were open to British subjects under thirty years of age with an allowance for war service. The Jarvis Studentship is offered to the student or associate of the R.I.B.A. who passes next in order of merit to the winner of the Rome Scholarship.

The competition, which is conducted by the Faculty of Architecture of the British School at Rome, was in two stages. The results of the preliminary competition were exhibited at the Royal Academy in February last at the annual exhibition of the British School. Nine of the competitors in the preliminary round were selected for the final stage, which lasted for a period of ten weeks and was preceded by a thirty-six hours *en loge* test, the subject of the competition being a design for a Royal Academy. The winning designs, together with those of the unsuccessful finalists, will be publicly exhibited for a fortnight at the R.I.B.A. as from July 17. The Jarvis Studentship has been awarded in two successive years to New Zealanders, Mr. E. W. Armstrong, of Auckland, being the winner of the Jarvis in 1921.

MR STEPHEN WELSH, A.R.I.B.A (LIVERPOOL UNIVERSITY), WINNER OF THE ROME SCHOLARSHIP.

Society of Architects Design Competitions

Nine out of the ten successful competitors in the preliminary test in connection with the Society of Architects' Half-Yearly Design Competitions, 1922, submitted designs in the final. The drawings were numbered as received, and the jury of assessors, after careful study of the various designs, awarded a prize of £30 to Harold Anderson, of Blean, student, author of the design marked No. 7, and one of £10 to H. Scott Dalby, of Weaverham, Licentiate, author of the design marked No. 1, subject to the conditions set forth in the Regulations.

Design No. 7, Harold Anderson, was placed first on account of the plan, which has fewer faults. The draughtsmanship is poor and the elevations ordinary.

Design No. 1, H. Scott Dalby, was marked very low on the plan, which is bad in many particulars, and high on its draughtsmanship and elevations. Had the plan been good first place would have been awarded this competitor on account of the high qualities of draughtsmanship.

Design No. 9 was placed a close third; Design No. 3 was placed some way behind. The remainder of the designs were not marked.

The jury were encouraged by the improvement shown in the general standard of design and draughtsmanship.

The Victory Scholarship

The entries received this year for the Society of Architects' "Victory Scholarship" preliminary competition were even more numerous than those of 1921, and numbered sixty-six. Fifty-six designs were received from competitors sitting at Cambridge, Glasgow, Leeds, Liverpool, London (two centres), and Sheffield, on Saturday, June 10, from 10 a.m. to 10 p.m. The programme, which was handed to each competitor upon arrival, consisted of a Ceremonial Staircase. The jury of assessors, Messrs. Arthur J. Davis, Edward R. F. Cole, T. Harold Hughes, F. Billerey, H. C. Hughes, L. Sylvester Sullivan, Howard Robertson, and L. H. Bucknell, selected ten drawings bearing the following index numbers for the final competition: 63, 65, 68, 71, 81, 95, 97, 99, 107, 116. The authors of these designs were then declared to be as follows: J. A. Jellicoe, of London (63); J. C. Shepherd, of London (65); N. C. Mackey, of London (68); D. Brooke, of Liverpool (71); G. F. Shanks, of Glasgow (81); E. N. Channon, of London (95); H. St. John Harrison, of London (97); A. S. Knott, of London (99); Keith D. P. Murray, of London (107); P. Hardy, of London (116). The jury of assessors also fixed the final programme, which will not be disclosed until Saturday, July 15, the date of the final competition. The whole of the esquisses are on exhibition at 28 Bedford Square, W.C.1, from 10.0 to 5.0 daily (Saturdays 1 o'clock), until Friday, July 14.

Liverpool University Examination Results

Appended are the results of the examinations of the University of Liverpool. With regard to all architectural and constructional subjects the work for the Degree and Diploma courses is identical for the five years, the only difference being that the Degree men have matriculated before entering the University and the Diploma men have not. The names of those who failed in the examinations, a percentage of about five, are not published. These students have to remain in their year and take the year's course over again, which generally means they leave the school. This is an important point, because it shows how the school acts as a sieve through which only the better men can proceed :—

FACULTY OF ARTS.
DEGREE OF B.ARCH.

With Honours in Architectural Design.
Fifth Examination.

Class I.

Arthur, E. R. (Rome Finalist 1920, 1921, 1922; Winner of Town Planning Lever Prize).
Checkley, G. (Rome Finalist 1922; Winner of Jarvis Scholarship).
Dougill, W. (Rome Finalist 1920, 1922).
Martin, E. W. (Rome Finalist 1922).
Welsh, S. Rome Finalist 1922, and Winner).

Class II.

Allen, J. S.
Forshaw, J. H.
Haswell, P. B.

DEGREE OF B.ARCH.

Old Regulations.
Final Examination.

Holliday, A. C. (with Distinction).

DEGREE OF B.ARCH.
Fourth Examination.

Honours in Architectural Design.

Allen, J. S.
Brooke, D.
Edwards, W. B. (Rome Finalist 1922).
Higham, E. H. H. (Rome Finalist 1922).
Mahon, S. E. (Honan Travelling Scholar).
Owen, G. L.
Pritchard, H. W.
Williams, E. (Rome Finalist 1922; Winner of Town Planning Lever Prize).

Honours in Architectural Construction.

Billimoria, H. F.
Hutton, C. H.
John, L.
Raafat, M.
Williams, H.

Third Examination.

Ashburner, E. H.
Bloodworth, C. T.
Bridgwater, D. L.
Donaldson, R. W.
Elton, L. S.
Gabr, A. L.
Gorrie, J. C.
Howitt, L. C.
Jenkins, W. V.
Miller, J. H.
Owen, J. H. L.
Silcock, H. S.
Turner, R. H.

Second Examination.

Astbury, F. N.
Barton, H. L.
Machon, H. C.
Minoprio, C. A.
Peters, H. A.
Shaw, C. C.
Wills, T. T.

FACULTY OF ARTS.
DIPLOMA IN ARCHITECTURE.

Fourth Examination.
Distinction in Architectural Construction.

Jones, R. H.
Yoxall, T.

Ordinary Diploma.

Hirst, H.
Musker, Doris.
Simms, H. G.
Townsend, A. C.
Woolley, E. G.

Third Examination.

Beeston, W.
Debert, Doris D. (First Lever Prize 1922).
Douglas, G. C.
Edwards, C. G.
Furbur, J. R.
Nuttall, O. H. H.
Oversby, Doris.
Priestley, C. J.
Velarde, F. X.
el Wahhaby, A. I.

Second Examination.

Cowley, A. D. R.
Crossley, F. H.
Dean, R. E. S.
Dixon, Doris E.
Evans, H. B.
Fox, H. L.
Roushdy, M.
Silcock, Frances H.
Thearle, H.
Thomas, G. I.
Wall, Maud A. M.
Wilkinson, Sheelah A.

First Examination.

Alderson, W. R.
Badger, J. J.
Butling, G. A.
Dunphy, Norah.
Haynes, T. C.

CERTIFICATE IN ARCHITECTURE.
Class I.

Ashburner, E. H.
Beeston, W.
Bloodworth, C. T.
Bridgwater, D. L. (Holt Travelling Scholarship).
Debert, Doris D.
Donaldson, R. W.
Douglas, G. C.
Edwards, C. G.
Elton, L. S.
Furbur, J. R.
Gabr, A. L.
Gorrie, J. C.
Howitt, L. C.
Jenkins, W. V.
Nuttall, O. H. H.
Oversby, Doris.
Owen, J. H. L.
Silcock, H. S. (Second Lever Prize and THE ARCHITECTS' JOURNAL Essay Prize).
Turner, R. H.
Velarde, F. X.
el Wahhaby, A. I.

Class II.

Miller, J. H.
Priestley, C. J.

CERTIFICATE IN CIVIC DESIGN.
Class I.

Arthur, E. R.
Checkley, G.
Dougill, W
Welsh, S.

Dawnay's Sports Club Annual Outing

Dawnay's Sports Club (which is run by the works and staff of Messrs. Archibald D. Dawnay and Sons, Ltd., of Battersea, constructional engineers, has spent its first annual outing at Worthing. The party proceeded by chars-à-bancs, and arrived at Worthing at 12.30 p.m. after a most delightful journey.

After being welcomed by their president (Mr. E. A. Willson, managing director) the party of 127 had dinner at the Institute, Montague Street. During the dinner Mr. Thorne (director) stated that the president would like to drink their health, and later that the president would like to drink to the health of those who had been with the firm twenty years or more. To this about fifteen stood up and were given a hearty reception. At the end of the dinner the president proposed the health of "H.M. the King," and there was then distributed to each man present a parcel on which was the remark, "With the Directors' Compliments." This contained cigars, cigarettes, and matches.

Mr. Footman (in the unavoidable absence of Mr. J. Hough) proposed the toast of "Archibald D. Dawnay and Sons, Ltd.," pointing out the very fine consideration shown to the employees by the directors in supporting the sports club, slate club, and giving holidays. He was sure that this was fully appreciated by the employees.

Mr. E. A. Willson, the president, in responding, mentioned that the firm were going through hard times, but they did their best to keep the works going, and it was up to all to pull together. He was looking forward to the future for increased work, which meant better times for all. He also mentioned the very recent promotions made necessary by the increased volume of business of the company. These promotions had been made from the ranks, and it was their intention to offer every inducement to the men to remain with the company.

Mr. H. Thorne (director) said that he had been intimately connected with the men as their works manager for some twenty years or more, and he would look back on that period with an immense amount of pleasure. He was now leaving them to be "inside" entirely with the other directors. He was sure all would give the new foreman, Mr. Footman, and the new works manager, Mr. J. Hough, the same support and respect as they had done to him. It was with much pleasure he had been able to assist the sports club. He proposed the "Dawnay's Sports Club," coupling with it the name of its secretary, Mr. F. H. Page.

Mr. F. H. Page, in responding, thanked Mr. Thorne and the other directors for their support to the club. He thought the private ground at South Lodge Farm, Mitcham, provided by the directors, could not be better. It had been fitted out with a pavilion, and was complete in every way. At football they had been very successful, and they would be in the Wimbledon and District League and the Hospital Charity Cup for the season 1922–23. At cricket they had not been so good, but they were in the making, and doubtless next season would do better. He thanked the directors on behalf of those present for all they had so very kindly done.

Mr. Greenwood proposed the health of the "Vice-Presidents," and Mr. A. P. Lander responded.

After this the party broke up to enjoy the afternoon in Worthing. They reassembled for tea at 5 o'clock, after which a concert was organized until the chars-à-bancs were ready. The company arrived back in London at 10.45.

The National Physical Laboratory, Teddington

Between 800 and 900 guests, including some of the leading lights of the scientific and technical world, journeyed to Teddington on June 27, where they were received by Professor Sir Charles S. Sherrington, G.B.E., F.R.S., President of the Royal Society, and Professor Sir Joseph E. Petavel, K.B.E., D.Sc., F.R.S., Director of the Laboratory.

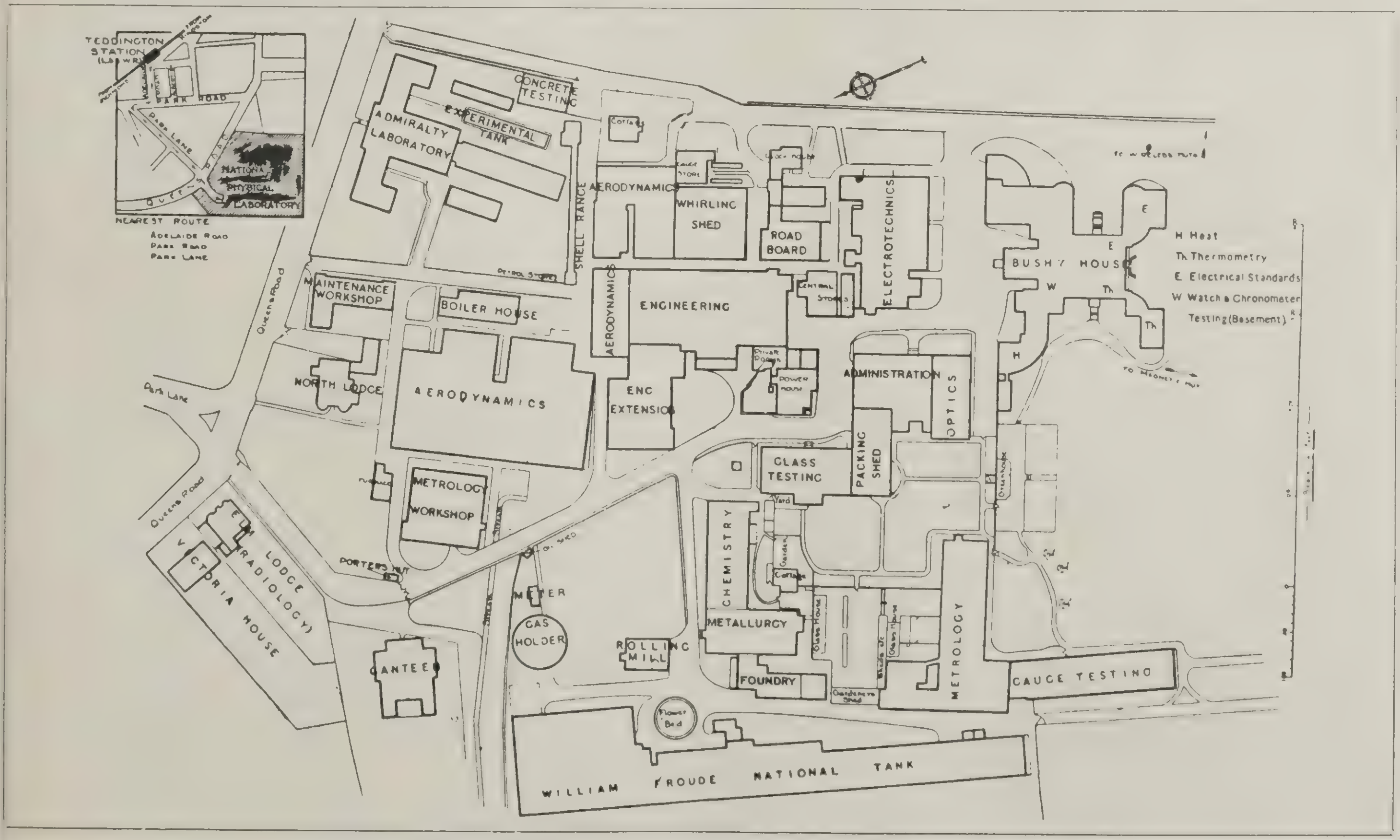
The annual inspection by the General Board was the occasion, and the laboratory buildings contained a great deal to interest the layman as well as the expert.

The Froude National Tank, in which ship models are tested in artificially created waves, had a constant procession of visitors, and in the wireless hut one could hear a technical lecture being delivered at Croydon.

In the Aerodynamics Department apparatus for testing the stability of an aeroplane in flight was of particular interest in view of the problem of safety in aviation.

The Engineering Department showed a test of the compressive strength of steel-concrete columns. The exhibit consisted of a steel column cased with concrete which had failed in the testing machine under a strain of fifty-five tons. Side by side was shown an exactly similar steel column not so cased which failed under a strain of four tons. A new plant by Ransome for the Ministry of Transport for mixing asphalt carpets for roads was also exhibited.

The Engineering Research Board proposes to continue the investigation of the phenomena of cracking in iron and steel and other metals, and also to investigate the phenomena which occur when mild steel under stress is exposed at various



LAY-OUT OF THE NATIONAL PHYSICAL LABORATORY, TEDDINGTON.

temperatures and pressures to the action of caustic soda solutions of different strengths. Apparatus for this purpose is being designed and will be constructed and put into use. In this connection, investigations will be made of any cases coming under the notice of the department of cracking in boiler plates.

A programme of research is also to be arranged with the Cast Iron Research Association.

The extensions to the Engineering Department sanctioned by the Treasury in 1919 have been completed during the year. These consist of a large test-room 96 ft. by 50 ft., having a three-ton traveller over the whole bay. The height of the building has been arranged so that any piece of apparatus can be taken by the traveller from or to any part of the bay without disturbing the other test plant. A section of this bay has been enclosed for engine testing; the traveller goes over this enclosure, and will facilitate the handling of engines to be tested.

On the west side of this bay a much needed block of offices (in two stories) has been erected, while on the north side there is a laboratory (20 ft. by 40 ft.) for steam research. This building is necessary because of the disturbances in the existing position due to currents of cold air. The space vacated by the steam apparatus will become the carpenters' shop.

The dark-room has been extended to take the projection apparatus, and the workshop lavatory and engineering store-room accommodation has been increased in the old building.

Of great value are the special investigations carried out, against payment, for individuals and firms. These often deal with problems of considerable interest, and it may be added, to the credit of British industrial undertakings, permission to publish results of general value is rarely withheld when the Laboratory considers publication desirable. As might be expected, such work has increased appreciably since the war.

New Inventions

Latest Patent Applications.

16504.—Gouyard, G. M.—Method of constructing reinforced concrete arches. June 14.

16475.—Stern, S. A.—Imitation marble, etc. June 14.

15974 —Lax, C. — Concrete fencing. June 8.

Specifications Published.

180748.—Marks, E. C. R. — Heating plants for houses and buildings in general.

180862.—Wainer, G. W., and March, W. —Roof tiles.

180887.—Dyson, E.—Flooring.

Abstract Published.

178929.—Chimneys; hearths.—Mathews, J. F., 29 Heathfield Avenue, Dover.—Chimneys formed of metal sections supported in channels provided for the purpose during building are suspended from their upper ends. As applied, for instance, in a concrete building, the upper end of the chimney, Fig. 1, has a flange which engages over an iron chimney-pot *f*. Intermediate sections may be supported by the respective floors, and the sections are coupled by means of clips *i* which allow the necessary temperature changes in length. A coupling similar to *i* connects with the fireplace, In Fig. 2 the arrangement is such that the fireplace may be inserted bodily into position, after which the hearth *o* is secured in a recess in the floor, a rib *q* thereon serving to position the fireplace. The channel containing the chimney may be formed of special slabs secured to the wall, Fig. 4, or built into wall, Fig. 5. A panel such as *r*, Fig. 2, which may be held in place by the mantelpiece, gives access where desired to the chimney.

FIG. 1.

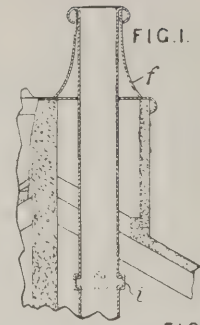


FIG. 2.

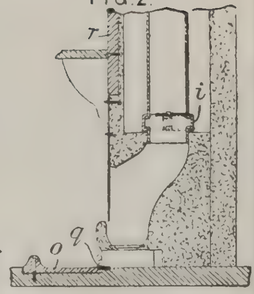


FIG. 4.

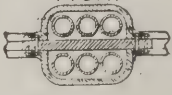
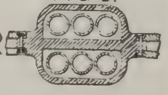
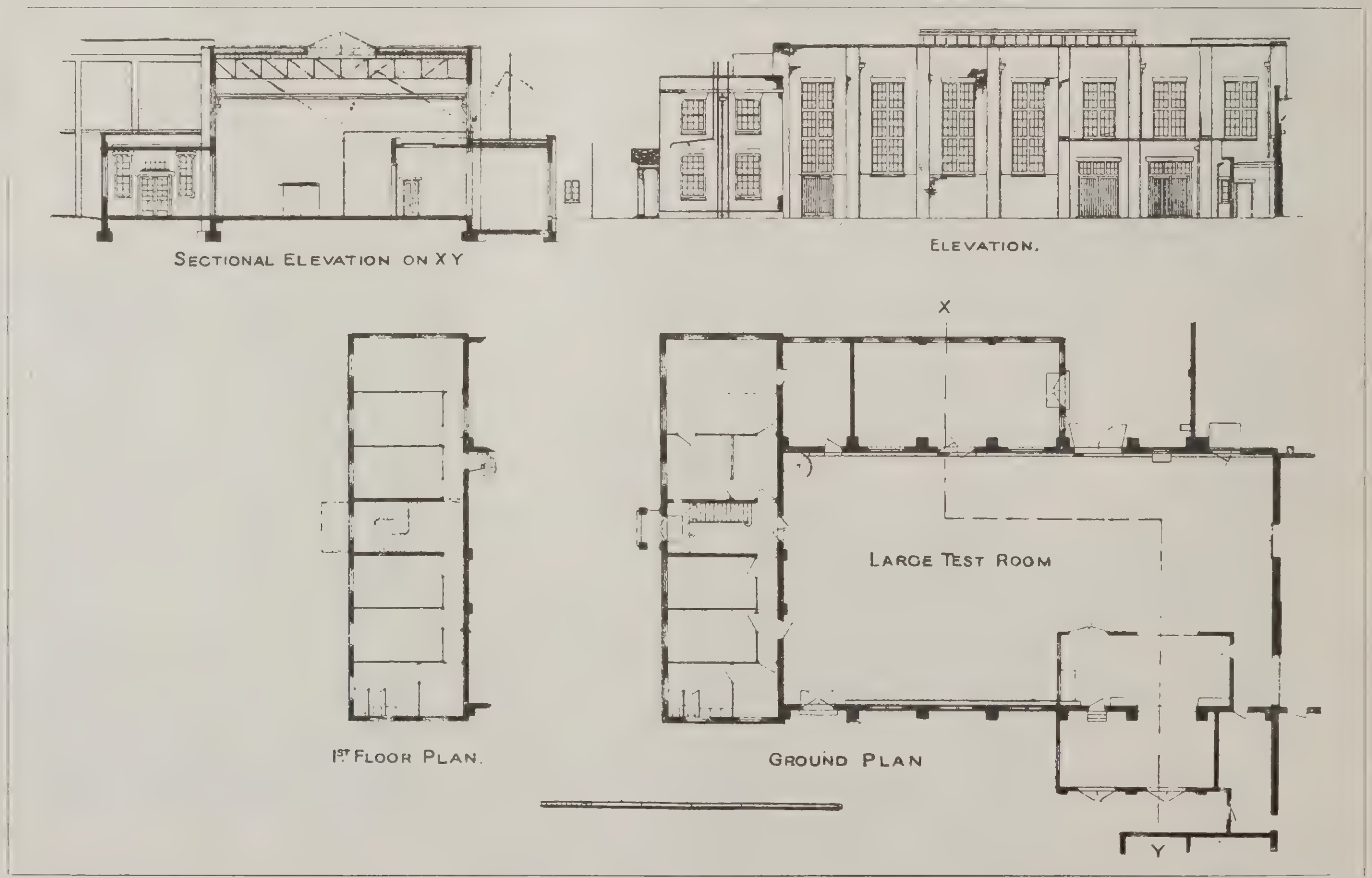


FIG. 5.



The above particulars are specially prepared by Messrs. Rayner & Co., Registered Patent Agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.



EXTENSION OF THE ENGINEERING DEPARTMENT, NATIONAL PHYSICAL LABORATORY, TEDDINGTON.

The Week's News

Romford Housing.

Romford Council is to borrow £12,000 to build working-class type of houses.

Road from Newcastle to the Coast.

The Transport Ministry is to receive a deputation from local authorities concerned in a scheme for the construction of a road from Newcastle to the coast.

Blyth Housing Progress.

The first instalment of Blyth Council's house-building scheme of 1,000 houses, consisting of 250 houses, is nearing completion, and a commencement has been made with the second 250.

New Ironmongers' Hall.

The Ironmongers' Company have acquired a site at Shaftesbury Place, Aldersgate Street, on which to erect a new hall in place of the one in Fenchurch Street destroyed by German bombs.

St. Michael's, Chester Square, Memorial.

The War Memorial in St. Michael's, Chester Square, recently dedicated, takes the form of a Chapel of Thanksgiving and Remembrance. The architect was Mr. G. Gilbert Scott, R.A.

County Architect for Somerset.

Somerset County Council have decided to appoint a full-time architect at a salary of £500 a year and travelling expenses, and to provide him with the necessary offices and assistance.

New "Skyscraper" in U.S.A.

An eighteen-story building in rein-orced concrete, and known as the "Hide and Leather Building," has just been ompleted in New York. This consti-utes the tallest building of its type in the United States of America.

A Correction.

A correspondent writes to point out hat the Phœnix Fire Office in Trafalgar square (now demolished, and illustrated nder "Pictorial Review" in our last ssue) was designed not by C. R. Cockerell, ut by J. M. Gandy.

Clock Tower for Little Harwood.

The design of Messrs. L. H. Maxwell nd G. G. Dickinson, architects, of Bank Chambers, Lord Street West, Blackburn, as been accepted, in competition, for he Little Harwood war memorial clock ower, which will have four dials.

Rhyl Improvements.

The Rhyl Council have entered into an rrangement for the removal of the huge ank of gravel at the Foryd Estuary, which has for years been the subject of ontroversy, and which, it is said, has aused coast erosion.

The late Mr. J. T. Middleton.

We regret to announce the death of Mr. John Thomas Middleton, of Woking, who had been connected with the firm f Sir Walter Scott and Company, imited, contractors, and Portland ement manufacturers, of Newcastle, for ore than fifty years. Mr. Middleton as seventy-five years of age.

Epsom's Oldest Brewery.

Some oak-pinned tiles, between 300 nd 400 years old, which are being removed from the roof of Epsom's oldest brewery, have been purchased by a New York racehorse owner. Part of the brewery is to be devoted to parochial purposes.

Brighton Aquarium to Go.

In spite of great opposition, the site of the Brighton Aquarium is to be leased to the Southdowns Motor Service for sixty years and converted into a garage, with accommodation for 200 motor-coaches and omnibuses.

Downside School War Memorial.

Work has begun on the Downside School War Memorial, which is to be the Nave of the Abbey Church, and will consist of seven bays to be built to the design of Mr. G. Gilbert Scott, R.A. It is expected that the nave will be completed in 1925.

London Police War Memorial.

At New Scotland Yard a mural tablet has been unveiled by Brig.-General W. T. F. Horwood, to the 345 members of the Metropolitan Police who sacrificed their lives during the war. The actual war memorial of the force will be at Twickenham Orphanage, where a new hospital is being erected.

Housing at Warwick.

Given seventy-two weeks for completion of the whole block of 142 houses on the Capesite part of the Old Deer Park, at Warwick, the contractors have finished them in sixty-five weeks. All the houses are occupied. The Ministry are expected to sanction the building of a further block completing the scheme.

Sir Henry Wilson Memorial.

The Army Committee have been invited to subscribe towards a special memorial to the late Field-Marshal Sir Henry Wilson, and in view of the deep interest taken by Sir Henry in the completion of the Royal Military College War Memorial Chapel at Sandhurst it is thought that no more fitting site could be chosen.

Islington War Memorial.

Islington War Memorial Fund Committee have resolved to adopt as the borough memorial an extension of the Royal Northern Hospital which will form a complete casualty department, with adequate observation wards. On oak panels in the new building will be recorded the names of 1,200 Islingtonians who gave their lives in the war. The estimated cost of the building is £11,700.

Housing at Oakengates.

The opening ceremony has been performed of the third housing scheme carried out by the Oakengates Urban District Council (the Snedshill scheme). The total number of houses forming the three schemes is over 200. The Snedshill scheme comprises eighty-seven houses, twelve parlour and sixty-five non-parlour. The architects were Messrs. Farmer and Hickman, of Walsall and Sheffield.

Islington's Town Hall.

The foundation-stone of Islington's projected addition to its Town Hall has been laid. The cost is estimated at £74,000, and a loan for this amount has been sanctioned. Mr. E. C. P. Monson, the Borough Council's architect, is responsible for the plans of the building, which is being erected by the authority's own employés. It will be a structure of steel frame and brick, of four floors, with a Portland stone base, and will be, as far as possible, fire-resisting.

Reading Exhibition of Drawings.

An exhibition of architectural drawings will be opened at the Art Gallery, Reading, by the Mayor of Reading, Mr. W. Roland Howell, F.R.I.B.A., on Thursday, July 6, at 3.0 p.m. The exhibition will consist of the R.I.B.A. Prize Drawings for 1922, a selection of the British Prix de Rome Drawings, illustrations and models of the works of members of the Berks, Bucks, and Oxon Architectural Association, and measured drawings and students, testimonies of study. The exhibition will remain open until July 14.

Wandsworth Bridge.

The Fulham and Wandsworth Borough Councils are of opinion that steps should be taken by the L.C.C. to deal with the scheme for improving Wandsworth Bridge and its approaches. A deputation from the two Councils is to wait on the L.C.C. Plans of a revised scheme for improving the southern approaches to the bridge were approved by the Wandsworth Council on May 5, 1915, and forwarded to the L.C.C. with a view to the improvement being made after the war. The cost of the improvement was then estimated at £90,000.

A.A. Students' Drawings at Amsterdam.

A public exhibition of drawings by students of the Architectural Association School of Architecture has been opened at the State Academy, Amsterdam. The exhibition was sent over at the invitation of the Dutch Association for the Higher Education of Architects. The President of the Society, Mr. Jan de Meyer, in opening the exhibition, spoke of the great inspiration Dutch architects had found in the domestic architecture in England. He said how greatly they were impressed with the exhibition, and the obvious thoroughness of the Architectural Association's educational system, from which they had much to learn.

The Civil Engineers at Home.

"Sumpshous" but poorly expresses the magnificence of the conversazione at the Institution of Civil Engineers last week. The stateliness of the halls and staircase was softened by masses of flowers and greenery, downstairs the band of the Royal Artillery discoursed sweet music, and in the theatre Edna Thornton and the Gresham Singers gave liberally of their best. The President and Mrs. Worthington received an apparently interminable procession of guests, whose decorations bore witness to the achievements of the profession in both peace and war, and the great hall resounded with recognitions and greetings between engineers from the four corners of the earth. Their womenfolk were there too, very numerous, and beautifully arrayed; but it was pre-eminently the men's night out.

Rates of Wages in the Building Trades*

The following table, which is published in the first issue of THE JOURNAL for each month, shows the rates of wages of craftsmen (bricklayers, masons, carpenters and joiners, woodcutting machinists, slaters, plumbers,* plasterers, painters †) and labourers in the building industry. The labour rates for London are given in the Table of Current Prices on pages xxi, xxii.

District.	Grade A.		Grade B.		Grade C.		Grade D.	
	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
North East Coast	1 8	1 3	—	—	—	—	—	—
Yorkshire	1 8	1 3	1 6½	1 2	1 4½	1 0½	—	—
North Western Counties‡	1 8	1 3	1 6½	1 2	1 4½	1 0½	1 4	1 0
Midland Counties	1 8	1 3	1 6½	1 2	1 5	1 0¾	1 4	1 0
Eastern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
Southern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
South Western Counties§	1 8	1 3	1 6	1 1½	1 4½	1 0½	1 3½	0 11¾
South Wales	1 8	1 3	1 4	1 0	—	—	—	—
Scotland	1 8‖	—¶	1 7	—¶	1 6	—¶	—	—

* In the case of towns printed in *italic type* below, the rates shown in the Table for craftsmen do not apply to plumbers.

† Except in Scotland.

‡ Excluding Liverpool and Birkenhead, where the rates are 1s. 11d. for plumbers, 1s. 10½d. mason's fixers, 1s. 10d. for other craftsmen, including painters, 1s. 6d. scaffolders, 1s. 5½d. for tradesmen's labourers, and 1s. 5s. for general labourers and navvies.

§ In the South Western Counties the Grades are known as "Grades I, II, III, and IV."

‖ In the case of bricklayers, masons and labourers employed by members of the Scottish Building Contractors' Association in the Glasgow and West of Scotland district, the rates are 1s. 10d. for craftsmen and 1s. 5d. for labourers.

¶ In Scotland, labourers are not included in the general grading scheme.

Grading of Towns.

The localities in which the above rates have been reported to be in operation are as follows. In the case of localities printed in *italic type*, the rates shown in the above Table for craftsmen do not apply to plumbers.

NORTH EAST COAST :—

Birtley, Bishop Auckland, *Blackhill*, *Blyth*, *Chester-le-Street*, *Consett*, *Darlington*, *Durham*, *Gateshead*, *Hartlepools*, *Hebburn*, *Hexham*, *Jarrow*, *Lanchester*, *Leadgate*, *Middlesbrough*, *Morpeth*, *Newcastle*, *North and South Shields*, *Seaham Harbour*, *Shotley Bridge*, *Stanely*, *Stockton*, *Sunderland*, *Thornaby*, *Tynemouth*, *Wallsend*, *Whitburn*, and *Whitley Bay*.

YORKSHIRE :—

Grade A.—*Barnsley*, *Batley*, *Bingley*, *Birstall*, *Bradford*, *Brighouse*, Calder Valley, Castleford, *Cleckheaton*, *Colne Valley*, *Crosshills*, *Dewsbury*, *Doncaster*, *Gomersal*, Grimsby, *Guiseley*, *Halifax*, *Harrogate*, *Hebden Bridge*, *Heckmondwike*, Holmfirth, *Horbury*, Huddersfield, Hull, *Ilkley*, Immingham, *Keighley*, *Leeds*, *Liversedge*, *Mexborough*, *Mirfield*, *Morley*, *Normanton*, *Ossett*, *Penistone*, Pontefract, Pudsey, *Rawdon*, *Rotherham*, Scunthorpe, *Selby*, *Sheffield*, *Shipley*, *Sowerby Bridge*, *Stocksbridge*, *Wakefield*, *Wombwell*, *and Yeadon*.

Grade B.—Barnoldswick, Beverley, Bridlington, Goole, Hornsea, Scarborough, Skipton, *Whitby*, and York.

Grade C.—Driffield, Kirby Moorside, Malton, Norton, Pickering, and Wetherby.

NORTH WESTERN COUNTIES :—

Grade A.—*Accrington*, Adlington, *Alderley Edge*, *Altrincham*, *Ashton-under-Lyne*, *Atherton*, *Bacup*, Barrow, Birkdale, Bispham, *Blackburn*, Blackpool, Blackrod, *Bolton*, Broughton (Flints), *Burnley*, *Bury*, Carlisle, Chester, Chorley, *Church*, Cleveleys, *Clitheroe*, *Colne*, Connah's Quay, Dalton-in-Furness, *Darwen*, *Denton*, *Droylesden*, *Eccles*, *Farnworth*, Fleetwood, Frodsham, *Glossop*, *Great Harwood*, *Haslingden*, Hawarden, Helsby, *Heywood*, Higher Kinnerton, *Horwich*, *Hyde*, Lancaster, *Leigh*, Leyland, *Littleborough*, Longridge, Lymm, Lytham, *Manchester*, *Middleton*, Morecambe, *Mossley*, *Nelson*, *Ormskirk*, *Oswaldtwistle*, *Oldham*, *Padiham*, *Pendlebury*, Poulton, *Preston*, *Prestwich*, Queensferry, *Radcliffe*, *Ramsbottom*, *Rawtenstall*, *Rishton*, *Rochdale*, Runcorn, St. Anne's-on-the-Sea, St. Helens, *Saddleworth*, *Sale*, *Salford*, *Shaw*, Shotton, Southport, *Stalybridge*, *Stockport*, *Swinton*, Thornton, *Todmorden*, *Tyldesley*, *Walkden*, *Warrington*, Westhoughton, *Whalley*, *Whitefield*, Widnes, Wigan, and *Wilmslow*.

Grade B.—Askam, Broughton, Buxton, Cleator Moor, Congleton, Coniston, Crewe, Distington, Egremont, Grange-over-Sands, Harrington, Knutsford, *Macclesfield*, Maryport, Market Drayton, Middlewich, Millom, Mold, Nantwich, *New Mills*, Northwich, Sandbach, Tarporley, Ulverston, Winsford and Over, Whitehaven, Workington, and Wrexham.

Grade C.—Ambleside, Bala, Bangor, Bowness-on-Windermere, Carnarvon, Colwyn Bay, Conway, Grasmere, Holyhead, Holywell, Kendal, Langdale, Llandudno, Llandudno Junction, Mostyn, Penrith, Prestatyn, Rhos, Rhyl, and Windermere.

MIDLAND COUNTIES :—

Grade A.—Alfreton, *Belper*, Bilston, *Birmingham*, *Blackheath*, *Chesterfield*, Coalville, Coventry, *Derby*, Heanor, Hinckley, *Ilkeston*, Kenilworth, *Leicester*, Lincoln, *Long Eaton*, *Loughborough*, *Mansfield*, *Nottingham*, *Nuneaton*, Oldbury, Ripley, *Sutton Coldfield*, *Sutton-in-Ashfield*, West Bromwich, Willenhall, and Wolverhampton.

Grade B.—Atherstone, Bewdley, Boston, Brierley Hill, Bromsgrove, Burton-on-Trent, Cannock, Coseley, *Darlaston*, Dudley, Gainsborough, Gornal, Grantham, Halesowen, Hednesford, Kidderminster, Knowle, Leamington, *Leek*, Lichfield, Louth, Malvern, Markey Harborough, *Matlock*, Melton Mowbray, *Newark*, Northampton, Oakengates, Old Hill, Peterborough, Redditch, Retford, Rugby, *Rugeley*, Sedgley, Shifnal, Shrewsbury, Skegness, Sleaford, Solihull, Southwell, *Stafford*, Stamford, Stourbridge, Stourport, Stratford-on-Avon, Swadlincote, Swanwick, Tamworth, *Walsall*, Warwick, *Wednesbury*, Wellington, Worcester, and Worksop.

Grade C.—Ashbourne, Bridgnorth, Church Stretton, Kettering, Ludlow, Newport, Oakham, Oundle, Raunds, Rushden, Spalding, Thrapston, Uttoxeter, Wellingborough, and Wirksworth.

Grade D.—Buckden, Eaton Socon, Huntingdon, St. Ives, and St. Neots.

EASTERN COUNTIES :—

Grade A.—Baldock, Bedford, Berkhamsted, Biggleswade, Braintree, Brentwood, Chelmsford, Cambridge, Colchester, Halstead, Hatfield, Harpenden, Hemel Hempstead, Henlow, Hertford, Hitchin, Hoddesdon, Ingatestone, Ipswich, Letchworth, Luton, Norwich, Ongar, St. Albans, Sandy, Sawbridgeworth, Stevenage, Stotfold, Ware, Welwyn, and Witham.

Grade B.—Aldeburgh, Ampthill, Attleborough, Aylsham, Braughing, Chatteris, Cromer, Dovercourt, Dunstable, Ely, Fakenham, Felixstowe, Gorleston, Halesworth, Harwich, King's Lynn, Leighton Buzzard, Leiston, Lowestoft, March, Much Hadham, Newmarket, North Walsham, Puckeridge, Renthem, Saxmundham, Southwold, Standon, Stowmarket, Wickham Market, Woodbridge, Wymondham, and Yarmouth.

Grade C.—Bungay, Coltishall, East Dereham, Royston, Saffron Walden, and Tring.

SOUTHERN COUNTIES :—

Grade A.—Abingdon, Addlestone, Amersham, Ascot, Ashford (Middlesex), Banbury, Beaconsfield, Bournemouth, Bracknell, Brighton, Byfleet, Chalfont, Chesham, Christchurch, Cremborne, Eastbourne, Eastleigh, Egham, Eton, Gerrard's Cross, Goring, Gosport, Gravesend, Guildford, Henley, Hove, Laleham, Maidenhead, Marlow, Northfleet, Oxford, Poole, Portsmouth, Reading, Southampton, Staines, Stanwell, Sunningdale, Sunninghill, Tilehurst, Tonbridge, Tunbridge Wells, Wallingford, Windsor, Winkfield, Woking, Wokingham, and Wycombe.

Grade B.—Arundel, Ashford (Kent), Aylesbury, Bagshot, Basingstoke, Bexhill, Bicester, Bletchley, Bognor, Bosham, Broadstairs, Brockenhurst, Buckingham, Burgess Hill, Camberley, Canterbury, Chatham, Chichester, Chipping Norton, Cranleigh, Deal, Dover, *Dorking*, Fareham, Faringdon, Faversham, Fenny Stratford, Folkestone, Gillingham, Godalming, Hailsham, Haslemere, Hastings, Havant, Herne Bay, Horsham, Hythe, Lambourn, Liphook, Littlehampton, Lymington, Lyndhurst, Maidstone, Margate, Midhurst, Milford, Milton Regis, Newbury, New Milton, Newport Pagnell, Oxted, Pangbourne, Petworth, Ramsgate, Redhill, Reigate, Rochester, Sandgate, St. Leonards, Sevenoaks, Sittingbourne, Strood, Stony Stratford, Stow-on-the-Wold, Ealmer, Wantage, Wendover, Westerham, Westgate, Whitstable, Winchester, Winslow, Witney, Wolverton, Woodstock, and Worthing.

Grade C.—Andover, Ardingley, Farnham, Godstone, Hawkhurst, Haywards Heath, Horley, Isle of Wight, Lingfield, Liss, Petersfield, Rye, Smallfield, Staplehurst, Steep, Turners Hill, and Uckfield. (Gravesend and Northfleet, skilled tradesmen (excluding painters) employed on local housing scheme, 1s. 6d.)

SOUTH WESTERN COUNTIES :—

Grade I.—Bristol.

Grade II.—Plymouth * and Devonport.*

Grade III.—Dartmouth,* Exeter,* Newton Abbot, Paignton, Portishead, Stroud,† Taunton, and Torquay.

Grade IV.—Barnstaple, Povey Tracey, Bradford-on-Avon,* Bridgwater, Bridport,* Bruton, Burnham-on-Sea, Calne,* Castle Cary, Cheddar,* Cirencester,* Clevedon, Coleford,* Corsham,* Crewkerne,* Dawlish, Dorchester,* Exmouth, Fairford,* Frome,* Glastonbury, Lydney,* Melksham,* Midsomer Norton, Minehead,* Radstock, Shepton Mallet, Street, Swanage,* Teignmouth,* Tetbury,* Thornbury,* Totnes,† Trowbridge,* Wells, Westbury,* Weston-super-Mare, Weymouth,* and Yeovil.*

[N.B.—Bath, Cheltenham, Gloucester,* Hereford,* Swindon,* and Tewkesbury * :—craftsmen, 1s. 5d. ; labourers, 1s. 0¾d. Bideford :—tradesmen, 1s. 4½d. ; labourers, 1s. 0½d. Camborne Falmouth, Hayle, Newquay, Penzance, Redruth, St. Ives and Truro :—tradesmen, 1s. 4d, ; labourers, 1s.

SOUTH WALES AND MONMOUTHSHIRE :—

Grade A.—Aberavon, Aberdare, Abergavenny, Ammanford, Barry, Bridgend, Briton Ferry, Brynmawr, *Cardiff*, Chepstow, Duffryn Valley, Ebbw Vale, East Glamorganshire and Monmouthshire Valleys, Garw Valley, Gorseinon, Llanelly, Maesteg, Merthyr, Mountain Ash, Neath, Newport, Ogmore Vale, Pontardulais, Pontypool, Pontypridd, Porthcawl, Port Talbot, Rhondda and Rhymney Valleys, Sirhowy Valley, Swansea, and Tredegar.

Grade B.—Haverfordwest and Pembroke.

[N.B.—Brecon and Carmarthen :—craftsmen, 1s. 10d. ; labourers, 1s. 5½d.]

SCOTLAND :—

Grade A.—Airdrie, Alloa, Alva, Ayr, Bathgate, Bellshill, Bridge of Weir, Buckhaven, Burntisland, Clydebank, Coatbridge, Dumbarton, *Dundee*, Dunfermline, Edinburgh, *Falkirk*, Glasgow, *Gourock*, *Grangemouth*, *Greenock*, Haddington, Hamilton, Irvine, Kennoway, Kilmarnock, Kirkcaldy, *Larbert*, Leith, Leslie, Leven, Methil, Motherwell, Neilston, Newmains, Paisley, Pencaitland, Perth, *Port Glasgow*, Renfrew, *Stenhousemuir*, Stirling, Uddingston, Wemyss, Windygates, and Wishaw.

Grade B.—Arbroath and Peebles.

Grade C.—*Dumfries*, Galashiels, Hawick, and *Maxwelltown*.

Aberdeen :—slaters, 1s. 8d. Peterhead :—masons, joiners and plasterers, 1s. 7d. ; plumbers, 1s. 8½d.

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* The rate for painters is 1d. per hour less than that shown for craftsmen in the above table.

† The rate for painters is ½d. per hour less than that shown for craftsmen in the above table.

* From "The Labour Gazette."

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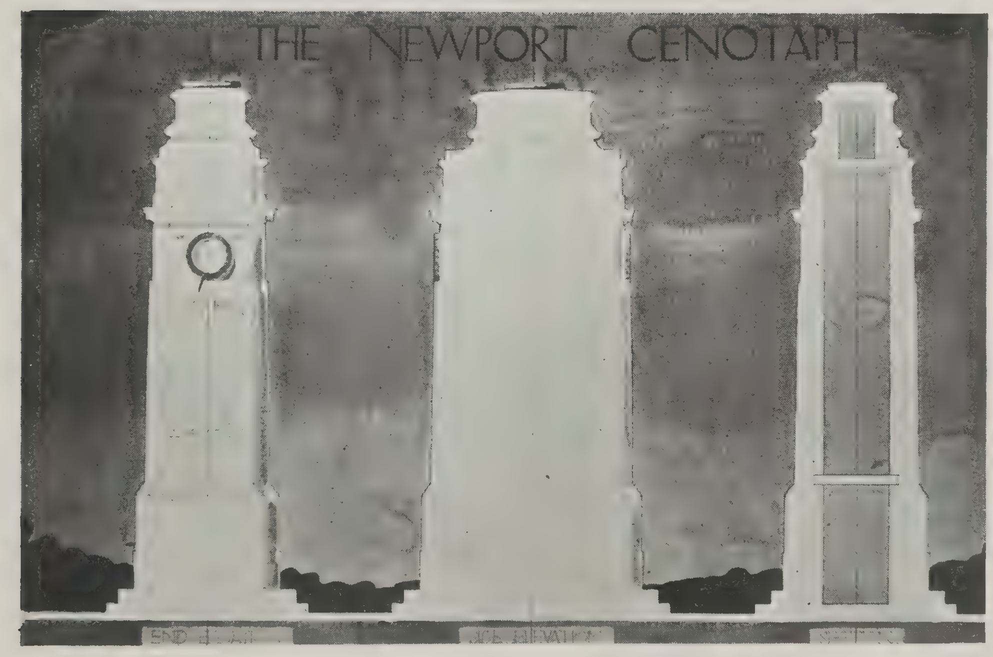
THE ARCHITECTS' JOURNAL & *Architectural Engineer*

With which is incorporated "The Builders' Journal"



NEWPORT WAR MEMORIAL COMPETITION: ELEVATIONS AND SECTION OF WINNING DESIGN.

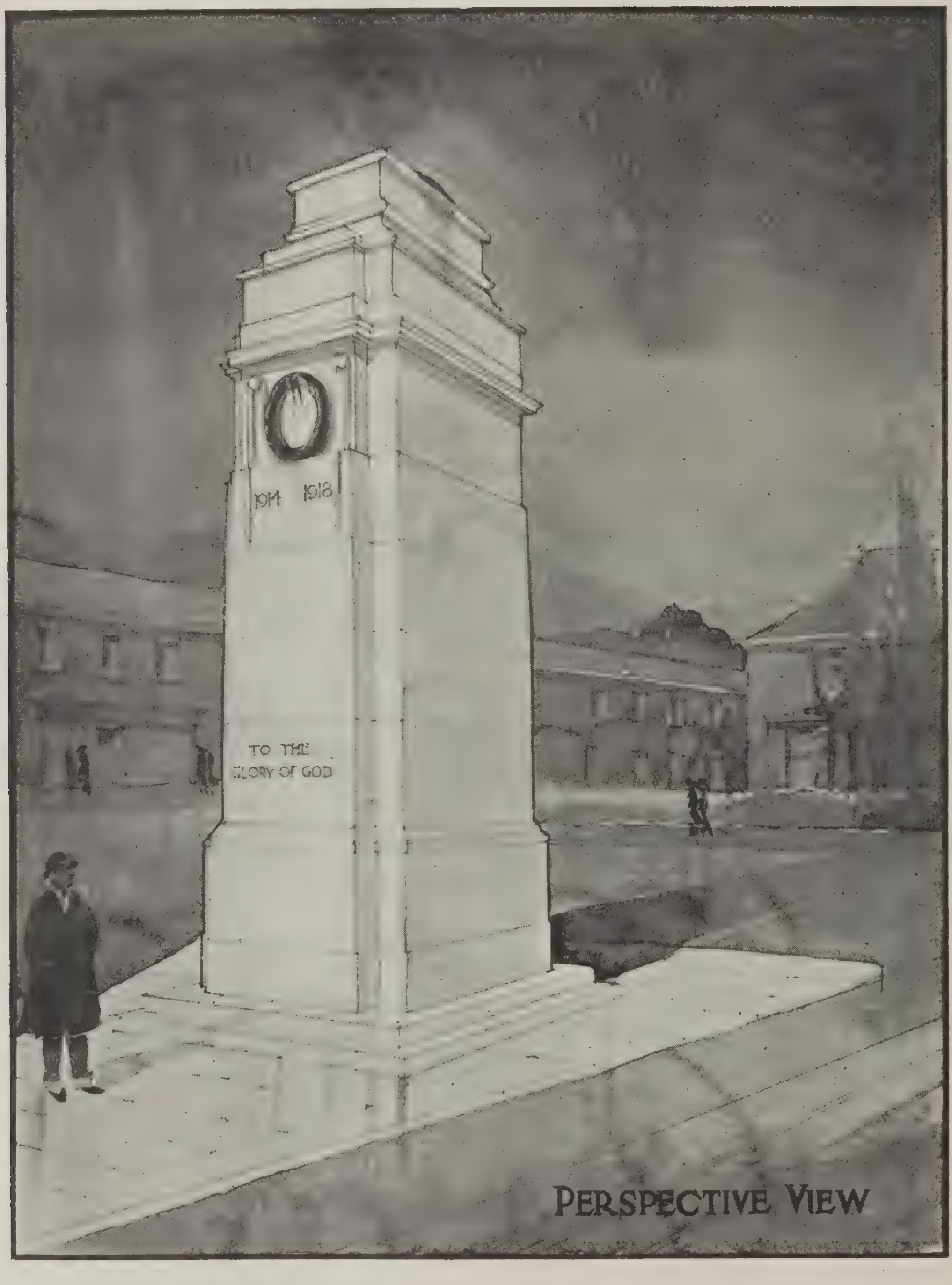
CYRIL F. BATES, A.R.I.B.A., AND COLIN L. JONES, M.S.A., ARCHITECTS

(See next page.)

27-29 Tothill Street, Westminster, S.W.1.

Newport War Memorial Competition : Perspective of First Premiated Design

Cyril F. Bates, A.R.I.B.A., and Colin L. Jones, M.S.A., Architects



The full awards in this competition were announced in our last issue. Commenting upon the design selected for first place, the assessor, Mr. E. Guy Dawber, F.R.I.B.A., observes: "It is a fine dignified composition, which, although frankly based on the Whitehall 'Cenotaph,' would look well in the position selected. The detail is restrained and suitably treated, and concentrated with bold effect at the top of the memorial."

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, July 12, 1922

Volume LVI. No. 1436

University Degrees in Architecture

EVERYDAY art, or the art of common things, or the popularizing of art, is again the subject of vigorous discussion in "The Times." Mr. Sydney W. Carline has given it a fresh start and a new direction. He wants to see art taken up seriously by the universities. His argument is, in effect, that more specific recognition by the universities of the value of art as an instrument of education would powerfully influence the quality of the art education given in all the schools, and "correct the public indifference" to art.

A "Times" leader-writer, discussing Mr. Carline's letter, declares that "a degree has never been an important landmark in the career of a creator," and from this quite gratuitous assumption he deduces that the influence of the universities "might not benefit the cause of artistic education so directly as Mr. Carline anticipates." Creative artists have not greatly valued degrees for the simple reason that degrees, save those bestowed *honoris causa,* have never signalized accomplishment in creative art; and the leader-writer is very welcome to his opinion that artistic education would not benefit directly by the influence of the universities, because that is so obviously nothing more than speculative conjecture. So, of course, is Mr. Carline's very emphatic opinion to the contrary. Professor Selwyn Image, Mr. Arthur Keen, and Professor Beresford Pite, have all ranged themselves on Mr. Carline's side, and their entrance into the lists will serve to remind the public of what they are much too apt to forget—that architecture is the Mistress Art. That character must be strongly emphasized in any readjustment by the universities of their attitude towards art.

How comes it that art has been so persistently neglected by our universities? No doubt they have dimly perceived it to be a likely means of culture, for they have not seriously resented the intrusion of Slade Professors of the Fine Arts, and Cambridge has actually discovered in architecture a subject she may safely condescend to recognize, seeing that so many of her graduates are members of the Royal Institute of British Architects.

What is the cause of the long estrangement between Britain and Art, and the corresponding coldness of the British universities? Mr. A. B. Walkley, in one of those delightful articles of his that are so vividly reminiscent of the graceful method, now of Ste. Beuve, now of Brunetière, partly accounts for the British indifference to art when he reminds us that "the old Puritans condemned all art as sheer wickedness, because it was not an activity (as they thought) for the glory of God." "Sheer wickedness"—æsthetic wickedness—much alleged art undoubtedly is. Then, again, as Mr. Walkley remarks, "the Tolstoyan condemned all art that was not consciously designed for the service of man."

Although the average citizen of to-day cannot be justly accused of either Puritanism or Tolstoyanism, it is only too certain that he does not sufficiently appreciate art, and it is almost equally certain that he will esteem it much more highly when he observes that the great universities have taken it up to the extent of granting degrees in it. Cambridge, as we have noted, and as Mr. Beresford Pite was careful to remind the public, is already taking this wise course. "In June 1921, the university established an examination in architectural studies for the ordinary B.A. degree, and approved regulations for the inclusion of the history of art among the principal subjects. This new examination in architectural studies will gradually, beginning in the Easter Term, 1922, supersede the other examinations." The sole question at issue, therefore, is not whether architecture is a suitable subject for a university-degree examination, but in what way such examinations were best conducted, and this is a matter in which the many university graduates who are members of the R.I.B.A. are in a position to give, and are ungrudgingly giving, most competent advice.

In rendering this service they are as certainly promoting university education as they are raising the standard of architectural attainment. University status should be within reach of every architect in training. For centuries the older universities made a sort of fetish of the dead languages, until there was a serious revolt against compulsory Greek, and in the course of the controversy that raged round this question and the proposals for alternative subjects, it was grudgingly conceded that living interests may be at least as powerful as dead languages for the "advancement of learning" and the development of taste. It became a recognized principle in education to give a man an opportunity of following his bent rather than to force him to study a subject that may happen to be uncongenial to him.

Supposing, for instance, that a man confesses to a pronounced taste for the art, science, history, and philosophy of architecture; why should not a comprehensive knowledge of that subject be admitted to be a legitimate qualification for a degree, as, indeed, it now is in many British and American universities? Not that the graduate in architecture need be totally exempted from examination in classical subjects. The right study of architecture would seem to involve the classics: is a classical subject in itself. A fair degree of proficiency in the "humanities" would make him the better architect by expanding his horizon. It would bring him nearer to the heart of the history, mystery, and genius of architecture. It seemed so narrow-minded and unfair to deny a man university recognition because his mind had been mainly absorbed in the study of so noble, so humane, so concrete a subject as architecture rather than in that of "words, words, words." There is a sufficient content of culture and philosophy in art as a refining influence on life and thought—an influence that will be the stronger and the more valuable if it is subjected to the salutary discipline of a university course.

These facts being sufficiently clear, it only remains for all the universities to see the subject in proper perspective, scale, proportion. It has been, and is likely enough to be again, objected that the introduction of architecture as anything more than a paragon (let us translate it "side-show") is to risk degrading the university into a "glorified polytechnic." That would indeed be a calamity to deplore, and is not the idea at all. Oxford, or Cambridge, or any other university, is not to supersede the architectural schools, and thus far to forfeit its own distinctive character as a place of liberal education. Rather it will be the fostering mother of the architectural schools, nourishing and encouraging them, inspiring them with the highest educational and cultural ideals, and ultimately crowning their efforts.

At the architectural schools, there would then be greater freedom for practical work. At the universities, practical instruction would be developed and explained theoretically, historically, philosophically. That truly philosophical writer on architecture, Mr. A. Trystan Edwards, M.A.Oxon., in his remarkable book on "The Things that are Seen," lays much stress on the æsthetic advantage of "resolved duality" in design. Two windows ranged in line, for example, never look so well as a group of three, because, while it proverbially takes "two to make a quarrel," it takes three to make a composition—"to resolve duality." It is a notion that suggests itself as applicable to architectural education—a principle that is already well established in lay education, which is regarded as properly primary, secondary, tertiary; whereas in architectural training we get "unresolved duality"—the routine work of the office supplemented by that of the architectural school. It is a truncated system, and the situation yearns for a third or resolving factor—what but the university?

Besides relieving the architectural schools of much purely academical study, which would be much more profitably pursued in the serener atmosphere of the university, the prospect of a university career is undoubtedly an alluring attraction as well as a powerful incentive to study. Many architectural students have abandoned the notion of a university career through fear that it would take them too far away from the intensive study of architecture; and some have been restrained by *res angustus domi*. With a wise co-ordination of educational facilities, both these formidable obstacles would be removed. We venture to predict that they soon will be.

And there will be no mistake about the object; it is not to covet artificial and arbitrary distinctions, nor to encourage any sort of social snobbery. Neither is there any kind of assumption that those schools of architecture which are already allied to universities are superior to those that as yet are unattached. The aim is simply, as we have already said, the advancement of learning—to deepen the knowledge of architecture in its highest aspects, and to increase the respect for it both by its practitioners and in the eyes of those—an enormous number—with whom architecture would gain immensely in prestige if it were more regularly and more directly associated with university culture.

Sir R. Blomfield on Architect and Client

Under the heading "Taste in Architecture," "The Morning Post" refers, in a leading article, to a series of articles contributed to its columns by Sir Reginald Blomfield, R.A. In his articles, Sir Reginald assumed the unassailable position that, as the leader-writer expresses it, "the production of fine architecture depends as much upon the client as upon the architect." The leader-writer agrees, and adds: "As the client pays, he calls the tune. In the second half of the last century he called the tune in the City to such purpose that with a few exceptions the commercial premises of the City are of a surpassing ugliness achieved at an inordinate expense." Rightly our contemporary holds that the necessary compromise between architect and client would accord more frequently and more closely with good taste if clients would "give a little time to the delightful study of the art of architecture." We offer our sincere congratulations to "The Morning Post" on the soundness of its doctrine on this subject, and on its good fortune in enlisting so able an authority on it as Sir Reginald Blomfield.

The Danger to St. Paul's

For nine years work for the preservation of the dome of St. Paul's Cathedral has been in progress, and there remains much more to be done before the fabric can be pronounced safe. The commission of architects and engineers which was last year appointed by the Dean and Chapter to advise on the best means of ensuring preservation has not yet completed its inquiry, but has seen enough to prompt the recommendation that work of a very vital character should be done without delay, the surface of the piers and arches supporting the dome being in a condition that calls for immediate remedy. The Dean and Chapter are therefore appealing for a hundred thousand pounds with which to pay for repairs that are absolutely necessary for the preservation of the cathedral, which, in a specially inspired moment, Canon Alexander has dubbed "the parish church of the British Empire," while "Wren's great dome" is certainly, as the Canon says, "the symbol of London and the central feature of its landscape." As a monument to the consummate genius of its architect, and to the greatness of the race whence he sprang, it must and shall be preserved at whatever cost. A former Lord Mayor, known in that exalted capacity as Sir Marcus Samuel, but afterwards created Lord Bearsted, has given prompt and practical expression to that opinion; for from his sick-bed he sent, through the editor of "The Times," the day after the appeal was issued in that journal, a cheque for £1,000 to be forwarded to Canon Alexander for the St. Paul's Cathedral preservation fund, and we should be glad to see his generous gift speedily multiplied a hundredfold; but that remote possibility need not deter the donors of smaller sums; which, indeed, according to latest advices, seem to be coming along in encouraging numbers.

L.C.C.'s New Regulations as to Theatres

London County Council agenda for last week's meeting was of special interest to architects and builders, as setting out in full the revised regulations for theatre, music-hall, and similar premises. (A summary of the regulations is given on page 64 of this issue.) Although the Theatres and Music-halls Committee of the Council state that they have made no very material change in their regulations except with regard to roofs, it will be found that they have drafted a number of minor regulations, and the amended requirements should therefore be studied throughout with great care, and to that end should be issued in pamphlet form, at a nominal price, and in sufficient numbers to be constantly available for purchase, and not merely kept for consultation at the Council's office, where they are rather less convenient of access, and rather more jealously guarded, than if they were precious legal documents filed at Somerset House. The new regulations with respect to roofs are certainly rather drastic. They refer, like most of the regulations, to fire-protection. Under the old regulations, the theory was that the roof over the stage should be of such flimsy construction that on an outbreak of fire on the stage it would be burnt through at once, thus affording an outlet for the flames, which, with the aid of the fireproof curtain, it would divert from the main building while the auditorium was being cleared. This ingenious safety-valve theory is perpetuated in a modified form. Updraught is to be secured by enlarging the lantern light, which is to be increased from one-tenth to one-sixth of the area of the stage. It is a pity, however, that solicitude for the safety of the audience should involve a suggestion of callousness towards the actors; for whose comfort and welfare, however, additional provision is made in several of the by-laws—as, for instance, in those with respect to dressing-rooms, lighting, heating, and sanitary accommodation. We are told with seeming obliviousness to the ludicrous effect of the homonym, ventilation is to be the subject of separate draft regulations. *Absit omen!*

Short Shrift for Unification

The new Council of the R.I.B.A. has made prompt use of the power given it at the recent elections. Of course, in dissolving the Unification and Registration Committee, the Council is doing only what was expected of it; but this wholesale massacre of the innocents might surely have been done a thought more painlessly. As to drafting a Registration Bill, the Council would now be well advised to spare itself the trouble and expense. No matter how wisely it were drafted, a Registration Bill from a mere fraction of a profession, and from an Institute divided against itself, stands no earthly chance of success in Parliament. It would be dismissed with contemptuous laughter, though not more summarily than the Council have dismissed the Registration Committee.

The Architect and the Theatre of the Future

By HERMON OULD

Editor of the Theatre-Craft section of "The English Review"

"HE who can, does. He who cannot, teaches." Precisely; that is my case. I am not an architect; I know nothing, strictly speaking, about architecture, but I can go one better than the bromidical person who confesses that while he knows nothing about art he knows what he likes; for not only do I know what I like, I know what I want—in theatre architecture. I leave to the professional architect the problem of how to achieve the structural changes which I, as one whose paramount interest is the art of the theatre, wish to see brought about.

Those who have followed the course of development of the art of dramatic presentation will know that since the days when the Greek theatre offered its masterpieces on a stage almost bare of equipment to an audience whose only covering was the sky, the tendency of theatre architecture has been almost constantly in the direction of closing in. The mediæval mystery-plays and moralities were also offered to the people under the dome of heaven, but by that time the process of separating the public from the sphere of the drama had already begun; whether they were presented at the porch of a church or in the market-place, some booth-like erection became the scene of action, punch-and-judy fashion, and the audience was kept at a becoming distance. The sense of rapport between players and audience was maintained, however, by the knowledge that most of the players were local worthies who would probably some day change places with the lookers-on. The theatre was still a social link; something which joined people together by striking chords common to them all. It was probably not until the sixteenth century that there were professional actors—a class apart.

Then came the Elizabethan period, bringing with it a glorious wealth of dramatic literature—and the first closed-in theatre. Not entirely closed in, however. Everybody knows the shape of the three-tiered Elizabethan stage, so admirably adapted to the needs of Shakespearean drama; but does everybody realize that the early Elizabethan theatre, although walled in on four sides, was still practically an open-air theatre? The stage was covered in, but the pit was roofless and the audience exposed to the air.

And then, in 1596, England had a theatre which was entirely walled and roofed in; and the effects of this innovation have hardly been appreciated by students of the drama. It involved, first, a reconsideration of the problem of lighting. Daylight could no longer be drawn upon, and artificial light was then of the feeblest. We who are used to the fierce glare of electric light of incredible voltage can hardly picture the modest lighting equipment of the Restoration stage. But it was a humble little row of footlights which began the whole of the mischief and brought about the complete and final divorce of play from public. Thenceforth the stage performance and the audience became two entirely separated entities, the audience in one box with a wall knocked out, the play in another box with a wall knocked out. The players became more and more impersonal. The culmination of this tendency is shown in the cinema, where the audience is not merely cut off from the players by a row of footlights, but by the distance which separates the picture-palace from the studio where the film-play was photographed.

This divorce between stage and public has had some good results; it has produced the intimate drama. Much of the work of Ibsen, Shaw, Hauptmann, Strindberg, Barker, Masefield, Galsworthy, and Pinero can only be conceived in terms of the "box" setting, wherein their puppets display themselves as if no audience were present. But it has also had the effect of making a cleavage between the theatre and the people which cannot but be regretted. The glory of the Greek theatre was due largely to its intimate contact with the public. The whole of Athens would sit enthralled before the sublimest of the tragedies, and be no less held by the broadest of Aristophanic farces. In ancient Greece the theatre was an essential and integral part of the life of the people; in mediæval times it was scarcely less so; in Elizabeth's reign, with its Chronicle plays, performances in inn-yards, and later in the playhouses, much the same relationship was maintained.

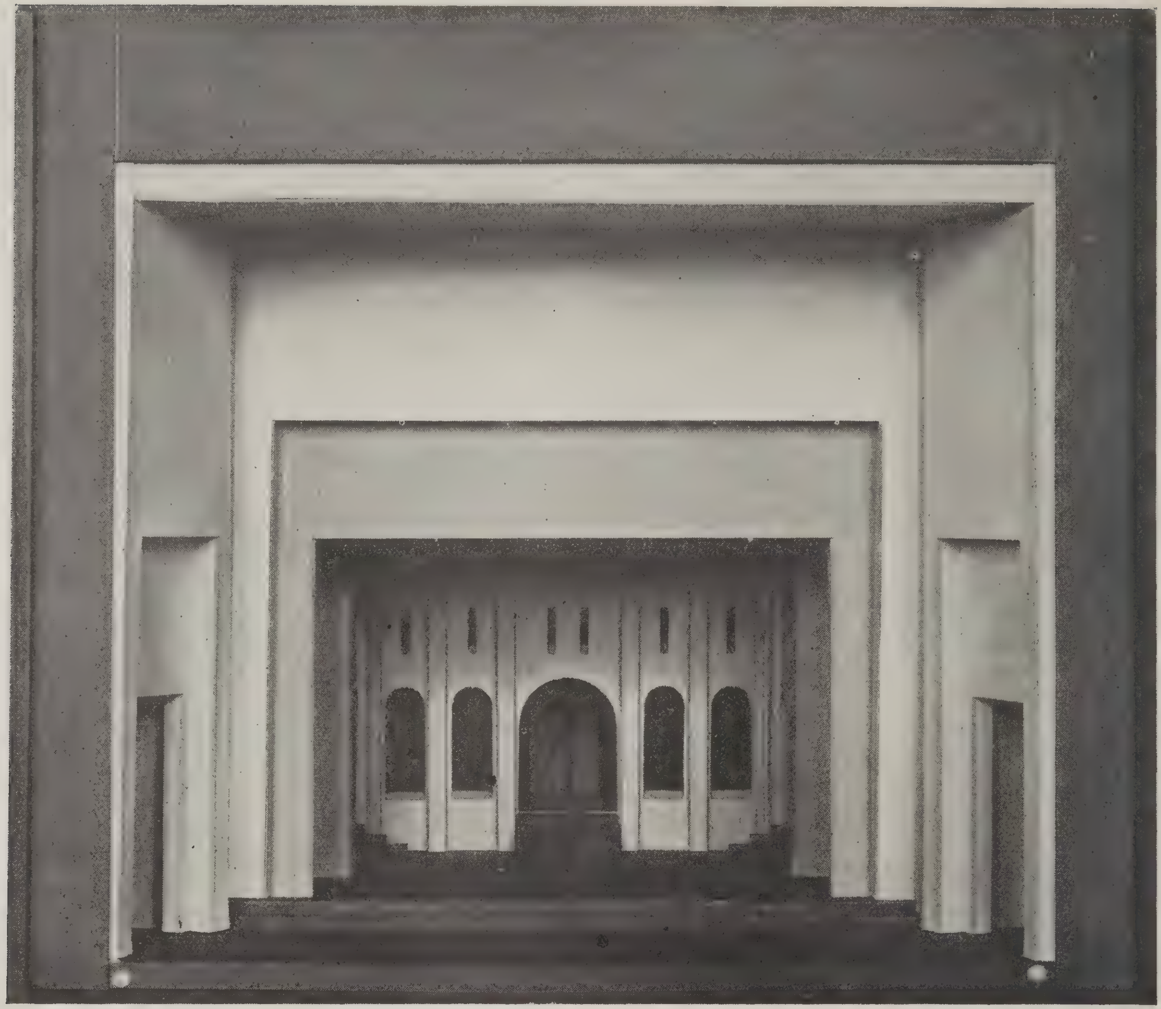
I do not want to return to the Greek, nor to the Elizabethan stage; nothing is ever gained by returning to anything, every age having its appropriate expression. But I do want to see a theatre suitable for the performance not only of so-called realistic plays and of the plays of Shakespeare, the Greeks, Ibsen and Shaw ("Peer Gynt" and "Androcles and the Lion," for instance), and other plays whose spirit protests against the box form of stage, but above all suitable for the performance of those plays which I, assuming the mantle of the prophet, feel convinced will be written as soon as the enormous social importance of the theatre is once more realized, as it was realized in Greece.

In other words, I want an adjustable proscenium arch. That is to say, a proscenium arch which can be reduced to the smallest opening consistent with leaving sufficient stage-space within the range of vision and—more important still—can be got rid of altogether when necessary. I do not know how it can be done; that is a problem for the architect; but I am sure it can be and will be done before many years have passed. The closing in of the stage for intimate scenes is easily enough achieved by building up a frame-work within the proscenium arch. It is the banishment of the arch altogether which presents a real problem.

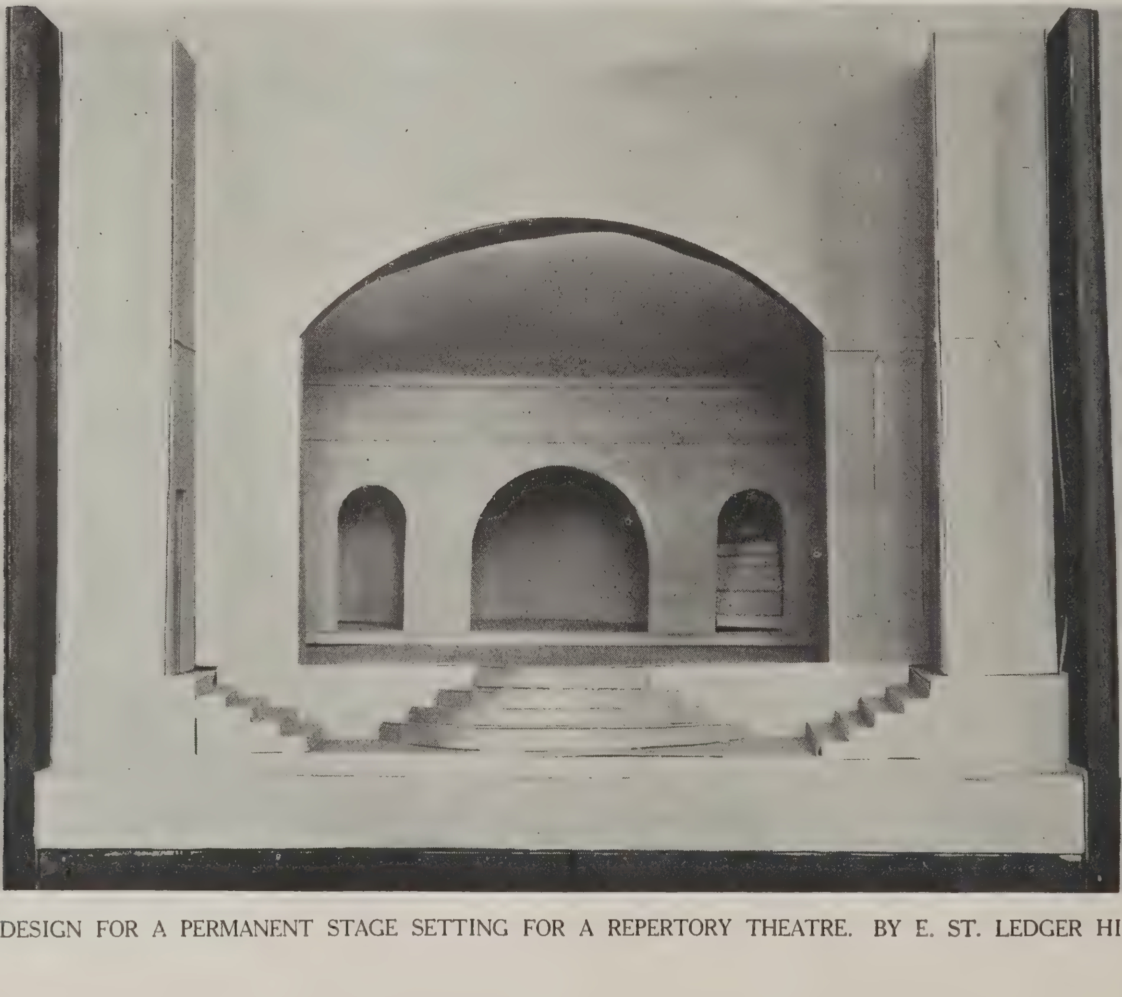
There is a little theatre in Berlin, Die Tribüne, which has no proscenium arch at all, and a performance which I saw there of Shaw's "The Showing-up of Blanco Posnet" (in German, which I only partly understood) provided a thrill altogether different from anything I have experienced from performances on a boxed-in stage; one ceased to be a mere spectator, and became a partaker. I want to experience the same sensation again; I want plays to be written which will quite consciously regard the audience as one of the participants in the performance, and I feel sure that it is only by making the abolition (when necessary) of the proscenium arch practicable that these things will be attained.

It is a problem for architects, and I hesitate in this JOURNAL to suggest ways and means which I think might be workable. But I should welcome architects' suggestions with becoming warmth.

(And may I add parenthetically that I have not overlooked the L.C.C. regulations about safety curtains?)



1.—STAGE SETTING FOR THE MURDER OF DUNCAN SCENE IN "MACBETH." BY NORMAN WILKINSON.



2.—DESIGN FOR A PERMANENT STAGE SETTING FOR A REPERTORY THEATRE. BY E. ST. LEDGER HILL

Stage Settings and Sceneries

By GORDON H. G. HOLT

YET another week, and the greatest exhibition of theatre designs ever seen in London will be closed. I would, therefore, urge all those readers who, upon hearing of its excellences, have determined to see it, but who have made, so far, no move in the matter, to hie themselves to the Victoria and Albert Museum before the week is over, and really see the wealth and diversity of the exhibits shown.

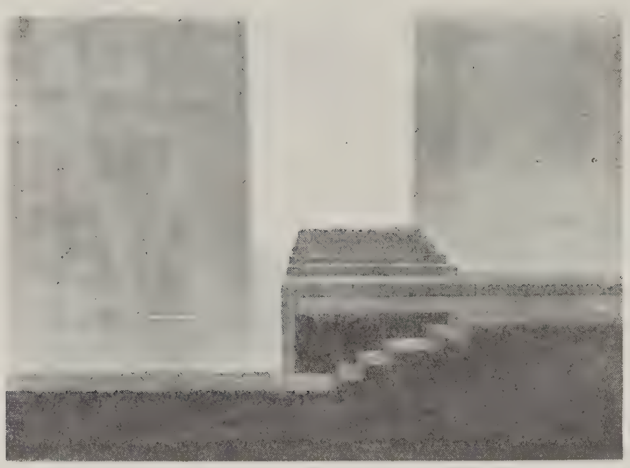
In two former articles bearing on this exhibition I had occasion to dwell upon the more architectural aspects—upon the designs, the plans and elevations, and characteristic features of certain theatres. Let me conclude a necessarily sketchy survey with a few observations upon some of the stage settings and sceneries.

Justly enough, a good deal of attention has been bestowed upon the works of foreign artists. Throughout the exhibition it has been evident that what most struck most visitors (of the less dilettante type) was the quality of work shown by these foreign artists. Again and again the Americans and Russians were much criticized or praised on that score. The Dutch and Germans often; seldom the French. But the Russians have nothing to show in the strictly architectural line, so to speak; all their stuff is concerned with what happens upon the stage itself. The Americans let you go with a free hand, and they, too, are more concerned with focusing the attention upon the stage. Really, it is left to the Germans and Dutch to show how a combined effort, how co-operation, can best produce an effective stage set in a building designed for that purpose. The British, with the exception of an excellent model of a proposed new building for the Everyman Theatre, in London (486a), by Mr. McDermott, also seem to have concentrated upon stage settings, and, as was suggested before, in that respect they are second to none.

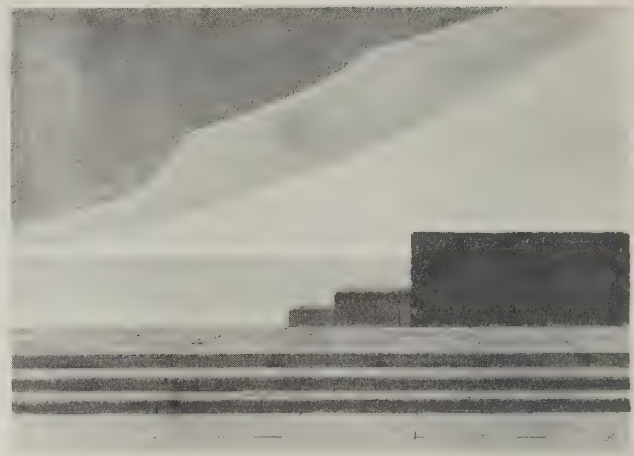
3.—STAGE SETTING FOR ACT 2 OF "THE WITCH," PRODUCED AT THE BIRMINGHAM REPERTORY THEATRE IN 1920 BY PAUL SHELVING.

On the whole, the fine extravagance and reckless conceptions so dear to foreign minds are given a somewhat wide berth by the British. Ours, evidently, is a more cautious mind, and it is natural that, to such, simplicity of presentation should be given a sustained trial. "The world is still deceived with ornament," said Bassanio. Let us not deceive it too far, or, if we do, let the deception be done handsomely within the stage itself, with fine talking and fine acting. But let the stage setting be simple. It will act as an effective foil for the crop of rich and terse emotions born there for our delight. This view is clearly held by Mr. Norman Wilkinson, if we look at the model in Fig. 1, conceived and made for the murder of Duncan, in "Macbeth," where reliance has been placed upon its good proportions and a wise assemblage of its component parts. That central doorway, those thin arch-headed windows, the flat piers, the rhythm of those narrow slits above, all held taut by the rigidity of the rectangular frame, are excellent. And the side doors, in the fore, so often indispensable for Shakespearean acting, are unobtrusive.

Far less successful is Mr. St. Ledger Hill's permanent stage setting for a Repertory Theatre (Fig. 2). Why it is so is fairly obvious. I heard a leading actress remark upon seeing it, that it was too very simple. I don't think this is quite the reason why one does not like this model, because simplicity, as was shown by Mr. Wilkinson, can do the trick any day, if well understood and well applied, which is not the case here. Those three openings within one large opening are quite all right, as a conception. What is wrong here is the detail (such as it is) and, above all, the scale.



4.—STAGE SETTING FOR "ORPHEUS"
BY ADOLPHE APPIA.



5.—A STAGE SETTING FOR "ORPHEUS."
BY ADOLPHE APPIA.

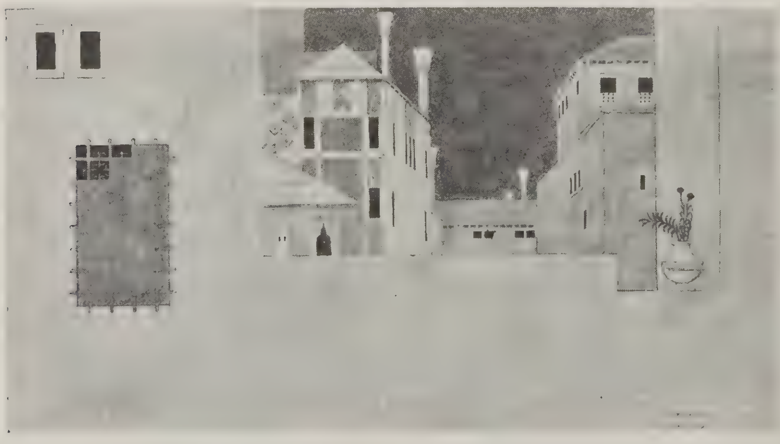
There is no satisfactory relationship between the openings and the steps. Here, the human figure is not seriously considered. We can all assure Mr. St. Ledger Hill that it is not desirable to start the springing of an arch to any door opening, say, 2 ft. 9 in. from the ground. The panelling and the distribution of the steps are also unhappy, and that, taken altogether, is why the effectiveness of this kind of simplicity is defeated.

A rather novel way of backing up the nakedness of a plain frame with more substantial or lively shapes is shown in Fig. 3, of a stage setting for Act II of "The Witch," produced at the Birmingham Repertory Theatre. Mr. Paul Shelving has here tried to bring off a clash between static repose and dynamic activity, the one bursting the other. To my mind, this pleasant bursting is bound to occur, because the frame, for all its width, can only oppose the inertia of its nice flat surface to the incessant vicissitudes of the more active lines held within. Another weakness to be observed is the intense realism of this log-cabin. It will never accord with the blank symbolism of its frame. The way to introduce realism is much easier. . . . This getting busy with actual shapes and trying to fit them in is wrong.

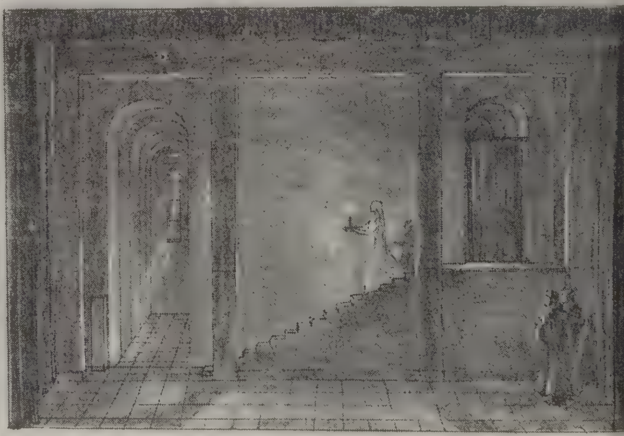
The thing to do is first to think of elimination, and get busy afterwards. The thing to do, as seen by the thing done, is to watch Mr. Norman Wilkinson do it. In Fig. 6, this drop curtain prepares us for the passionate love romance of "Twelfth Night," that last play of Shakespeare's golden period. Throughout the writing there is much to show that the play was designed for performance upon a bare platform stage without traverses or inner rooms or the like. If you remember, the scene changes constantly from anywhere suitable to anywhere else that is equally so; and therefore, under the circumstances, the thing to do to prepare and hold the attention is to give a something typical, but shorn of its anecdotal incidences, and this is where Mr. Wilkinson triumphs. The flatness of his scenery is in its favour. So is the kind of aloof realism shown. The large bare foreground helps the feeling of austerity, and the negative shape of the sky and the positive shapes of the roofs are well studied and skilfully tucked away, neither too small nor too big.

But for epic simplicity, for gorgeous simplicity, let me refer you to Adolphe Appia's work. Our own Gordon Craig, so richly imaginative and so keen, handsomely acknowledges the greatness of Appia, and many wise and learned people hold the view that Appia is the greatest living stage designer; at any rate, the noblest. He seems to possess that most intractable of gifts, to create an enormously rich and magnificent effect by the simplest possible means. With him, one is face to face with eternal principles, with impersonal emotions, with something mighty big and worth while. Figs. 4 and 5, of a stage setting for "Orpheus," may perhaps convey a little of his power. These are only two out of eighteen designs. Eighteen fine designs; eighteen fine drawings. They stir. There is no playing up to the gallery; no swank; no compromise. Just something as beautiful and as simple as possible, but turned out with a care to its parts.

Appia is the man. It looks as though, if it is worth your while to say "Crosse and Blackwell" to your grocer, it should now be worth while to say "Appia" to your theatre producer. I saw, and kept watch on, three such producers at



6.—DROP CURTAIN FOR "TWELFTH NIGHT"
BY NORMAN WILKINSON



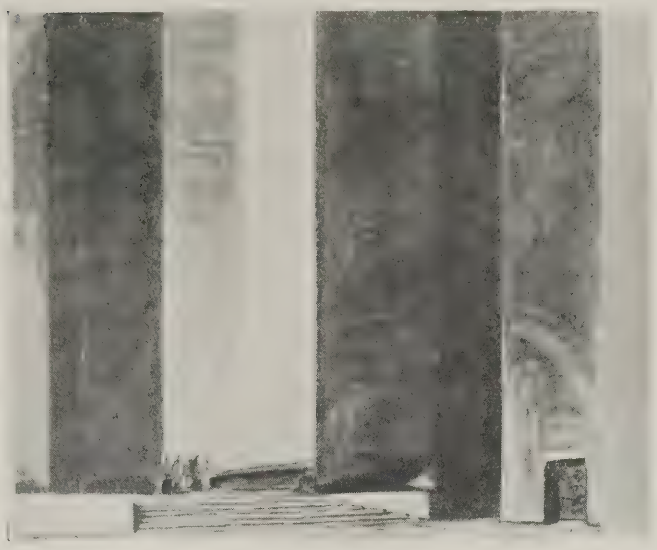
7.—DESIGN FOR A SCENE IN "MACBETH," ACT 5.
BY F. SCHUMAKER

the exhibition; it says much for Appia's power that even they—well known and important as they are—stopped quite a time to look at those drawings, and one of them fairly sighed as he remarked that, by Jove, this was dashed fine stuff; but, of course, it wouldn't pay!

When I first saw the accompanying design for a Shakespearean tragedy by E. de Weerth (Fig. 8), Pearsall Smith's delightful "Apotheosis" came to my mind at once. Maybe that by quoting from it I shall be able to make the reader see the danger of those grandiose designs, all so "dramatic" and huge:—

"But oh, those heavenly moments when I feel the trivial universe too small to contain my 'Attributes'; when a sense of the divine Ipseity invades me; when I know that my voice is the voice of Truth, and my umbrella God's umbrella!"

One of the nicest designs on view at the exhibition is that fine one by Schumaker (Fig. 7) for Act V of "Macbeth." Once again we see a simple treatment of three openings, square-headed this time, so as not to rob the lesser openings at the back of their more intimate charm. This background is fine and subtle. That one landing door on the right-hand side, whose folds have just been noiselessly disturbed by the striking white figure, and also that other opening on the left, with its quattrocentist vista, are both contributing to the general effectiveness of the setting. It were unfair to leave off without paying a deal of praise for the lovely setting to "Pélleas et Mélisande" in Room VII. It is one chiefly of vertical masses of soft colour, all more or less alike in width. It changes in its rhythm as the scene alters, but not enough not to leave a sense of unity throughout the play. Here a distinct sense of sumptuousness, of mystery, of power, can be had. Let the scene be enacted; let words fly; let strong and swift action take place, and let their happenings sink into and emerge out of those vast pools of colour. Thus will you enhance their value. That is one way of showing up the action, of helping to create strong emotions. The Russian way, on the whole, is vastly different, but it is such a powerful one that to miss the room devoted to their work would be to miss the exhilaration of contrasts.


8.—A SHAKESPEAREAN TRAGEDY BY E. DE WEERTH.

As it happens, a good many of the stage settings shown in this room have already been on view two years ago at the Whitechapel Art Gallery; but, of course, it is expecting too much of the London public that it should bother itself to the extent of going to such unseemly and distant regions, so that those extraordinary designs and costumes will seem new.

Not altogether so with Larinow, perhaps. His "Chout" may still be remembered. But Komisarjevsky and Gontcharova should be gazed at. Such a jolly, crazy, and fine medley of colour you never saw. The curtain for "Triana" or for "Foire Russe" are mighty challenges. "Mon dieu! quel bariolage!" uttered Anatole France's little maid, in one of his early writings, upon beholding for the first time a full-throated county fair. "Heavens alive, what *a fine* mess!" said an enthusiastic schoolgirl, as she discovered the costumes for the "Coq d'or." So this room, cubist as it may appear to some, has nevertheless an intoxicating quality, and as such plays its part in stirring the imagination. Beside, one forgives a lot to the Russian artist, for it is not every day or in every country that one comes across such amalgamations of colours; what he creates are no mere fugitive spasms of anger or of delight. Praise be to him, if only because what he does he does so overwhelmingly.

9.—SETTING FOR "PASSION" BY BACH. BY GORDON CRAIG.

Dr. Thomas Ashby on "Recent Excavations at Rome"

IT is proper that we as a nation should be interested in Rome, for have we not become Rome? Through all the vicissitudes of our history, through all the successive increments to our civilization of Norse, Teuton, and Gallic nationalism we have somehow, almost by accident, preserved the Roman tradition. Much has been said of our powers of Empire building, but if there is one faculty which distinguishes us from other nations it is our Roman ability of embodying a conquered nation in our own. Our law, by some strange accident of succession, is Roman, and our language is Roman. Many instances of this similarity of the two nations were referred in the discussion on the paper read before the R.I.B.A. by Mr. Thomas Ashby, D.Litt., Director of the British School at Rome, on "Recent Excavations at Rome."

Dr. Ashby, in the course of his paper, said: My pleasure in accepting your invitation to address you is increased by the fact that I appear to be the successor of Professor Lanciani, my teacher in Roman topography, to whom, in common with many other of his old pupils and friends, I shall always feel a debt of gratitude. Since he delivered his address on "Architectural Results of the Latest Excavations in the Forum," no one has spoken to you on the subject of recent discoveries in Rome.

No discoveries of first-rate importance have been made of recent years within the centre of the modern city, but it is worth noting that the construction of two large banks in the Piazza Colonna, one of them the Banco di Sconto, of which a good many of us heard a little too much at the beginning of the year, led to the discovery of a large group of blocks of houses of the middle of the second century A.D.

The exploration, under the direction of Professor Lanciani, of the substructures of the Baths of Caracalla, have thrown great light upon the details of the construction of these baths, and have brought to light the largest sanctuary of the Persian Sun God Mithras that is known to us—which was introduced there at a later date. Considerable work has also been done in the outlying portions of the baths, which would now form an excellent subject of study for one of our architectural students.

I may add that though there has been a good deal of building activity in the central portion of Rome during the last few years, the other few important outstanding discoveries with which I shall deal have all been made in the outskirts, and all either during or since the war. First of all comes the famous basilica near the Porta Maggiore, which was discovered in 1917 owing to a landslip under the Naples main line, caused by the presence there, hitherto unsuspected, of the light shaft of its vestibule. The exact date to which it belongs, and the purpose which it served, are still the subject of much controversy. Personally, I am inclined to accept the theory that it belonged to the Statilian family, a member of which, T. Statilius Taurus, was accused of magical practices by Agrippina, the wife of Claudius, and took his own life to escape a worse fate. I am inclined to think, too, that the desire for secrecy explains the method of construction. It would seem that the concrete of which the walls and piers were constructed was poured into pits sunk in the virgin soil, which was also used to support the vaults while hardening. When the concrete had set, the earth was removed and the interior of the building cleared from beneath, so as not to attract attention. The walls and vaulting are decorated in white stucco. The figures and scenes are not in themselves difficult of interpretation, though the principle of their selection is not at first sight obvious. Mrs. Strong, however, who interprets the difficult scene in the apse as one of purification by the ordeal of water, points out that all the other scenes can be referred to the wanderings of the soul and its progress towards its final goal.

Not very far off, in the Viale Manzoni, a hypogeum of quite a different character and date has still more recently been discovered. Above it was a lofty brick tomb of a type familiar enough to us in the Via Appia and the Via Latina, in the base of which (the only part preserved) is a sepulchral chamber with arcosolia and burials in the floor. The paintings are damaged, but Adam and Eve may clearly be recognized. Just outside is a staircase leading to a landing, on the left of which is the entrance to a subterranean chamber with vaulted roof and a large light shaft in the centre, and an arcosolium on the right and left. The paintings with which this chamber is decorated have recently excited considerable interest owing to the fact that an incautious correspondent announced the discovery here of contemporary portraits of Peter and Paul. It is not impossible that they may be recognized in two of the twelve male figures which decorate the lower part of this wall, but there is no doubt that the paintings cannot be earlier than the end of the second or the beginning of the third century A.D. The paintings on the upper part of the wall have not yet been interpreted with any certainty. It is generally agreed that they are Christian, but some have desired to see gnostic influence in them. I myself am rather inclined to suppose that there was a certain amount of intentional concealment of their Christian character.

The building we have just described lay close to the Via Prænestina before its divergence from the Via Labicana, and a number of interesting tombs have recently been found on some of the other high roads which radiate from Rome. An especially interesting group is that which has come to light on the Via Ostiensis, near the church of St. Paul, outside the walls. The tombs fall into four different periods, and the best of them are some columbaria (which take their name from the small niches, like those of a dovecote, in which the cinerary urns are placed) belonging to the second period, from the beginning of the empire to the end of the second century after Christ.

Some other columbaria have been found under the church of S. Sebastiano on the Via Appia, which are especially interesting from the freedom of their style and the beauty of their stucco decorations—in one is a peacock with the tail shown in colour, while in the other the ceiling of the principal chamber is covered with the tendrils and bunches of grapes of a vine springing from the angles.

A little beyond the church a tomb has been found which marks the transition between cremation and inhumation (beginning of the third century A.D.), having been constructed from the first, with eleven small niches for urns and three recesses for bodies.

The foregoing account cannot pretend to be in any way complete. Many discoveries of minor interest have, perforce, been omitted, and those which I have described have not been dealt with with as much detail as they deserve.

Discussion.

Professor Lanciani, after referring to his long association with Dr. Ashby in the work of discovering Rome, said that the excavations in Italy were still going on, and that more had been discovered lately than hitherto. Just before he left Italy a tremendous discovery had been made: the remains of an even earlier civilization, dating from the tenth or eleventh century B.C., from which Rome must have sprung. This discovery took the foundation of Rome back several centuries. By this discovery of

Etruscan pottery and Etruscan graves and fragments of building it was likely that they would now be able to settle the birthday of Rome. In Rome they were now engaged on reconstructing the ancient edifices, and had actually begun to form an archæological park.

Professor H. E. Butler, of London University, who seconded the vote of thanks, said that he had not been in Rome for eleven years, so could not speak on recent discoveries. He would like to point out, however, regarding that corner of the Palatine occupied by San Sabastiano, that the Palatine was such a great mass of excavated and unexcavated work that it was difficult for any one to know all its ramifications; and as to that particular corner countless different theories existed.

Professor Beresford Pite said how like Rome London was: it had town-planning committees, and we prevailed upon the distant cities of our Empire to plan their towns, yet London never thought of applying the doctrine to itself. As with us, the original lines of the thoroughfares of Rome were established along the contours and valleys. These roads crystallized and became sacred. It was exactly the same in Athens, that abominable nuisance of the Acropolis was always in the way. It was so interesting to notice that Julius Cæsar, great general and conqueror that he was, should have been so warm-hearted and thoughtful as to contribute towards the amenities of Rome. Roman building took the form of a swelling mass of architectural grandeur in spots, and the planning of those spots was the stock in trade of the modern architectural competition winner. In Rome there was the extraordinary ignoring of the civil conditions of life. Acre after acre of useless public space were given up to the fora or what-not, and the people were practically forced into flats, as we, for different reasons, were forced to do likewise. How interesting it was that history repeated itself; we were the centre of a vast empire, and we were like the Romans, too busy with our cosmopolitan affairs to attend to the simple needs of life.

Mr. Edward Warren said it was strange to find that the Roman civilization, as far as the material conditions of life went, was not very far behind us. True they had not high explosives and electricity, but there were not many things in which we may be said to have advanced beyond them. In 1913 he was privileged to visit some excavated work under the guidance of Commendatore Boni. He remembered in one case there were three houses superposed one upon the other. In another case he was shown what was in fact an hydraulic lift with something of the machinery still left. The Romans had certainly arrangements for heating their buildings. He would like to ask Dr. Ashby how the Roman streets were lit at night and how the street vehicular traffic was controlled, also if iron was used to any large extent in the reinforcement of concrete. The only case he knew was in the Baths of Caracalla.

Mr. A. T. Bolton said was it not a fact that the Romans in some cases built their concrete vaults on earth centering by first piling up the earth, then digging into it to make a mould into which the concrete could be poured, or more likely by digging straight into the earth to make the mould and then clearing out the earth around or under the structure when the concrete had set?

Mr. Paul Waterhouse said that the thanks of the Institute were especially due to Dr. Ashby in that it was the first to receive this gift from his storehouse of knowledge.

Dr. Ashby, in replying to the questions asked, said that of town planning in Rome itself there was a complete absence. The roads in Rome were originally fixed by the shapes of the valleys. What mattered more to the Romans was their great military roads; they were definite; and the points of issue from the city on to those roads were fixed, and any town-planning scheme had to conform to them. As to Roman domestic architecture, the best place to study Roman houses was Ostia. There one discovered how strikingly modern was their planning. The Pompeian house was by no means characteristic of the Roman type of house. The houses were exceedingly well planned, and differed one from the other. The lighting of Roman streets was by lamps, and vehicular traffic was never allowed through Roman streets at night, except in the case of privileged persons. He knew of no other instance of the reinforcement by iron than the Baths of Caracalla. There were other instances of reinforcement, but they were by tiles. The use of earth as vault centering was an exceptional thing. Corbels remaining in buildings go to show that there was wooden centering. F. E. T.

THE RESIDENCE OF CHARLES H. SABIN, SOUTHAMPTON, LONG ISLAND, U.S.A
CROSS AND CROSS, ARCHITECTS.

Regional and Vocational Influences in Architecture

A Paper read before the Sociological Society in London

By S. C. RAMSEY, F.R.I.B.A.

> *"The sure and certain hope for the fruition of the New State is in the coming of a generation endowed with a steady outlook towards the future, yet accustomed to turn to the past critically though affectionately. For the future can never be disconnected from the past, but must ever be continuous with it. By deliberate selection from past tendencies surviving into the present, and by judiciously planned recombination of them, we may shape the future."*—"The Coming Polity."

IN a paper which I had the honour of writing for the "Sociological Review," I attempted to describe the regional and vocational influences that produced the ancient architecture of Mesopotamia, Egypt, Greece, Rome, and mediæval Europe—the place, work, and folk, and the resultant habitations. Here I hope to show that the same fundamental conditions of place, work, and folk, when cleared of all modern complexities and complications, still determine and control our architecture.

In all countries throughout the ages, the great building people have always been the agriculturists, the peasants. Some of their best building achievements have been accomplished in conjunction with the shepherd builders of the hills, for the peasants, if left entirely to their own devices, tend to become dull. They require the inspiration of the shepherd, with his mystical imagination, if they are to produce imaginative architecture. But it is when shepherds and peasants meet the sailor at our ports that we get what is the finest architecture—the architecture of capital cities, of Edinburgh, London, Paris, and recently, of New York; or the architecture of great seaport towns such as Venice, Genoa, Bordeaux, and Liverpool. For the sailor possesses an imaginative range that even exceeds the shepherd's. His vocation brings him into contact with foreign countries and men of all nations. He is a disturber and irritant, he comes and goes, sets men's imaginations on fire, always wants to be trying something new—he shakes us out of our rut and sets us travelling along new roads. When he is the dominant factor in a community his influence upon its architecture is profound. I should describe the Elizabethan civilization as a sailor's civilization, and Elizabethan buildings as sailors' buildings.

In our own age, however, it is not the sailor who is the dominant factor; it is the coal-miner. Our age has evolved from the Victorian, and the Victorian civilization was essentially a miners' civilization. Victorian building was of the camp or settlement variety, temporary and muddled, without real tradition, permanence, or ordered beauty.

In the early days of coal-mining in this country, everything, including the housing of the miner, was of a temporary and make-shift character. The whole of the industrial portion of England (not to mention Scotland and Wales) was turned into one vast mining camp, and the ideals of the mining camp—the temporary house, and the no less temporary, but rather more gaudily decorated drinking saloon—rapidly became the models of all our buildings.

If you would wish to take a typical development along the lines of the miners' camp, I cannot do better than refer you to the ribbon towns of the Rhondda Valley in South Wales. Here you see it all; rows of brick transfigured shacks, gaudily decorated saloons or gin-palaces, and as a counter attraction the scarcely less terrible efforts of the modern Welsh chapels. For a long time it puzzled me as to why these Welsh chapels were so bad architecturally, but I believe the answer is that they had to rival the attractions of the miners' saloon—and so we find them, not only in the industrial parts of Wales, but in the agricultural centres as well—for the coal-miner as the dominant vocational type imposes his will on all—and not only in Wales, but throughout England and Scotland.

In the industrial regions enormous tracts of what was once beautiful country were covered with the sprawl and litter of the camp. Around London and the older towns the ever-growing population was housed in row after row of suburban shacks, vainly trying to disguise their miner origin in all kinds of architectural nonsense.

One very striking characteristic of the inhabitants of our pre-war suburbs was the itch for change—at the end of every three years a great number of them, pushed forward by the desire for change, or possibly the vain hope that the new shack would have more amenities than the old, moved from one suburban residence to another. This constant moving round created an atmosphere of instability in which it was impossible properly to develop either the love of home—meaning dwelling—or love of community—meaning town.

In the past the old military camps gave us many a beautiful village and town, but they started with a definite sense of order, and if not permanent themselves they had within them the seeds of permanence; but the most striking feature of our mining camps is that they had no sense of order or organization—they were nothing but muddle.

During the whole of this industrial period we built with feverish energy—the energy of the miner—but with no joy in our building, and consequently no beauty. For the first time in the history of man "to build" was synonymous with "to spoil." Previously, all buildings, or nearly all, whether the single cottage, or house, or the collected buildings forming village, small town or great city, were considered as an added amenity and attraction to the countryside. Then to build was to beautify.

In the North, new towns sprang up with incredible rapidity—mushroom cities as they were called—though they might more aptly have been described as "mining camp cities."

The South did not suffer quite so much in comparison with the North, but only because in the South we build less, for here also the coal-miner's was the dominant influence. I should like to think that it was the old cultural centres that exercised a restraining influence on Southern architecture, but I am afraid such influence was very limited in extent.

Even our cathedral cities and cultural centres did not altogether escape the invasion of the miner-builder. The only places that did were the dead towns and villages, as they were called, of the remote agricultural districts. Such towns as Rye, Sandwich, Winchelsea, and many others, which slumbered, more or less, undisturbed through the nineteenth century, have now become places of pilgrimage for architectural renewal, to which the student goes with notebook and measuring rod, to wrest from them the secret of their serene and triumphant beauty.

One of the saddest results, because of its futility, to my mind, has been the spoliation of so many of our fishing villages and small seaside towns, in the effort to secure them for retreats from the noise of industrialism. The modern history of one small fishing village, turned modern pleasure-town, is very like another in its tragic absurdity.

First, a few enlightened individuals discover its charm and go there for a hoilday—they perhaps communicate their discovery to their friends, and year by year more people go, until some enterprising person puts up some enormous hotel, which is immediately followed by a rival establishment, and then come your rows and rows of hastily conceived villas (in recent years your more hastily conceived bungalows), until presently the few enlightened begin to rub their eyes, and to discover that their charming little fishing village no longer exists, or if it exists it is only as a small corner of still another mining camp.

Probably the most healthy sign for the future of architecture, or good building, is the ever-growing dissatisfaction of the miner with the conditions under which he has to live. The enquiry into the conditions of housing in the mining areas and what it revealed, shortly after the close of the war, profoundly shocked the conscience of this country.

But if the miner is getting dissatisfied with his shack and wants a real house, he is getting no less dissatisfied with his mining towns—his jumbled collection of shacks and gin-palaces.

The need for town planning or town revision is probably more keenly realized, as it is more urgently needed, in the industrial parts of England than anywhere else, and it must not be forgotten that Liverpool appointed a professor of town planning at its University long before London.

The problem for the architect, and, indeed, for all of us, is to realize the best of the life that is going on around us, and to do this we must leave our studios and offices, and in our civic and regional surveys attempt to understand the interplay of the various vocational types.

We want more of the humanitarian and less of the academic note about our work. When we ourselves become the channels of a throbbing and vital reality then, and then only, will our work live.

It is the great common movements of humanity that produce, or do not produce, great artistic periods, and it remains for the artists to note and give expression to such movements.

Sometimes it takes the direction of centralized authority, resulting in impressive monarchical institutions with all their traditions of pageant and splendour and the dominating importance of the individual expressed thereby, as, for example, in the eighteenth-century France and England.

At other times we have the great upward surge of democracy, resulting in localized and communal effort, the sinking of the individual interest for the common good, as, for example, in fifth-century Athens, and as exemplified in the best mediæval work.

We see the same influence at work in the life of the city states of Italy during the earlier part of the Renaissance, though in a less marked degree, and I believe we are at the present time living on the threshold of just such another period to-day in England.

The individualistic ideals of the last century are rapidly giving way to those of a more communal and civic order.

I can imagine that in another generation we shall regard the person who expresses his individual pride in the building of a costly and luxurious private house much as we regard the war profiteer of to-day—as one who, if not exactly to be shunned, will be looked on a little critically. I can imagine that, as in the best period of Athenian civilization, the houses of the chiefs and leaders will differ very slightly, at any rate in size and in importance, from the houses of the people, and that what is saved both in money and energy will be lavished on public buildings for the enjoyment and benefit of the community as a whole.

In conclusion I should like to refer briefly to the post-war Government housing schemes, as in these there seems to me to be the germ of a great hope for the future—that future which shall represent the artistic conversion of the miner, chiefly by the agency of settled housing conditions.

The whole question of housing since the war has become so mixed with bitter political controversy that it is a little difficult for us to take a fair view of it, we cannot see the wood for the trees, and some little time must elapse before we can get the right perspective.

Amidst all the clamour and criticism directed at the Minister of Health for all that has and has not been done in the way of providing houses, one aspect of the problem has largely escaped public attention—and that is, the effect of what may be called the housing movement on the future art of this country.

When the Great War finished there was a general determination that the men who fought and won the war should have opportunities for fuller and richer lives, and as it was impossible to discriminate between those who had fought in the field and those who had served in the workshops and factories at home, it meant, in effect, that all men were to have these opportunities.

These ideas were current before the war, but the war crystallized them and gave them effect, and the first realization of these changes became apparent when the great problem of housing had to be faced.

When the Ministry of Health issued their first Manuals on Housing, in which were laid down certain minimum standards as regards the houses and the disposition of houses, it at once became apparent that a great advance had been made on pre-war standards.

Now it is not pretended that those who framed these regulations were moved by any great artistic considerations. Their problem was that of providing healthy and economical homes.

As we have seen, the average worker's house before the war was a thing of unmitigated horror. Rows upon rows of cheaply and tawdrily built villas, apeing in their wasteful excrescences of coloured glass and distorted stone dressings the dreary habitations of the more superior suburbs. The contrast between them and even the worst of the houses erected under the Ministry of Health is great and instructive.

Mounting prices and the need for rigid economy has lopped off the extraneous and hideous features beloved of the speculative builder. Gone are the coloured lights to the front doors; gone the sham half-timber work to the unnecessary gables; and gone the stone and terra-cotta ornaments that adorned bay windows and porches in unnecessary reiteration from the end of one dull, long street to the beginning of another.

The Government houses have been described as brick boxes with lids on them, but even the most bald have something of that homely air that belongs to the old-time cottage and farmhouse of our agricultural communities.

It was a wise decision of the Government to make the various local authorities responsible for the carrying out of the schemes, rather than attempting to direct them from some centralized office. Control and direction there had to be; but the fact that for the first time in their history the people of these Islands were to have a direct interest in the building of their own homes, is one fraught with a peculiar and far-reaching significance.

Architects who are responsible for the execution of these schemes and for the technical work involved in the planning and building of these villages and small towns, for such in many cases they are, know that not the least intelligent or responsive of local authorities are those councils chiefly composed of what, for want of a better word, is called "Labour," and some of the most responsive are those in the mining districts. They and their kinfolk are to inhabit these houses, and their interest is direct and personal—they are building their own homes.

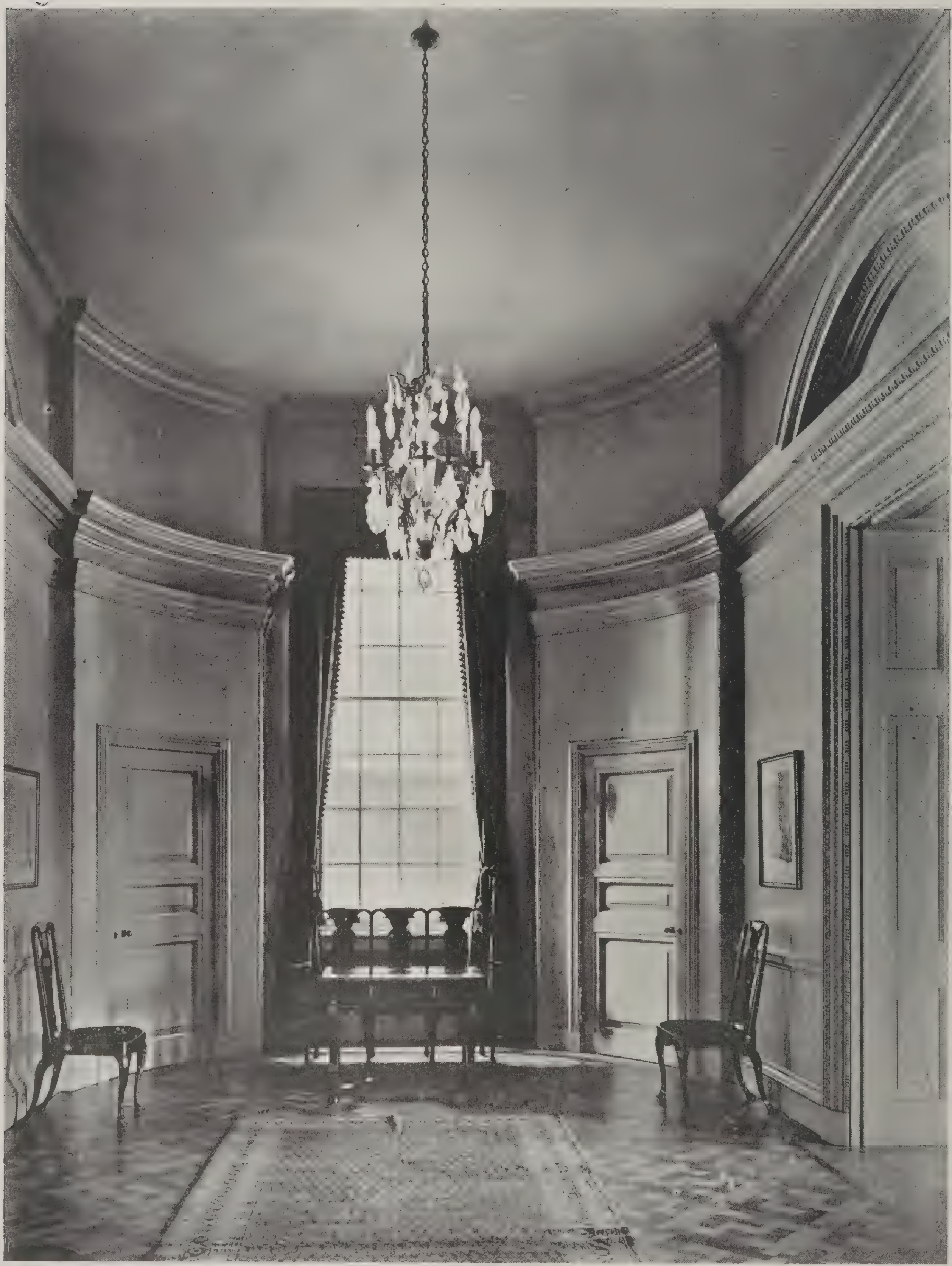
Now it is axiomatic, that before a man can be an efficient citizen he must, in some degree be an efficient man, and it can safely be assumed that before any one can take a general interest in the fine arts, he must take a particular interest in the art of his own home.

And that is why the Government houses which are being built hold so much promise for the future.

They are expressive of the needs and interests of humanity, and starting from this humble beginning, the awakened interest which built them will, I believe, grow progressively until we have not an academic, but a vital art, expressed in beautiful towns with fine streets and squares, adorned with real sculpture and magnificent buildings, the walls of which shall be rich with the glowing visions of great painters.

Some Interior Decorations at 18 Carlton House Terrace, London

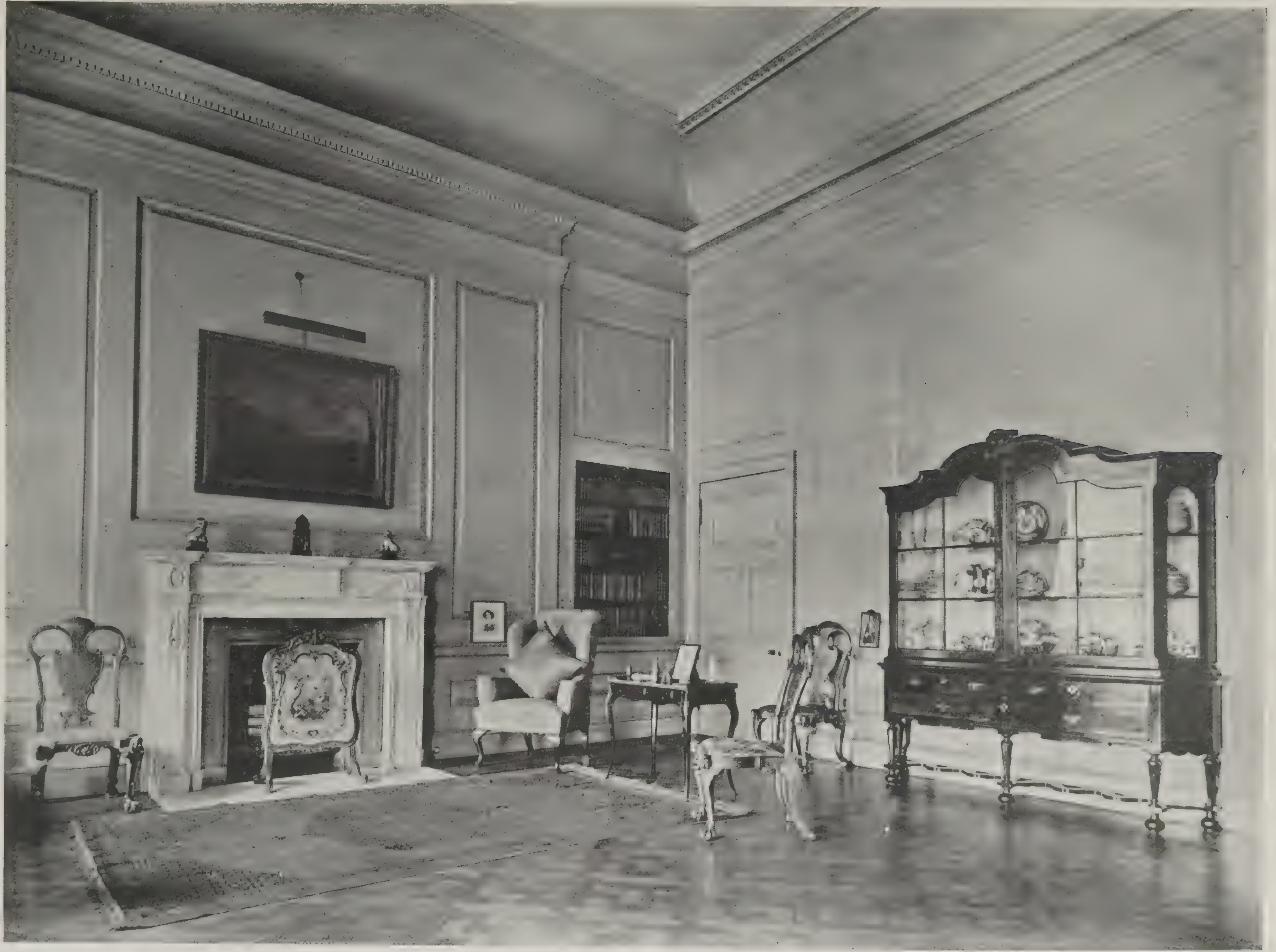
By OSWALD P. MILNE and PAUL PHIPPS, FF.R.I.B.A.



THE ANTE-ROOM.

Modern Domestic Architecture. 40.—The Small Drawing Room, 18 Carlton House Terrace, London

Milne and Phipps, FF.R.I.B.A. Architects



Carlton House Terrace stands between Pall Mall and the Mall, and the houses have a wonderful view across the Mall over St. James' Park to Westminster. No alterations have been made to the existing shell of No. 18, but the whole of the decoration is entirely new. The Small Drawing Room illustrated above is of the colour of very pale café-au-lait, and the shelves and backs of the bookcases are black.

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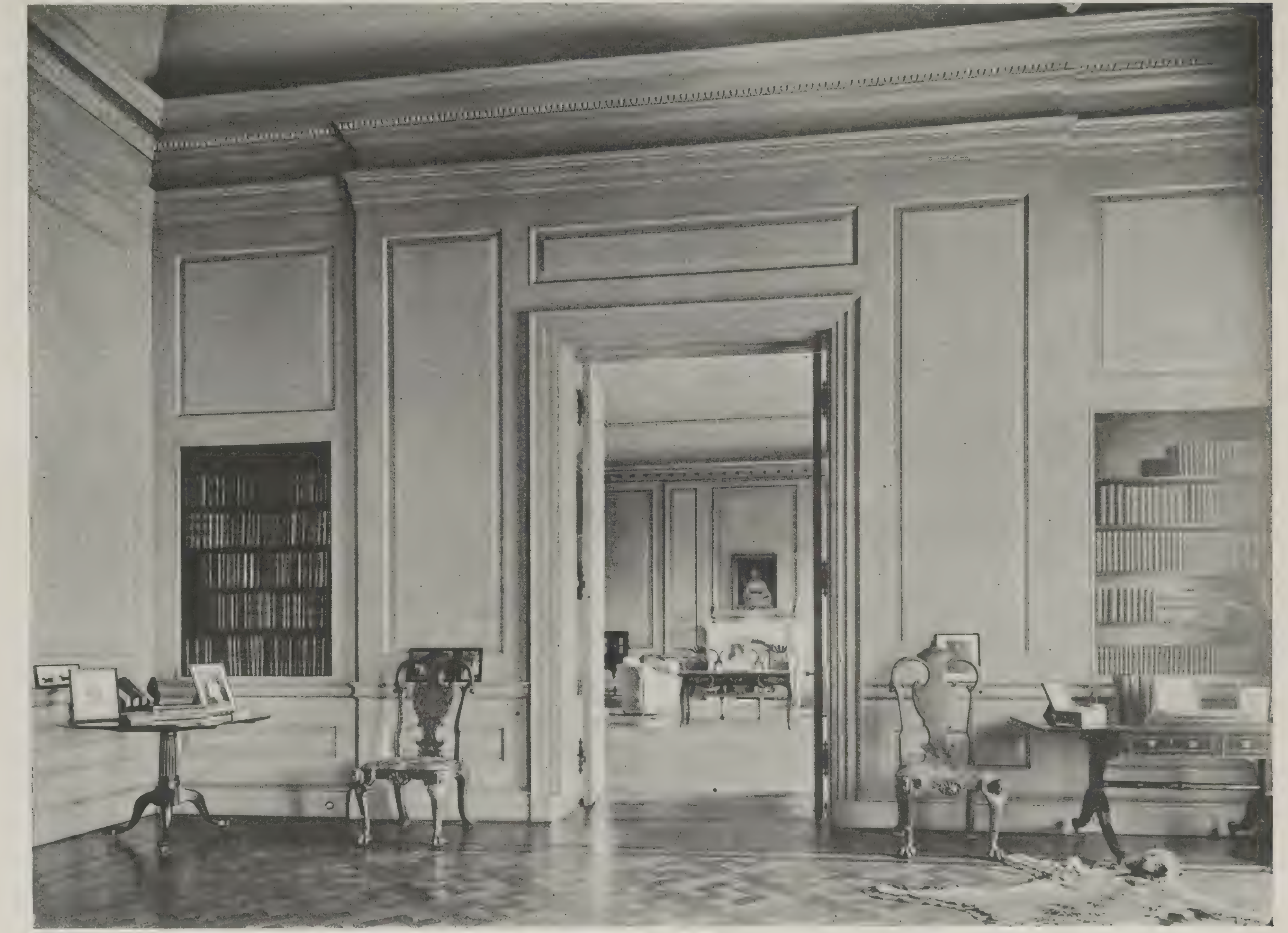
Modern Domestic Architecture. 41.—The Drawing Rooms, 18 Carlton House Terrace, London

Milne and Phipps, FF.R.I.B.A., Architects



The view from the small to the large drawing-room, showing the effectiveness of the black bookcases, and the happy way in which the elaborate furniture is set off by the plain spaces of the panels. The curved forms of the chairs could not have a more fitting background than the simple rectangular forms of the walls.

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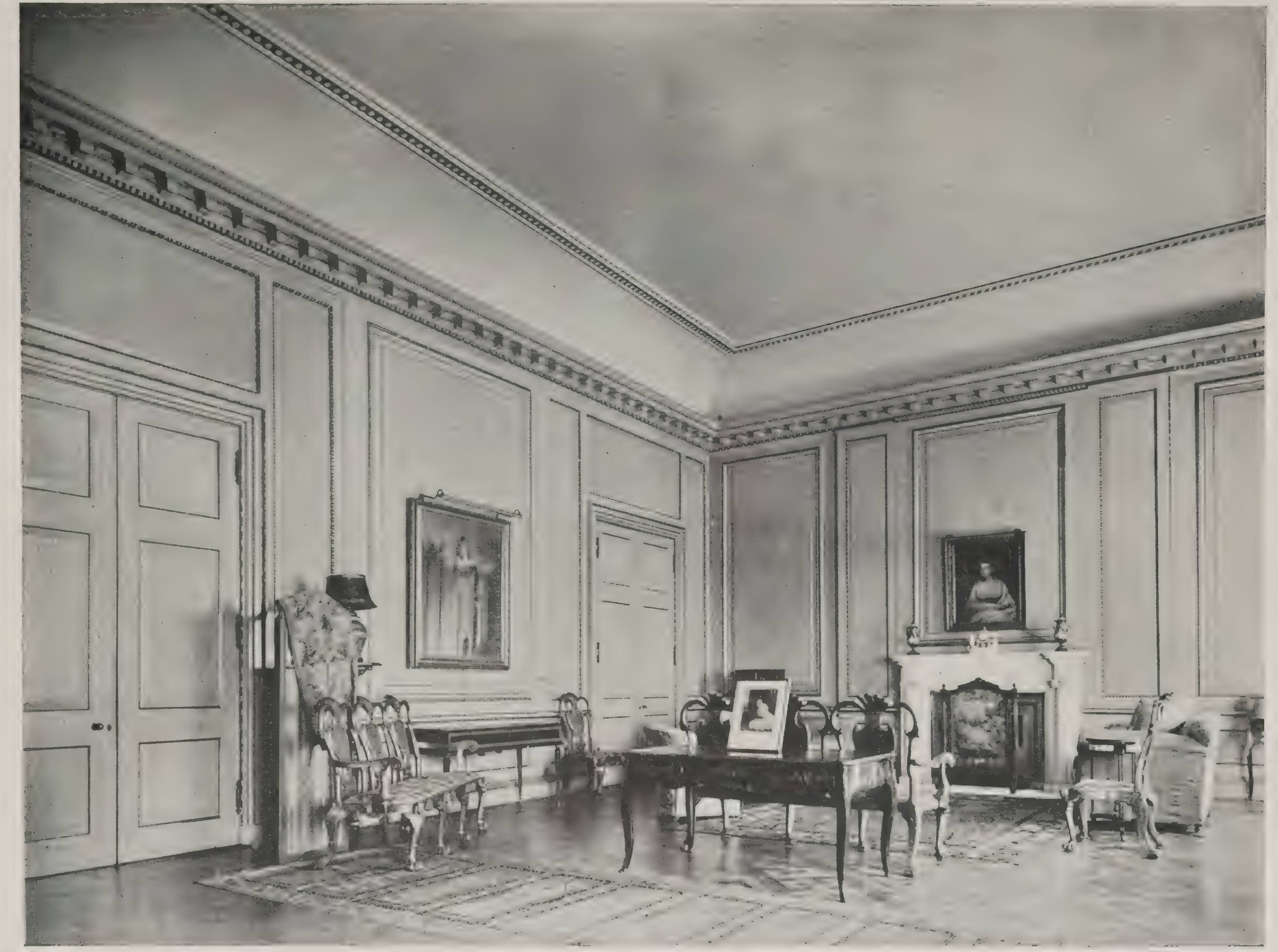
Modern Domestic Architecture. 42.—The Large Drawing Room, 18 Carlton House Terrace, London

Milne and Phipps, FF.R.I.B.A., Architects



This room is carried out in blue and gold, and the architects have obtained a slightly more sumptuous effect than in the other rooms by enriching the mouldings of the panels. They have not lost, however, the air of spaciousness and reserve which makes the attraction of this suite. The plasterwork in this house was carried out by Messrs. Elmes, and the decorative work by Messrs. Muntzer and Son.

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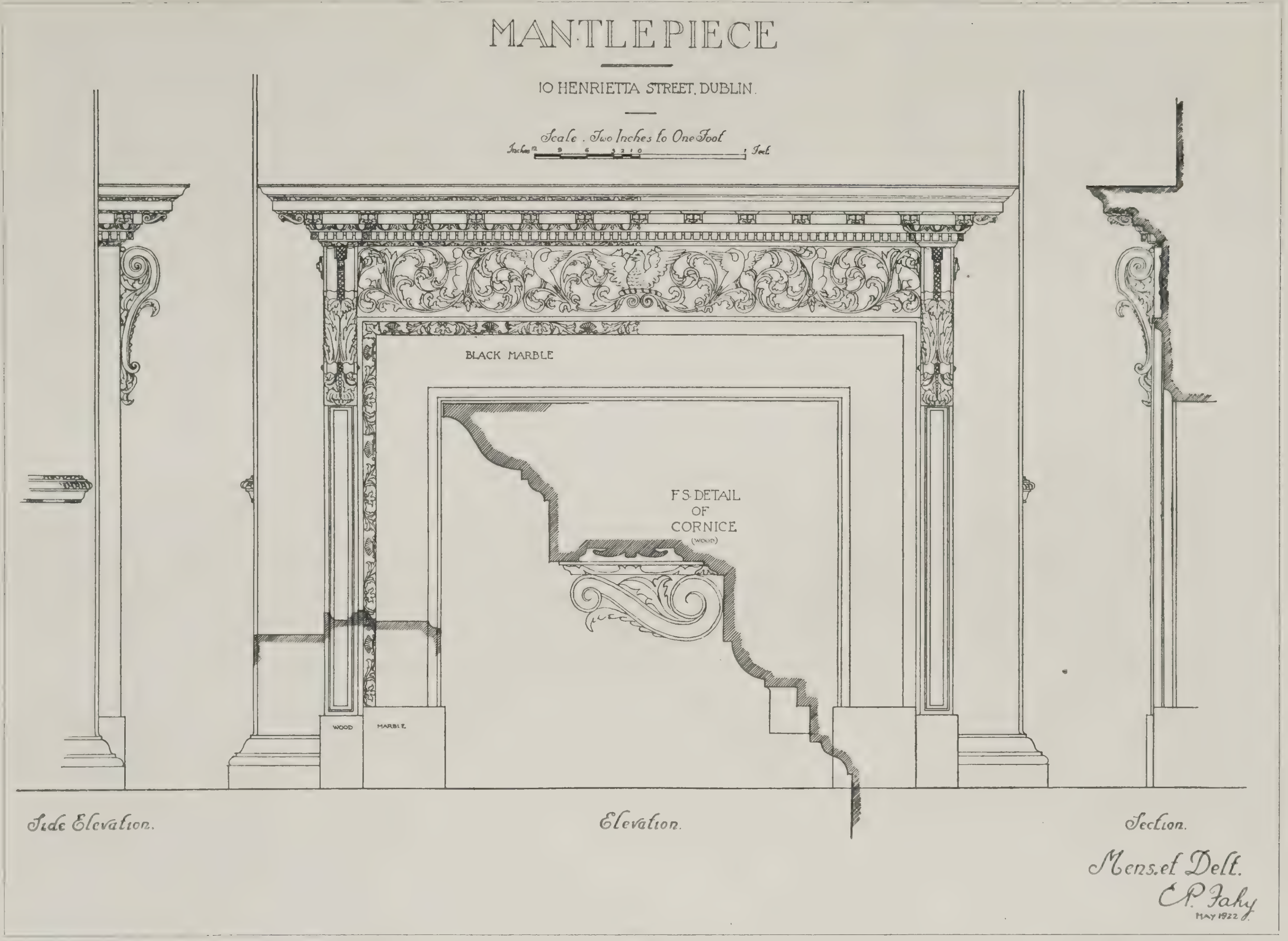
Measured Drawings. 10.—Mantelpiece in 10 Henrietta Street, Dublin

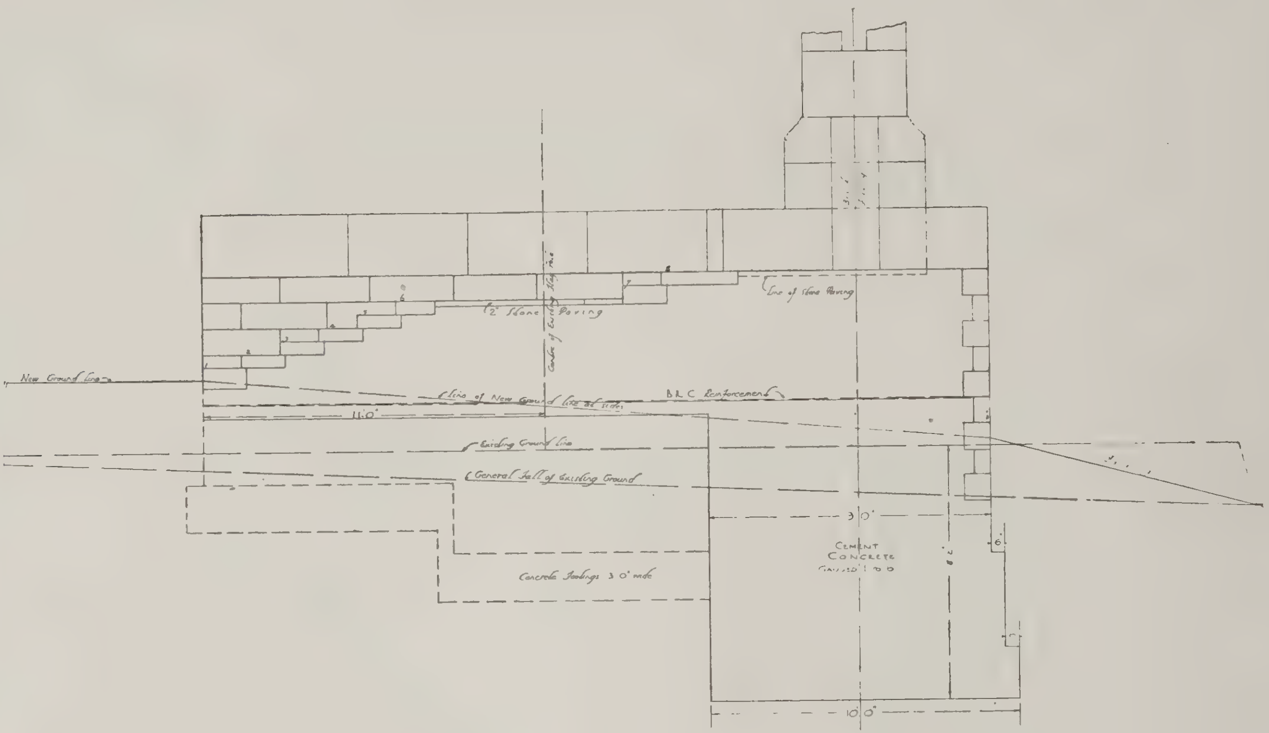
Measured and Drawn by C. P. Fahy


MANTLEPIECE
10 HENRIETTA STREET, DUBLIN.
Scale. Two Inches to One Foot
Inches 12 9 6 3 2 1 0 1 Feet
BLACK MARBLE
F.S. DETAIL OF CORNICE (WOOD)
WOOD
MARBLE
Side Elevation.
Elevation.
Section.
Mens. et Delt.
C.P. Fahy
MAY 1922

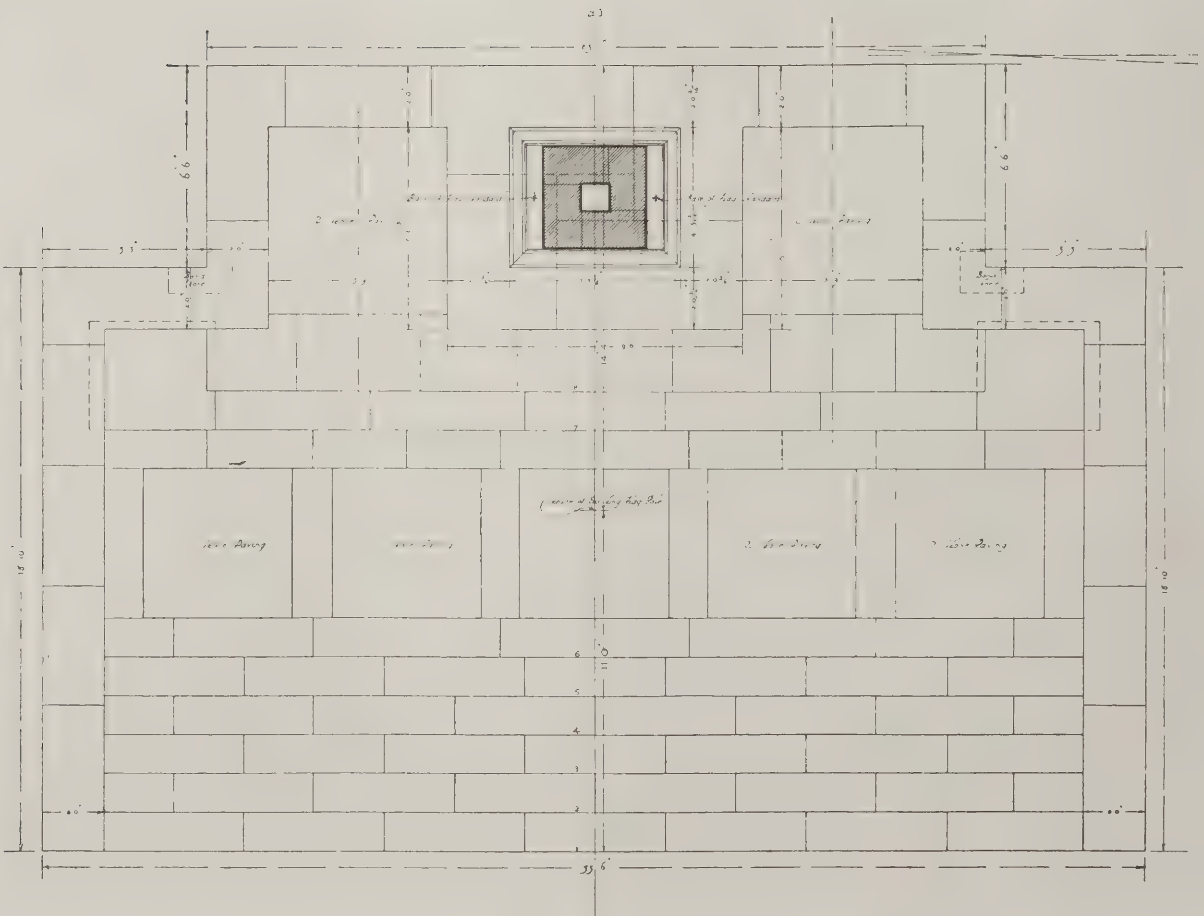
This mantelpiece dates from the early eighteenth century, and was probably designed by Richard Cassel. It is of wood, finely carved, the frieze being decorated with conventional birds, foliage, and animals. In the centre is a griffin's head couped between two wings (the crest of the Gardiner family, Luke Gardiner, Vice-Treasurer of Ireland, having built No. 10 for himself). There is some very intricate and beautiful carving on the two consoles supporting the cornice; the cutting goes through from side to side. The linings of the mantelpiece round the fireplace are of black and gold-veined marble. The mantelpiece has been painted many times and the outline of the carving has been somewhat dulled, but the whole is still in a splendid state of preservation.

Southend War Memorial : Working Drawings

Sir Edwin L. Lutyens, R.A., F.R.I.B.A., Architect



SECTION AB

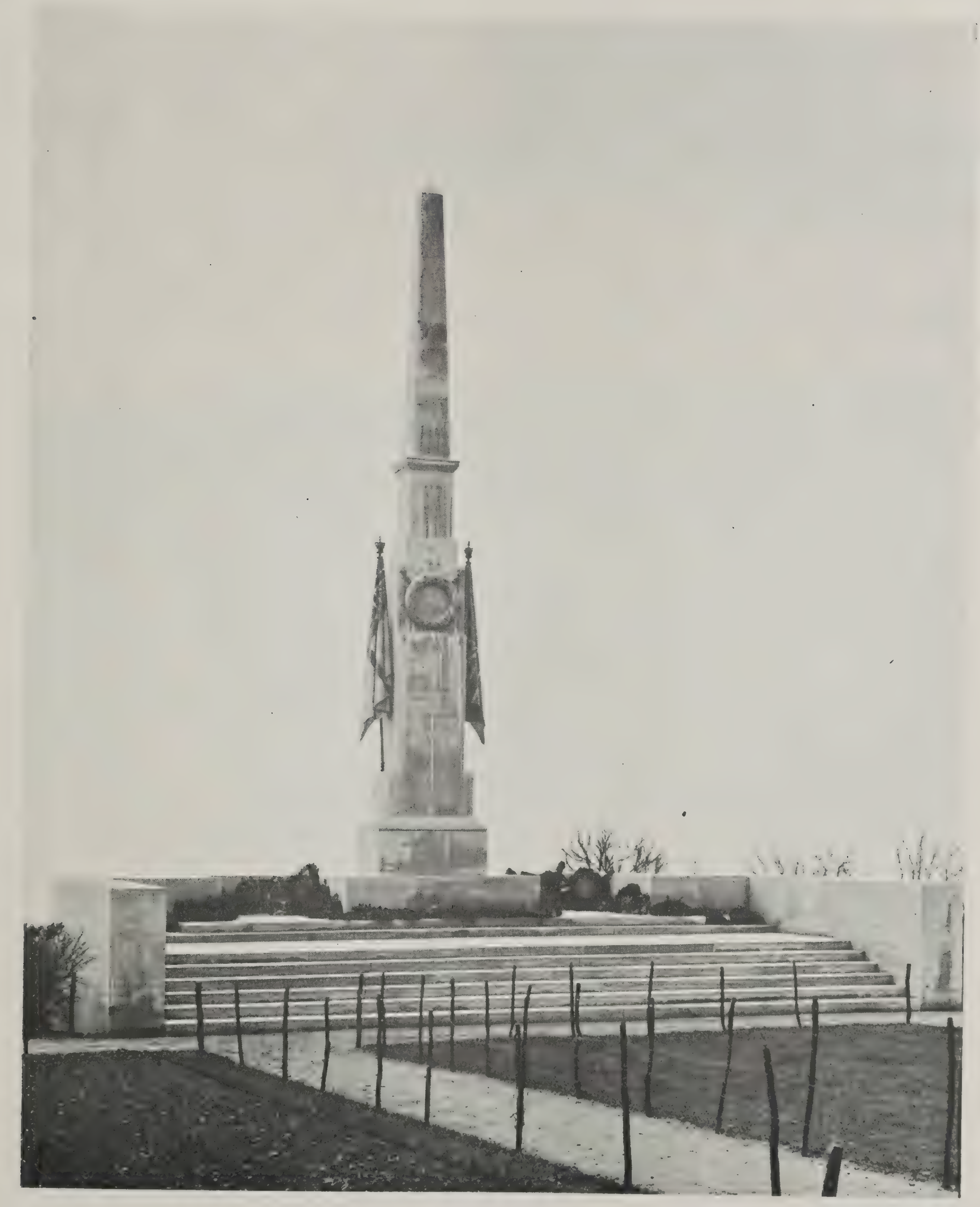


PLAN

(See opposite page.)

War Memorials. 27.—Southend

Sir Edwin L. Lutyens, R.A., F.R.I.B.A., Architect



Forty feet high, this war memorial stands on the edge of the cliffs overlooking the sea. It is in the form of a cenotaph, surmounted by an obelisk, and is constructed of Portland stone, the flags being carved of the same material. Some difficulty was experienced with the foundations owing to the clayey nature of the soil, but this was overcome by reinforcement.

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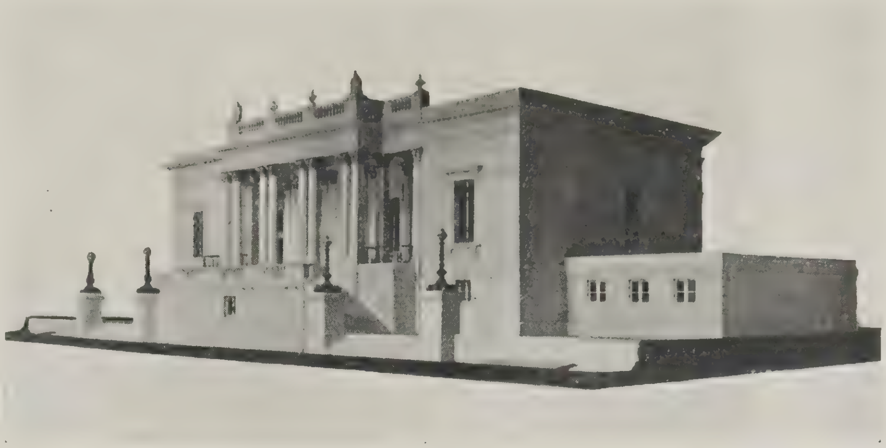
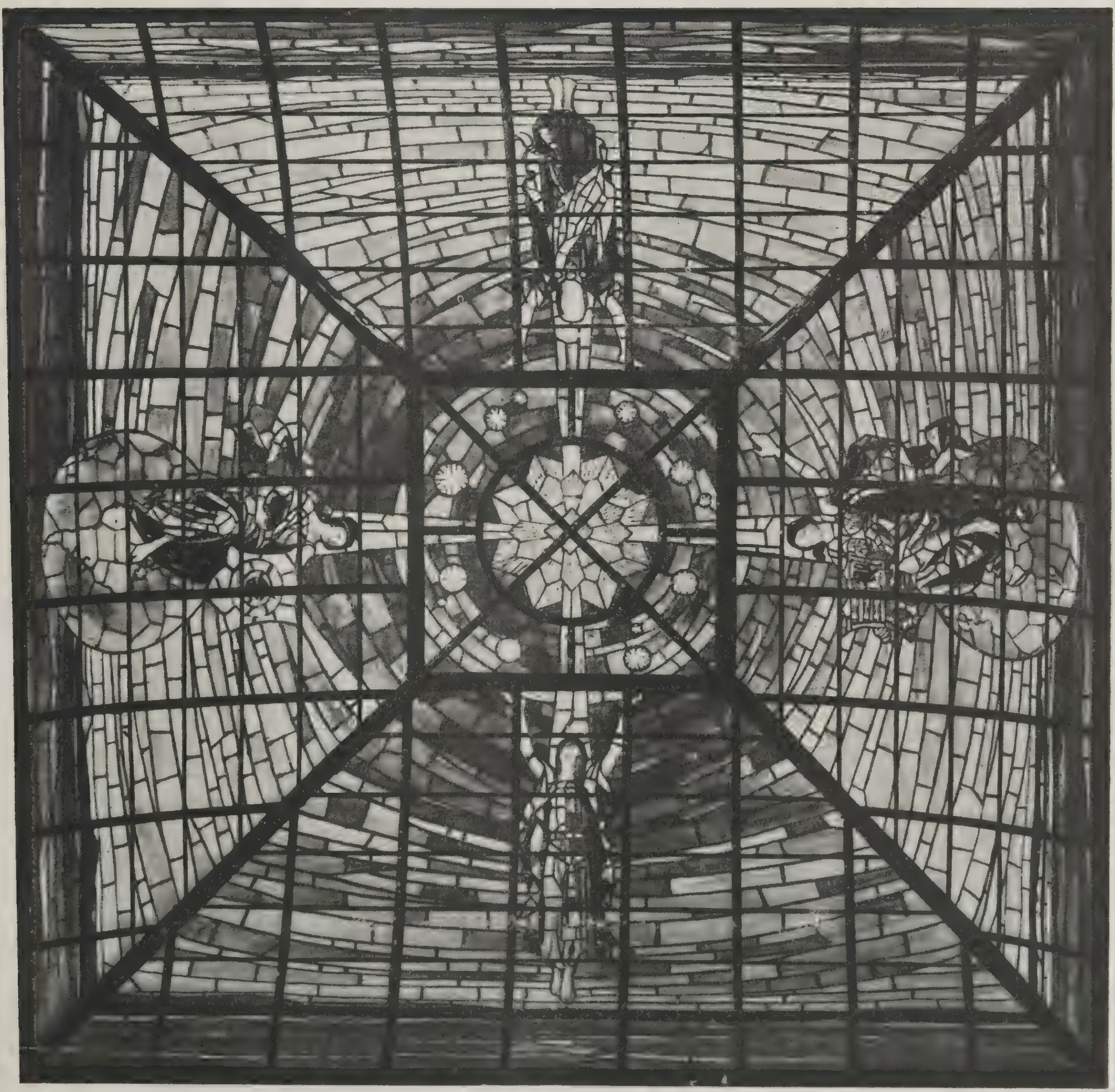
The British Pavilion at the Rio Exhibition



FROM A MODEL.

IN our last issue we published an illustrated description of the British Pavilion at the Rio de Janeiro Centenary Exhibition, which has been designed by Messrs. John W. Simpson and Maxwell Ayrton, FF.R.I.B.A., architects. We are now able to show a photograph of the remarkable stained-glass dome of the building, designed by Mr. Anning Bell, A.R.A. In this dome Mr. Bell has used some 6,500 pieces of glass, held together by over 7,000 ft. of leaded strip. The dome, which surmounts the central hall, occupies 270 sq. ft. of ceiling space, and contains over 400 ft. of richly coloured glass weighing approximately three-quarters of a ton. The predominating colour is blue. The four curving sides taper upwards to a circle at the summit, in which is set a sun with radiating shafts of gold, surrounded by the star of the Southern Cross, which form part of the Brazilian national emblem. Each of the four curving side panels contains a symbolical figure, one of which represents the British Empire and the Eastern World, and another the Brazils and the Western World. At night the dome will be illuminated from the exterior. The work has been carried out by Messrs. Clayton and Bell, of Clifford Street, London.



THE STAINED-GLASS DOME. DESIGNED BY ANNING BELL, A.R.A

The Stability of Walls.—IX. Cracks in Brickwork

(Concluding Article)

By PROFESSOR HENRY ADAMS, M.Inst.C.E.

CONSIDERABLE alarm is caused from time to time by cracks appearing in the brickwork of a building, and a collapse is often feared when the matter is after all a very simple one and due to causes which do not affect the general stability. At other times cracks are more significant than they appear. There are various types of fracture which the writer has met with in the course of a rather long experience. The practice of supporting the floor joists on the front wall makes the load on this much greater than on the cross walls, and a fracture will often be found in the cross wall or party wall near the front, sometimes running only a small way down (Fig. 30), and at other times extending to the floors below (Fig. 31). In the former case it is generally due to the compression of the mortar in the horizontal bed joints of the front wall which, of course, totals up more towards the top; in the latter case it may generally be traced to a settlement of the whole of the front wall on its foundation, and the floors will be found then to have a slight fall to the front. If the floors remain level the crack may be due to pressure from goods stored inside and pushing against the wall. Diagonal cracks as in Fig. 32 are more common and more difficult to account for. They appear to be due to a shear stress in the material due to load or to a yielding of the foundations.

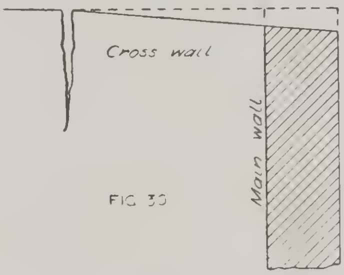


FIG. 30

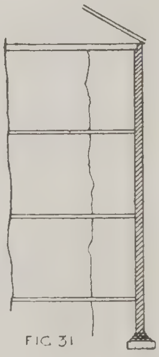


FIG. 31

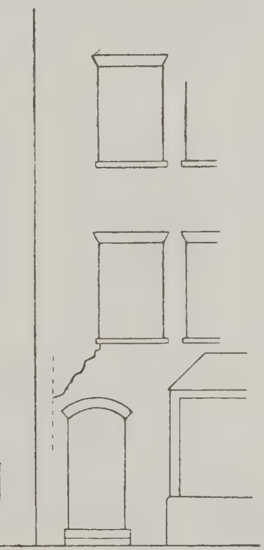


FIG. 34

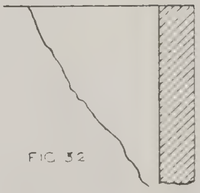


FIG. 32

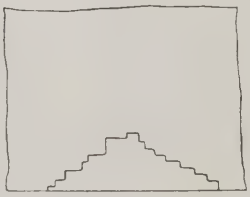


FIG. 33

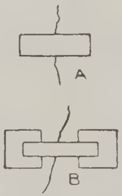


FIG. 35

When a wall has been carried across a piece of bad foundation, a double fracture will be found as in Fig. 33, and the joints may be very open. Semi-detached houses and buildings standing alone will often show diagonal cracks in the front wall, near the ends, as in Fig. 34, which is typical of a large number of houses in the suburbs of London. This is clearly a shear fracture due to the weight of the brickwork above, and it usually terminates where it meets the bonding of the flank wall. It is well-known that unless window sills are bedded hollow they will be cracked by the settlement of the heavy brickwork at the sides, while there is little weight below the sills.

In the case of a large warehouse by the Thames, where the subsoil was rather light, loose, sandy gravel, or drift, a strong reinforced concrete raft was put in extending 6 ft. beyond the face of the outer walls. Soon after completion of the building cracks were found in the cross walls on the top floor, and it was at first supposed that the raft had bent, but it was found still to be level so that the cause was in the brickwork itself, as illustrated in Fig. 30. Upon a clay soil a reinforced concrete raft is practically the only means to prevent movement of the walls due to expansion and contraction of the clay in wet and dry seasons, unless the foundations are very deep. In any case 5 ft. is the minimum.

Other cases of fracture that have come under the notice of the writer have been due to drainage of subsoil due to the construction of a tube railway, to the disturbance of the soil by the escape of compressed air from tunnelling operations, to laying a sewer in the roadway, and to heavy motor traffic.

In churches wall fractures are commonly due to the thrust from arches or from improperly constructed roof-trusses. Sometimes the foundations for the pillars have been insufficient for the load upon them, and in one case of a church on the side of the hill, the upper part of the hill was sliding down, and to stop it someone had put in poling boards and strutted them against the church wall, under the windows, cracking the stonework from the ends of the sills to the ground level.

Special cracks are found due to the vibration of machinery or shafting, but this vibration does not itself cause the cracks, it merely enables any pre-existing strain to show itself. Where, however, the mortar is very poor the bricks may loosen under the vibration and the mortar come away as dust. Plain spur gearing is very trying to brickwork owing to the back-lash, and, except in a factory of one floor where it does not matter, should be replaced by stepped or helical gearing. The vibration from electric light generating stations has been known to cause ceilings to fall in the neighbourhood, but the walls of the buildings are seldom damaged from this cause.

When cracks show in a wall it is well to fix small strips of Portland cement across the crack and put the date on them, as at A Fig. 35, or with a piece of slate across two cement pads as at B, so as to detect any progressive movement and enable necessary precautions to be taken in time.

[NOTE.—In line 20 from the end of Article VIII (published in the JOURNAL for June 28, page 929) "from ground" should be inserted after the word "height."]

R.I.B.A. Council Meeting

FOLLOWING are notes from the R.I.B.A. Council meeting held on June 26, 1922 :—

Robert Gordon's Technical College, Aberdeen.—The Post-Diploma (six years) Course of the School of Architecture, Robert Gordon's Technical College, Aberdeen, has been recognized as exempting from the Final Examination under the usual conditions.

School of Architecture, Cardiff.—The Three Years' Course of the School of Architecture, Cardiff, has been recognized as exempting from the Intermediate Examination for a further period of two years.

Registration of Electrical Contractors.—The Council have accepted the draft proposals for obtaining the sanction of the Board of Trade for the scheme of voluntary registration of electrical contractors in Great Britain, and have agreed to appoint two representatives to sit upon the Board of the Registration Authority.

Liverpool Corporation By-laws.—On the recommendation of the Science Standing Committee, the Council have sent to the Liverpool Architectural Society a criticism of the draft by-laws on ferro-concrete and steel frame buildings proposed by the Liverpool Corporation.

Tendering without Bills of Quantities.—At the request of the London Master Builders' and Allied Industries' Association, the Council have directed that a notice should be printed in the R.I.B.A. Journal recommending that in the case of ordinary works exceeding £1,000 in value contractors who are invited to tender should be supplied with bills of quantities.

Local Officials and Private Work.—At the request of the Devon and Exeter Architectural Society the Council have written to the Ministry of Health on the subject of Surveyors and Sanitary Inspectors in country districts doing private work in preparing and submitting plans to their Council for approval.

Home Office Regulations for Factories and Workshops.—On the recommendation of the Science Standing Committee the Council have decided to press for an inquiry to be held by the Home Office before the proposed Regulations under the Factory and Workshop Act for Buildings in course of construction are issued.

Housing Schemes.—On the recommendation of the Practice Standing Committee the Council have ordered a statement to be printed in the R.I.B.A. Journal on the subject of the relations between consulting architects and panel architects.

The Architects' Benevolent Society. A subscription of £100 has been paid to the Architects' Benevolent Society for the current year.

Liverpool University School of Architecture: Annual Exhibition

(*Contributed.*)

THIS year's annual exhibition of the Liverpool University School of Architecture which has been opened by Lord Riddell at the Walker Art Gallery, Liverpool, is by general admission the best that has so far been held in the history of the school. There are not so many large drawings as were shown last year—none of those vast sheets in which careful draughtsmanship was sacrificed to pictorial effect. There are more plans and more sections, adequately developed, some extraordinarily good working drawings, and no pseudo Beaux-Arts rendering. The whole exhibition is, in fact, quieter, sounder in its aims, and more mature in its effect. That is not to say that imagination and verve are less evident than on previous occasions, but only that these qualities are expressed in better form and with a better technique.

The explanation of so marked an improvement is probably a complex one. To judge from the drawings exhibited a greater stress appears to have been laid in the teaching of the school upon the logical solution of programmes. The plan is the thing. In consequence it is no longer attached as an unhappy afterthought to a preconceived elevation, but itself dictates the composition. Then, again, subjects originating as problems of design on a basis of sound planning are developed constructionally to a pitch that is not required in even the most exacting of English offices. Here is apparent the influence of American practice that shows itself continually in the work of the school. In the United States working drawings are so elaborated that specifications are unnecessary. It is clearly a sound system to adopt for educational purposes, for it involves the student being drilled in the most thorough fashion in the science of building. Finally there is evident a conscious or unconscious reaction against over-ambitious presentation—against endeavouring to imitate a French type of rendering and draughtsmanship for which students in England are not equipped either by tradition or temperament.

The drawings are arranged in three main groups. The first comprises representative examples of the studio work done in the five consecutive years of the new degree and diploma course. Each year makes its own display, and now for the first time the cumulative labours of the entire course can be seen as a whole. The spectacle should deter all but serious candidates from proposing to enter the profession unless they are lured by some of the six-hour sketch designs. These latter range in their subjects from circus cars drawn by teams of elephants, fancy dress costumes and posters to funeral barges, and they presumably provide a relaxation from the rigours of the normal course.

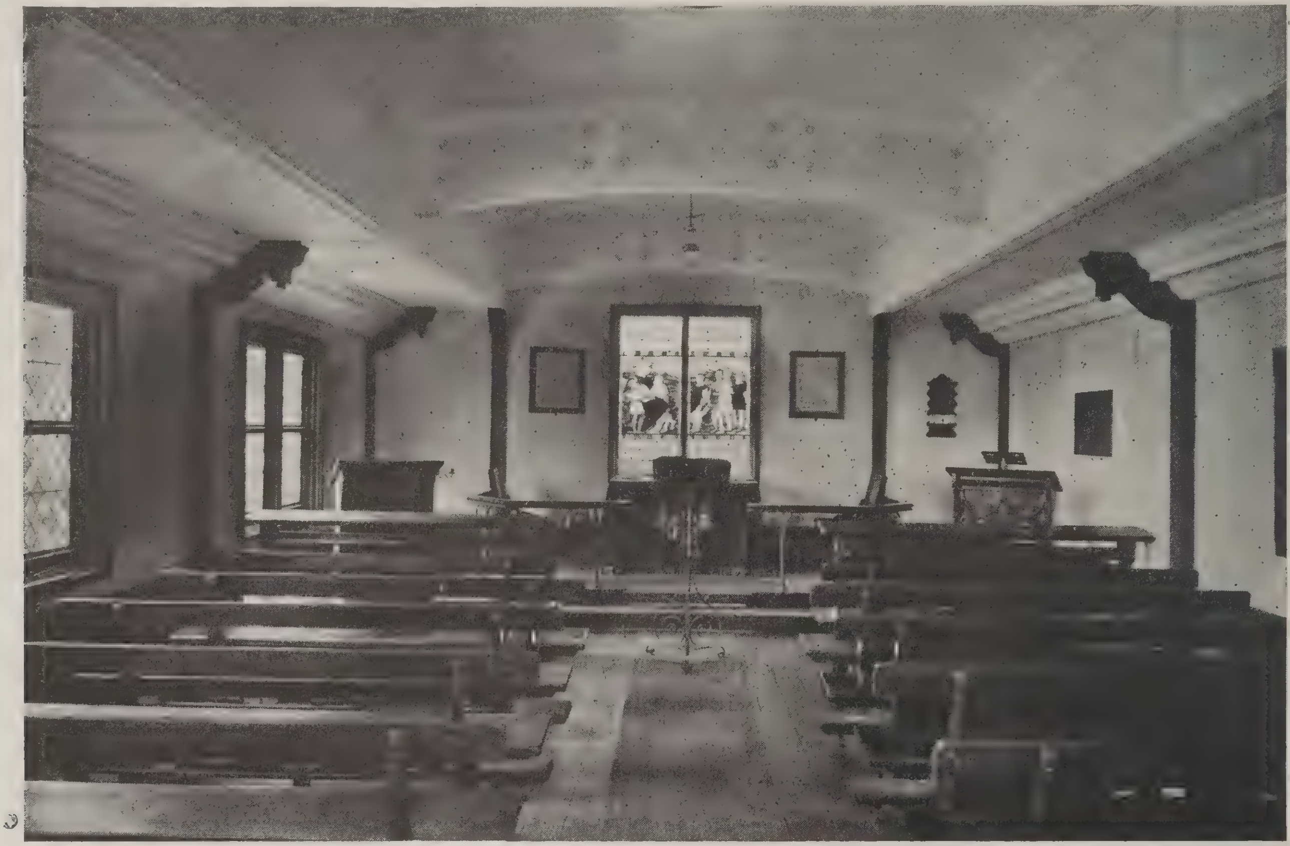
A second section of the exhibition is found by the schemes submitted in the various prize competitions open to students of the school. The Lever Prizes in Architecture and Civic Design, the Holt Travelling Scholarship, the Honan Scholarship (administered by the Liverpool Architectural Society), and the Rane Scholarship and Jarvis Studentship, have all produced sets of drawings of great merit. The most interesting naturally are the schemes submitted for the English Prix de Rome and the Jarvis. Only those presented in the preliminary stage of the competition—when the subject was a restaurant in a public park—are on view; the others, it is understood, are not yet available for exhibition until they have been shown in London. But the preliminary schemes sufficiently reveal the abilities of the competitors, and go a long way to explain how it was that the Liverpool School came to supply eight out of the nine candidates chosen for the final competition.

The School's Department of Civic Design provides the material for the third portion of the exhibition. Civic design may now be taken as an additional subject by students of the school of architecture during the fourth and fifth years of the degree and diploma course. A considerable number of these students appear to be availing themselves of the option—which leads incidentally to a certificate in civic design—as many names that occur in the purely architectural part of the exhibition here reappear in connection with attractive schemes of landscape design, projects for the laying out of parks, the development of town, suburban, and rural areas, and housing schemes. When we compare these drawings with others prepared for similar purposes by surveyors and civil engineers the value and advantages of previous architectural training are manifest.

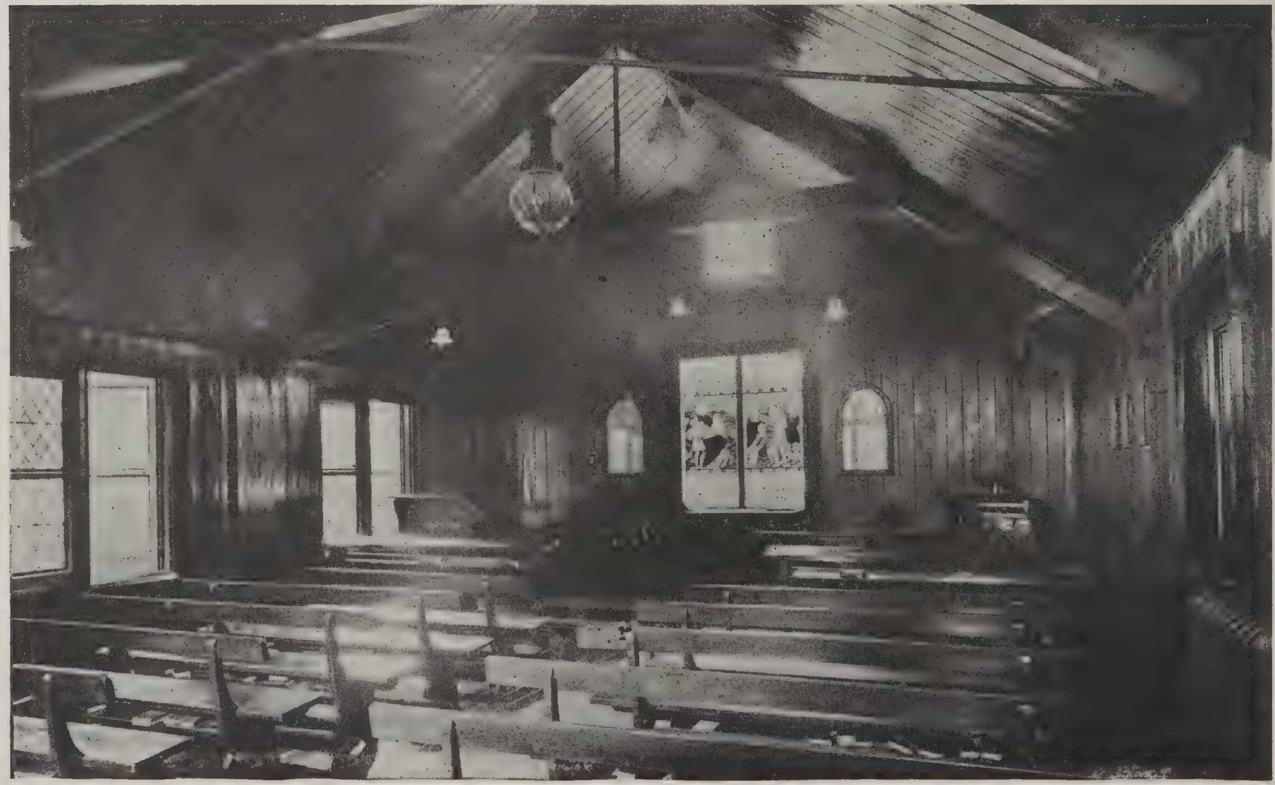
An exhibition of this quality is something more than an entertainment and more than an advertisement. It performs a real educative service. It demonstrates what architectural training is and what it involves, and it establishes a standard of positive achievement that cannot fail to have an effective influence on the development of the profession.

An Interesting Remodelling

ORIGINALLY the chapel at St. Clare School, Walmer, Kent, had the appearance internally of an army hut. The roof trusses and the tie rods were exposed, and the walls and ceiling were of varnished matchboarding. In the remodelled interior, Mr. Colin Hay Murray, A.R.I.B.A., architect, has disguised the trusses by means of large brackets and false beams, the low ceilings at the side being hung up to the trusses. The walls and the curved ceiling are covered with "SX" Board supplied by The Thames Paper Co., Ltd., of Purfleet, Essex. Mr. T. T. Denne, of Walmer, was the builder.



AS REMODELLED.

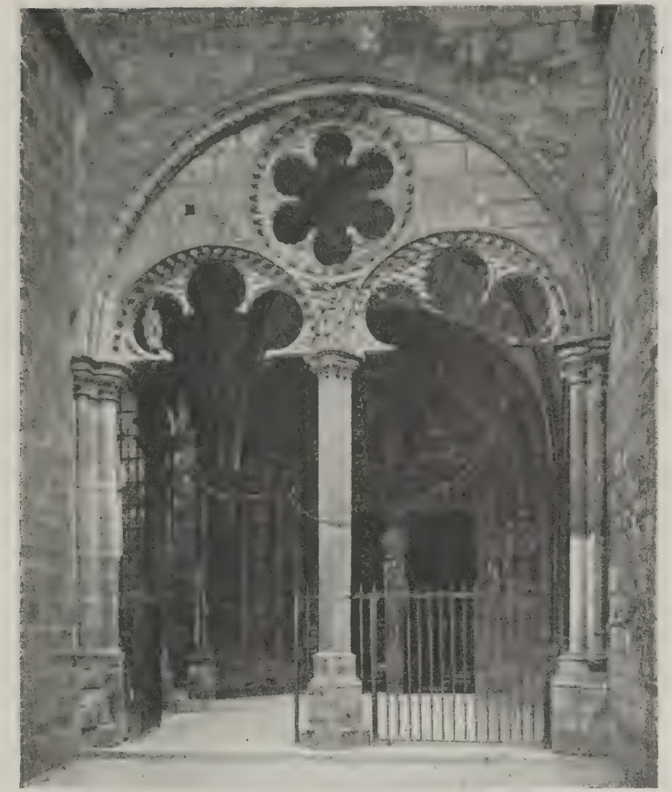


AS IT WAS.

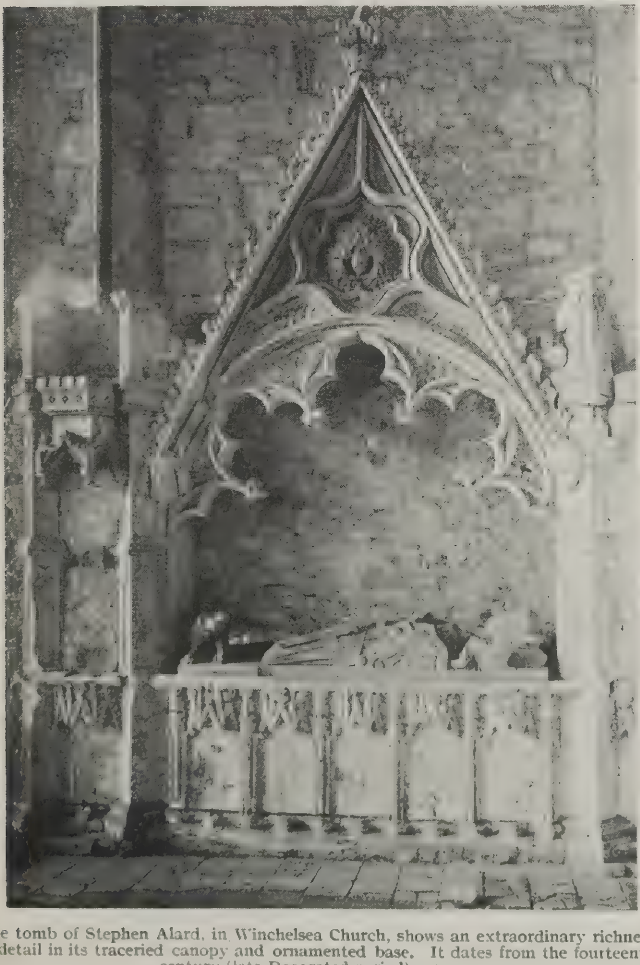
ST. CLARE SCHOOL CHAPEL, WALMER. COLIN HAY MURRAY, A.R.I.B.A., ARCHITECT.

A Pictorial Review

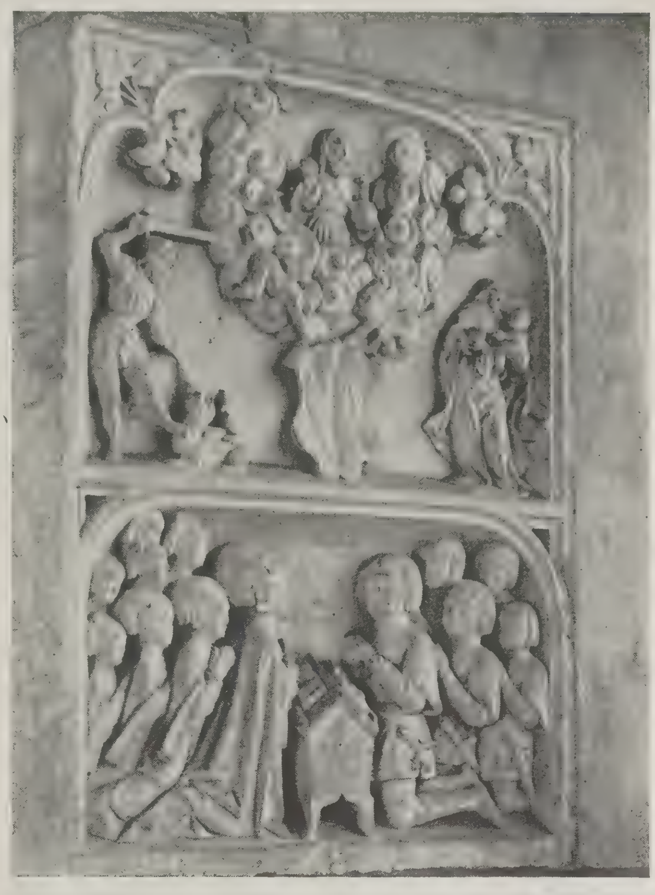
Illustrations of Topical, Practical, or Curious Interest



The south porch of Bourges Cathedral (an example of French thirteenth-century Gothic) has an interesting " screen " entrance, consisting of a central pier supporting a decorative " filling " of double trefoils and a circular multifoil. The porch has an extraordinary effect of lightness and delicacy.—J. R.

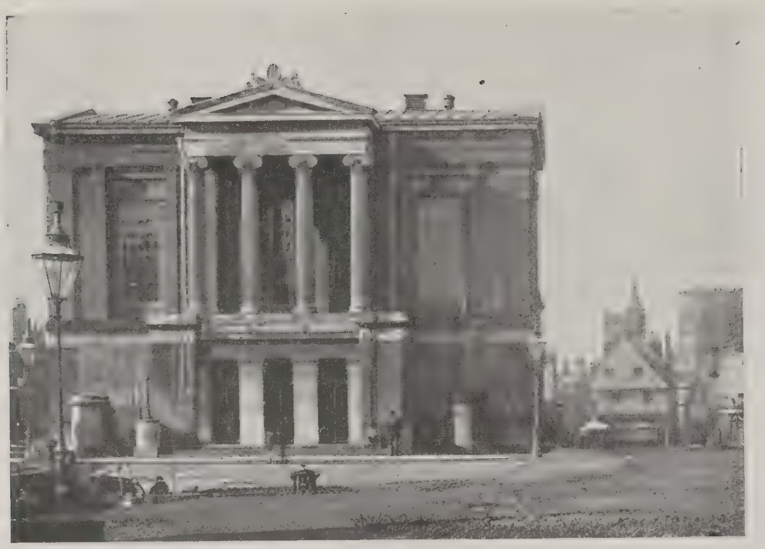


The tomb of Stephen Alard, in Winchelsea Church, shows an extraordinary richness of detail in its traceried canopy and ornamented base. It dates from the fourteenth century (late Decorated period).—S. P.

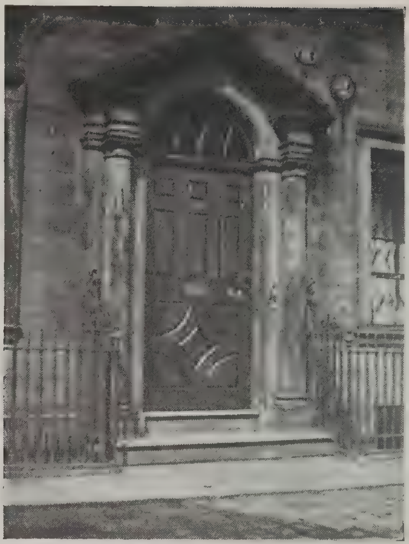


I know nothing of Gothic Art, but I cannot help being struck by the wonderful composition displayed in this piece of sculpture, and by its extraordinary likeness to Raphael's " Transfiguration " in both mass and detail. In each case you get the composition cut boldly in half, and then linked together by a rhythmic play of lines which carry the eye from the top to the bottom of the picture. You also get the crowd at the bottom and the three floating figures at the top. This panel is carved on a window jamb in the south aisle of Goudhurst Church, Kent.—H. H.

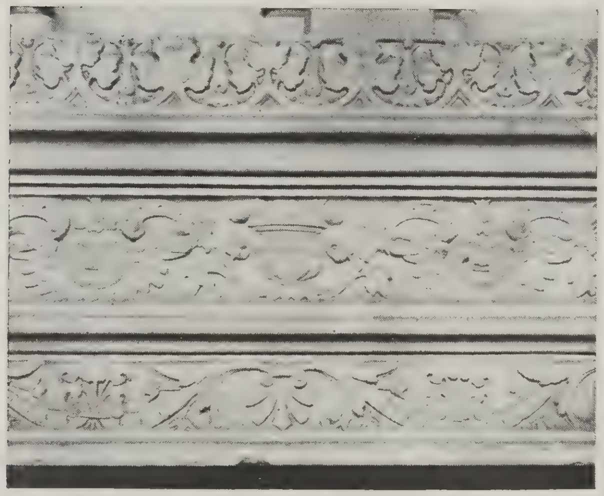
" Admiral's House," Hampstead, although it has no claim to architectural distinction, is interesting to architects by having been at one time the residence of Sir Gilbert Scott.—H. J.



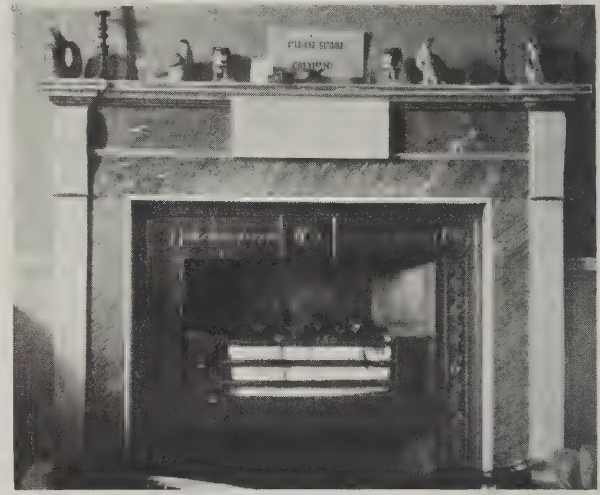
St. Albans Town Hall was built by the architect George Smith in 1830. It is a fine example of the Greek manner of that period, though, to my mind, rather dull, but I submit it especially as an example in comparative prices. To-day the same building would cost anything between twenty and forty thousand. In 1830 it was erected for £6,991—the present price of a small house. The lamp-posts shown in the photograph are also interesting and graceful. I assume that they are contemporary with the Town Hall.—H. E. MERRYMAN.



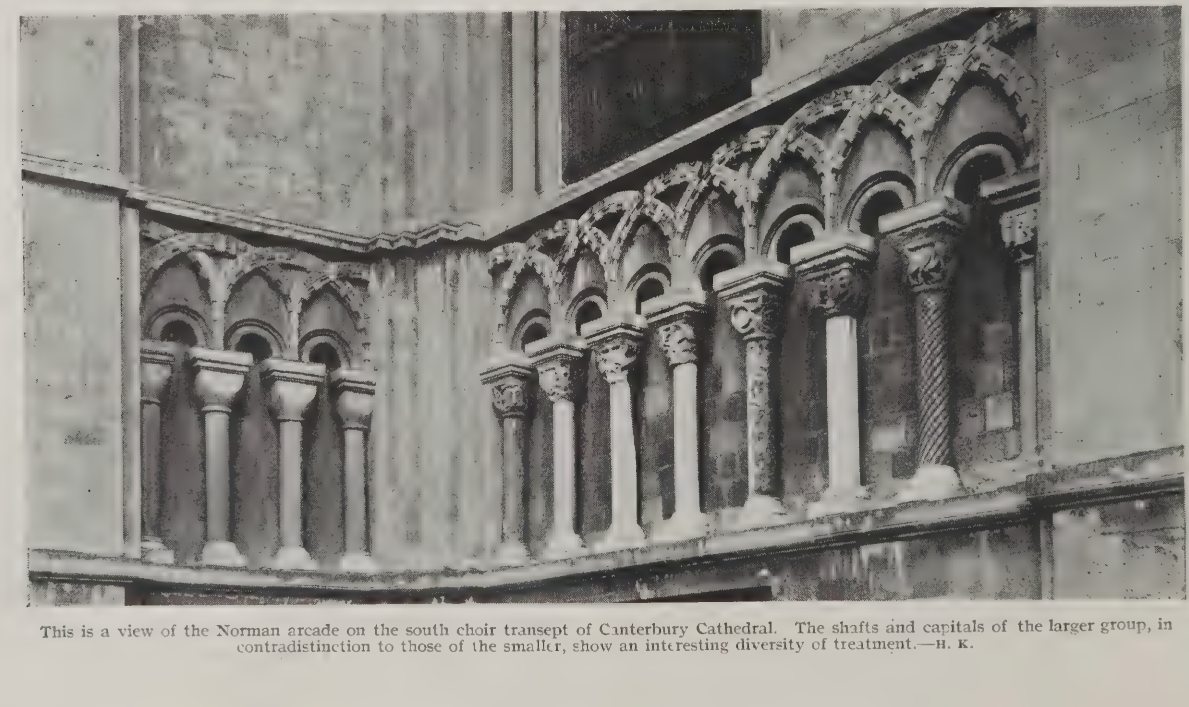
A doorway in High Street, Lancaster, showing the right application of the door-case to the wall of the house. The lines of the columns with their entablatures run through on to a pilaster-like set-off which forms a satisfactory connection with the wall.—R. H. MATTOCKS.



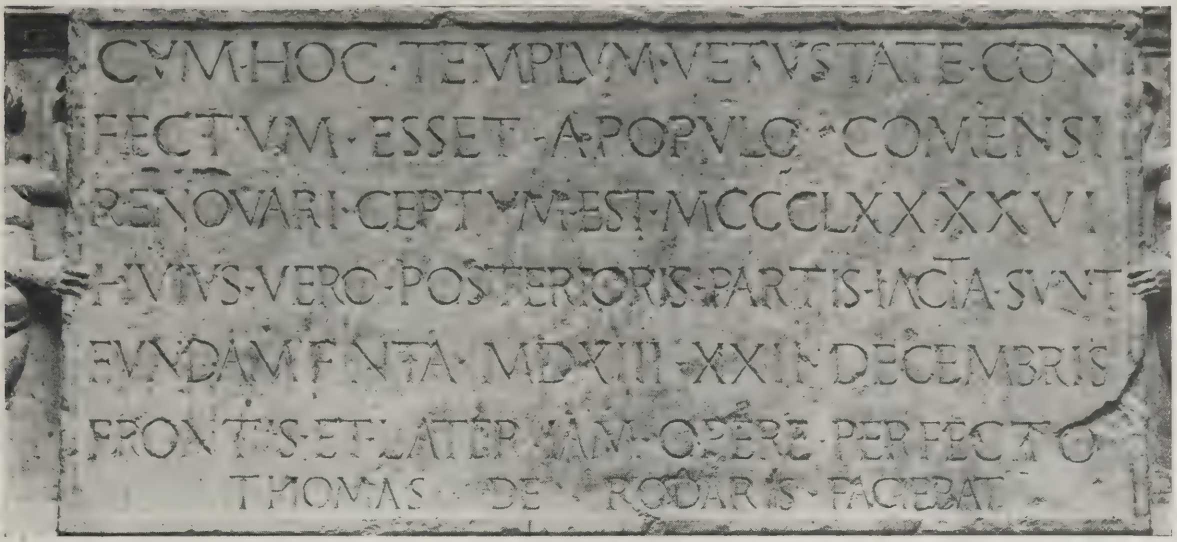
This detail from Salisbury Chantry, Christchurch, Hants, appears to be rather a remarkable example of transitional work. You get the Gothic cresting above, and below a very crude effort at Renaissance ornament with most amusing cherubs whose expressions still retain something of the gargoyle.—W. G. D.



I send you a photograph of a chimneypiece of late eighteenth-century date, which I think peculiarly suitable for modern imitation. The manner in which the coloured marbles are used shows a far greater appreciation of their beauty than can be found in most chimneypieces of the period. The little coloured necking of the pilasters below the trusses is astonishingly effective. Nowadays it is usual to copy the unimaginative Georgian practice of using white marble for all mouldings and decoration, the ground alone being coloured. The chimneypiece comes from Ardgowan, near Gourock, N.B., the house of Sir Hugh Shaw Stewart.—H. S. GOODHART-RENDEL.



This is a view of the Norman arcade on the south choir transept of Canterbury Cathedral. The shafts and capitals of the larger group, in contradistinction to those of the smaller, show an interesting diversity of treatment.—H. K.


CVM·HOC·TEMPLVM·VETVSTATE·CON
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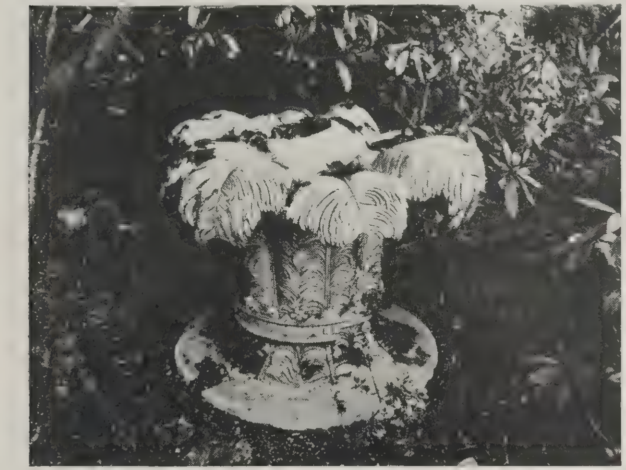
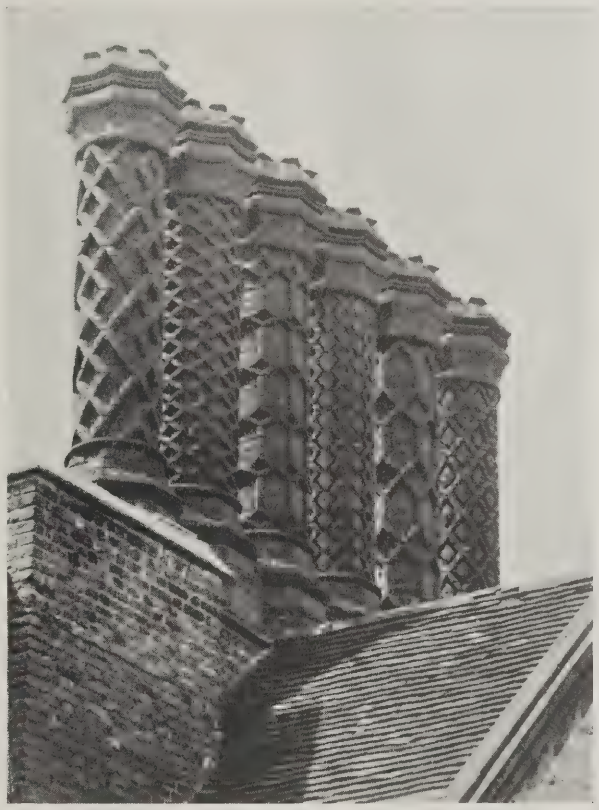
HVIVS·VERO·POSTERIORIS·PARTIS·IACTA·SVNT
FVNDAMENTA·MDXIII·XXII·DECEMBRIS
FRONTIS·ET·LATERVM·IAM·OPERE·PERFECTO
THOMAS·DE·RODARIS·FACIEBAT

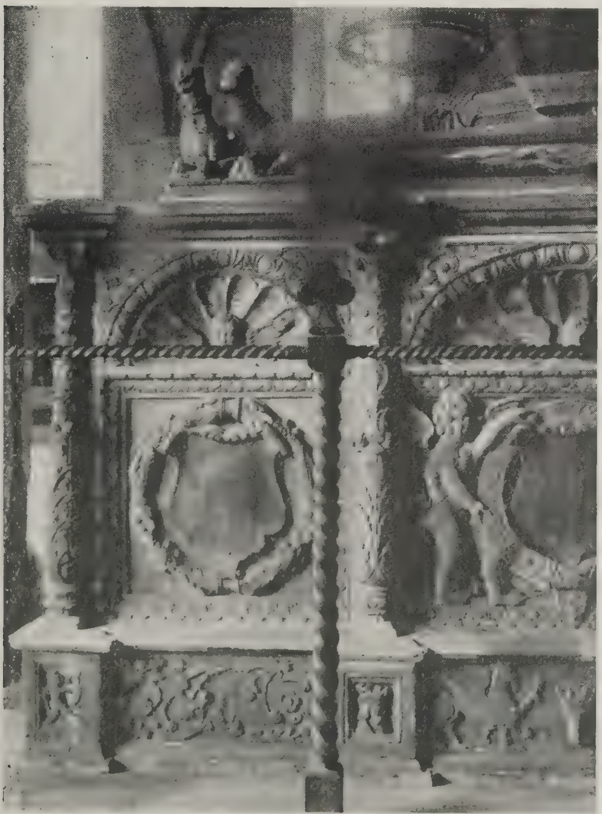
The art of lettering has shown a marked improvement in recent years, as the ubiquitous street hoarding abundantly testifies. The reason for this is to be found in the fact that the artist, following the example of the architect, now takes a good model for his inscriptions. The sixteenth-century specimen of Italian lettering which I send (obviously based on the Trajan Column) is as perfect as one could wish. It is to be found in the choir of Como Cathedral.—J.R.

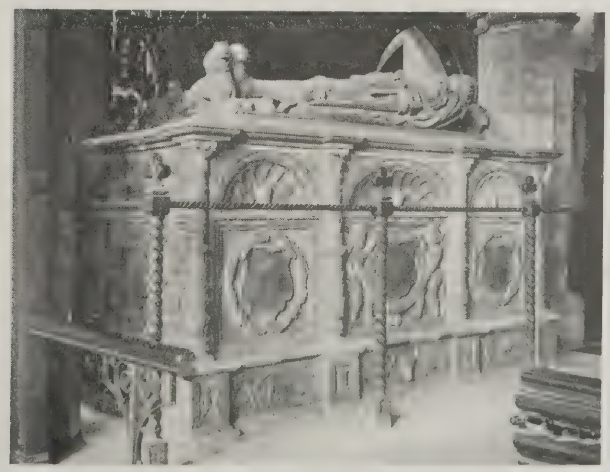


This garden ornament is at Tor Royal, Devon, and dates from 1797. It is of Coade's patent stone, which was a very popular decorative material about that time. An example of its use in London may be seen in the pediment of Somerset House on the Embankment front.—ANON.



Herewith a view of some remarkably fine brick chimney-stacks at Hampton Court Palace. They occupy a position between the Lord Chamberlain's Court and the Master Carpenter's Court. I believe I am right in saying that they are genuine examples of Tudor brickwork.—H. P.





The tomb of Sir Anthony Browne in Battle Church, Sussex, is dated 1540. It is a remarkable example of early Renaissance design, and I imagine it must be the work of some itinerant Continental craftsman. The detail is finely wrought, and exhibits nothing of the crudity generally characteristic of contemporary indigenous work.—X.

New L.C.C. Theatre Regulations

NEW regulations for the protection of theatres, etc., against fire are issued with the L.C.C. agenda dated July 4, 1922. These are summarized in a report by the Theatres and Music Halls Committee (No. 1) as follows :—

1. The existing regulations of the Council under the Metropolis Management and Building Acts Amendment Act, 1878, relating to the construction of theatres, music halls, and other places of public resort kept open for the public performance of stage plays and for public music and dancing were made in 1901 and have from time to time been amended in minor particulars. In many details they are not in accordance with existing practice and in some respects are not sufficiently specific.

We have, therefore, examined the regulations with a view to ascertaining what alterations are necessary in order to bring them up to date, and now submit amended regulations. With the exception of that dealing with the construction of the stage roof, to which reference is made later in this report, we have not considered it necessary to alter the regulations in any important features. The alterations consist mainly of matters of detail, and provision has been made for the special features of new classes of buildings such as cinematograph halls. The amendments have necessitated the re-drafting of the greater number of the regulations, and it is consequently not possible readily to indicate, by comparison with the existing regulations, the alterations which we suggest. The principal alterations are as follows :—

(i) Site (Regulation No. 2).—The regulation as to the site of the building has been amplified, has been made more specific, and now deals with buildings of various sizes and classes.

(ii) Staircases (Regulation No. 16).—Before 1901 the regulations allowed a maximum of only twelve steps in a flight, but this was increased in 1901 to fifteen steps, to enable two interlocking staircases in single flights to be provided within the same enclosure. Fifteen steps of six-inch rise do not, however, give sufficient headroom, and we accordingly suggest that sixteen steps in a flight should be allowed. The existing regulation provides that there shall not be more than two successive flights without a turn, and in order to ensure that the pressure on a staircase in case of a panic shall not be unduly increased we suggest that if there are more than twelve steps in a flight not more than one flight shall be provided without a turn.

(iii) Waiting spaces (Regulation No. 22).—A requirement has been made for the provision in cinematograph halls and, where necessary, at other premises, of suitable accommodation for persons awaiting admission to the seating. Such provision is specially necessary at places where continuous performances are given so as to ensure that persons awaiting admission shall not obstruct the exits.

(iv) Special provision for small theatres (Regulation No. 25).—Provision has been made which will allow of a stage and scenery being used in small halls not accommodating more than 500 persons, without the provision of a brick proscenium and safety curtain.

(v) Stage roof (Regulation No. 26).—The regulation as to the construction of the stage roof, which is of much importance, has been materially altered. The present regulation requires that the stage roof shall not be of fire-resisting material or heavy construction, the object being to provide a ready outlet for flames and smoke in the event of a fire on the stage, and so to obviate the possibility of the flames and smoke being drawn to the auditorium. At the time when the practice of providing a light roof was first adopted only a few of the London theatres were provided with safety curtains, gas was in use on the stage battens, and no satisfactory method of rendering scenery fire-resisting had been adopted. The provision of the safety curtain should keep an outbreak of fire within bounds, and it is therefore desirable not to add unnecessarily to the fire by providing a light inflammable roof which, if it collapsed, might damage the fire curtain. In order, however, to ensure that the up-draught on the stage in the event of a fire shall not be lessened, we propose that the area of the lantern light shall be increased from one-tenth to one-sixth of the area of the stage. The regulation will permit of this increased area being provided by means of one or more lantern lights. Provision is also made that the ventilation of the stage shall be to the satisfaction of the Council.

(vi) Dressing-rooms and scene stores (Regulations Nos. 28 and 29.)—Definite requirements have been made for the provision of adequate and suitable dressing-room accommodation and for the provision of scene and property stores.

(vii) Cinematograph enclosure (Regulation No. 38).—A requirement has been inserted with regard to the construction and arrangement of the cinematograph enclosure and re-winding room.

(viii) Ventilation (Regulation No. 40).—This regulation provides that the premises shall be ventilated to the satisfaction of the Council.

(ix) Lighting and heating (Regulation No. 46).—The details with regard to gas lighting, which are included in the existing regulations, have been deleted. Electrical, lighting, gas and heating installations will be dealt with in a separate set of regulations, and regulation No. 46 requires that these installations shall be in accordance with such regulations.

(x) Sanitary accommodation (Regulation No. 41).—A new regulation has been inserted indicating the number of water closets and urinal stalls which are likely to be required in different classes of premises, according to the number of persons accommodated.

(xi) Natural lighting (Regulation No. 42).—A requirement has been made for the provision of natural lighting by means of windows and skylights to the auditorium and (where practicable) to all other parts of all premises.

With regard to ventilation we should mention that at present we have under consideration a draft set of regulations dealing with this subject. We have conferred thereon with various authorities and associations, and hope to be able shortly to submit proposals to the Council. We recommend :—

That the regulations made under section 12 of the Metropolis Management and Building Acts Amendment Act, 1878, on July 30, 1901 (p. 1117), and amended on February 4, 1902 (p. 135), November 13, 1906 (p. 1146), February 28, 1911 (p. 447), December 11, 1917 (p. 1101), and January 21, 1919 (p. 25), be repealed; that regulations, as follows, be made under section 12 of the Metropolis Management and Building Acts Amendment Act, 1878, with respect to the requirements for the protection from fire of theatres, houses, rooms, and other places of public resort within the Administrative County of London to be constructed or to be kept open for the public performance of stage-plays or for public dancing, music or other public entertainment of the like kind; and that the seal of the Council be attached to three copies of the regulations.

PERCY C. SIMMONS, Chairman.

The Assistants' Professional Union

Midland Counties Branch.

A general meeting of the Midland Counties Branch of the A.S.A.P.U. was held on Saturday, July 1, at The Market Hotel, Birmingham, on the occasion of the visit of Mr. J. Mitchell, General Secretary of the Union.

In an address dealing with some of the many vital questions with which the professions are faced to-day, Mr. Mitchell emphasized the severe overcrowding of the architectural and surveying professions at the present time. He intimated that shortly the Union would endeavour to bring into being District Committees, consisting of both practitioners and assistants, with a view to taking steps to regulate the number of entrants into the professions from time to time. Last year over two thousand students passed through the architectural schools, and many of these, finding that openings are not available, will be forced to begin once more to study in order to enter some other profession. The District Committees will deal with this obvious injustice by deciding each year on the number of students to be admitted to the ranks of the professions, and only that number would be trained by the schools.

In dealing with the subject of local propaganda, Mr. Mitchell urged upon the members present the necessity for putting in hand a social programme for the forthcoming winter session.

At the close of Mr. Mitchell's address a keen discussion took place, and arrangements were made for putting into operation some of his suggestions regarding the branch's social activities.

C. BERTRAM PARKES,
Hon. Sec., Branch No. 10, A.S.A.P.U.

Enquiries Answered

The Editors cordially invite enquiries from readers who require information on architectural, constructional, or legal matters. Answers to enquiries are in all cases the work of experts; and while every care is taken to make the replies thoroughly reliable, the Editors cannot hold themselves responsible for any inaccuracies that may inadvertently occur. Correspondents whose difficulties involve possible legal proceedings are strongly urged to consult their solicitors before taking action on any advice that may be given. Examination questions cannot be answered. It must be understood that, as a rule, both question and answer will be published in these columns. The name and address of the querist must always be given, not necessarily for publication. Correspondents are requested to be as brief as possible, and to write on one side of the paper only.

Tour in Cotswolds.

J. K. H. writes: "What is the best town to adopt as a centre for a tour through the Cotswold Hills with a view to seeing the type of stone house characteristic of the district? The town should be reasonably easy of access by railway from the North, and should have good hotel accommodation."

—Querist should try Chipping Campden (hotels: Lygon Arms and Noel Arms), from which, as well as the incomparable town itself, Broadway, Willersey, Weston-Subedge, Aston-Subedge, and Ebrington may be visited on foot; with a few days at Painswick or Cirencester, from which the southern villages are more readily reached. If a larger town is desired as a centre for motor trips, Cheltenham is excellent. See reports and itinerary of Architectural Association Annual Excursion 1909. G.

Cleaning Old Oak.

"Q" writes: "I am renovating and restoring an excellent sixteenth-century house in which there is a large quantity of oak, which was mostly covered with whitewash (about twenty coats) and plaster. The whole is in excellent preservation. Can you tell me: (1) How to remove the trace of all whitewash without damaging the oak, and (2) How to treat the oak so as to give it a good colour and not allow the whitewash 'stain' to return? It is important that the preparation recommended should not 'run,' as the remaining portions of the walls will be distempered. If linseed oil is used it is thought that the whitewash stain will return, and that the oil will also 'run' on to the distemper at the edges. A large portion of the oak is in the form of moulded beams, and it is important that the treatment should not spoil or disfigure them. (3) How should similar oakwork be treated which is external? There is no paint, etc., anywhere, only just the plain oak."

—(1) As much of the old whitewash and plaster as can be detached by flaking or tapping with a light hammer should first be thus removed. That which remains adherent should be scrubbed off with a stiff brush, using a solution—not over 10 per cent.—of hydrochloric acid in water. Care must be taken in handling this, as it is an irritant to the skin. Repeated applications will probably be necessary to remove the accumulations of lime. When all trace has apparently disappeared from the surface wash over the work with a strong alkaline solution, either sodium carbonate or ammonia, which will remove the bleached effect and leave the surface dark so long as it remains wet. When dry it will again appear somewhat bleached, but of not unpleasant texture, and many people will be satisfied with this effect. (2) If a darker tint is desired the tint of the wet oak may be restored by painting the surface with raw linseed oil. If this is carefully applied as to the edges (like paint) it should not run, as it is a drying oil. If a very dark colour is desired, staining with Brunswick black thinned to the desired tint with turps may do, but this seems vandalism. (3) A similar treatment for external oak should be effective, but if the oak on cleansing shows cavities these should be filled in with stained mastic, and a preservative coat of a creosote stain might be applied.

Demolition of Factory Chimney.

C. F. writes: "Would the demolition of a factory chimney, which it is not proposed to re-erect, constitute a claim for dilapidations on the part of the ground landlord at the expiration of the lease?"

—In the absence of the lease one can hardly reply definitely to this question, and it would be well for the enquirer to consult his solicitor. If the chimney is of any possible use to the premises in their present condition, or as they might be reconstructed, it is extremely probable that its demolition might be claimed as a "dilapidation," but if the term has still some years to run I should risk that eventuality. It cuts both ways. If the lease is shortly expiring, consult the ground landlord before doing anything. F.S.I.

Insulating an Ice House.

G. P. writes: "What is the latest method for insulating ice houses; i.e. houses erected for the storage of, say, 100 tons of ice? In designing ice houses must any special features be embodied?"

—One of the latest ice stores is that erected recently in a basement in London. The insulation was carried out by a Mr. William Taylor, of Tooting Junction Insulating Works, Tooting, and consisted of the following:—

Floor.—Two thicknesses of 3 in. slabs of cork, covered with a surface of 1 in. asphalt laid on site.

Partitions.—Formed of 9 in. studs (about 2 ft. apart), each side covered with 1 in. tongued and grooved boarding and one thickness of oiled paper, filled in with granulated cork up to about 2 ft. above the floor, and above that with slag wool. Not more than 16 lb. to the cubic foot.

Walls.—Similar to partitions.

Ceiling.—Similar to partitions, but all slag-wool filling; no granulated cork.

After completion the whole of the exposed woodwork received two coats of varnish. Another firm who carry out insulating works are Messrs. Wallington Johns & Co., of 13 Crutched Friars, E.C.

Soundproofing Floors.

"A" writes: "It is a common practice in Scotland to deafen floors by placing between the flooring boards and the plaster ceiling below, boarding supported by strips nailed to the sides of the joists, and on this boarding to put lime plaster and ashes. This appears to be an antiquated method, and in any case does not prevent the sound travelling through the solid portion of the floor, i.e. the joists. Would the placing of felt on the top of the joists and nailing the floorboards to the felt be an effective method of deadening sound, and what felt would be best for the purpose?"

—The method described is an old one, and is more effective in producing conditions favouring the development of dry rot than in stopping sound. Slag-wool filling in place of plaster is some improvement, but the passage of sound through the joists is, of course, not prevented. Strips of porous felt laid on the joists partially check this, but the nails of the flooring still convey sound freely. For best results, short of double flooring, the method common in America is most effective. On the joists a rough-boarded under-floor is laid, nailed in the usual way. When finishings are in hand this is covered with felt or Cabot's sheathing quilt, upon which a further layer of 1½ in. square battens is laid (but not nailed) one batten above each joist. The wrought upper floor is nailed to these battens with nails which do not penetrate into or through the quilt, so that the upper floor "floats" on the real structure. This is effective, but, of course, wastes about 2¼ in. in height. E.

British Market for Canadian Timber.

G. S. (Burnley): We learn that an inquiry is being conducted by the Imperial Institute Advisory Committee on Timbers into the possibility of extending the use in Great Britain of the timbers produced in the various countries of the overseas Empire. A report of the committee deals with timbers from British Columbia and the eastern provinces of Canada, and the attention of the Office of Works has been called to the value of British Columbian Douglas fir, spruce, and hemlock for constructional purposes. These woods are now included in their official specifications for Government buildings as alternatives to European woods.

Modern London Architecture

We are glad to note that the daily newspapers are devoting much more attention to architecture and building. Quite recently several of them have published contributions from architects dealing with matters of much importance to the profession. The latest instance is a series of articles in "The Morning Post" on Modern London Architecture, by Sir Reginald Blomfield, R.A. In his first article he deals with architecture as the Cinderella of the arts, and in the second urges that some general control should be exercised over the general treatment of new main thoroughfares.

Sir Reginald, in the course of his articles, says :

In the great days of the eighteenth century intelligent persons took an interest in architecture, and there existed a certain consensus of opinion by which it was possible for the layman to form some sort of judgment on the merits of a building. The result was that architecture at the worst did not sink below a certain level, because the public sense would not stand it.

This state of things no longer exists. Intelligent people take an interest in the art, but they have no accepted standard to refer to. The art critics give architecture a miss. Painting and sculpture are easier copy, and, as architecture is a technical art, there is the risk of getting out of one's depth. Moreover, architecture cannot really be exhibited except in buildings. The only place where an exhibition is attempted is in the architectural room at the Royal Academy, and even there the architects have sold their birthright for a mess of pottage by substituting for the illustration of architectural design water-colour pictures, seldom executed by the architect himself. In the descriptions of war memorials that appear in the papers the only person to whom no reference is made is, with a few favoured exceptions, the architect who designed the memorial. Architecture is out in the cold, the critics turn their backs on her, or, if they condescend to notice her, make her out to be so unattractive that they would have served her better by leaving her alone.

Architecture, if it is to be good, must be efficient for its purpose ; but efficiency for its purpose in architecture has a wider range than it has in engineering or in simple building, because in architecture the appeal to the æsthetic sense has to be taken into account, and if that appeal fails the architecture fails with it. A complicated piece of machinery may be extremely efficient, but it makes no æsthetic appeal, and nobody expects it to. But the Art of Architecture is on a different footing, and we get into dangerous depths if we treat it as a matter of mere construction and skeleton framework, and forget that it is the art of dealing with mass and plane, and that it is a plastic art on the greatest of all scales. Moreover, it is folly to turn one's back on the past and to attempt to throw overboard associations which resolutely refuse to leave a well-found ship.

Owing to financial conditions, domestic architecture, in which the pre-eminent skill of English architects is not seriously disputed, is temporarily out of action ; but in London and other great cities there is considerable activity in the building of large and costly business premises, shops, banks, insurance companies, and the like. There is no escaping these buildings in our daily walks, and the question arises, how far the façades of these buildings justify themselves architecturally.

The point is that it is the tradesman, not the designer, who is mainly at fault, and that if the tradesman had sense enough to realize the value of reticence and dignity in design as a business asset, he would not persist in his demand for these artistic iniquities. That the shrewder among them already realize this is evident from some of the most recent examples.

Some sort of control should be exercised over the general treatment of new main thoroughfares; and if a Commission of Fine Art is established, this might well be included within their terms of reference. As it is, the chief anxiety of the designers of our great business premises seems to be to go one better than the man next door. The inevitable result is that great opportunities are too often wasted, and, though an individual building may be fine itself, its want of relationship to adjacent buildings strikes a discordant note that upsets the whole architectural harmony. Boards of directors, often individually men of taste and refinement, seem in their collective capacity to forget that lavish display and audacious advertisement are not the best that architecture can do for them, and that in dealing with the great opportunities and resources under their control they have a certain responsibility to the public.

A vast apparatus of the Orders, even when correctly done, which is not always the case, is at its best an academical exercise of no interest to anyone but the mere technician, and even less attractive are the various versions of modern French design, which is now the prevailing mode of our great commercial buildings, a manner of design sadly inferior to the great French Classic of the eighteenth century. There is something unreal and inhuman about this borrowed garb.

It is a welcome sign that our best men move steadily towards greater simplicity and reserve in design, that whereas thirty years ago they were intent on the details of Neo-Classic, Neo-Gothic, and the like, they are now occupied with construction, proportion, mass and outline, planes and their relations, large planning in monumental work, effective and practical arrangement in domestic design.

Unification & Registration

The Council of the R.I.B.A. at their meeting on July 3 passed the following resolutions :—

1. That this Council considers the scheme of the Unification and Registration Committee is contrary to the best interests of the public, of architectural education and practice, and the Royal Institute of British Architects in particular, and is of the opinion that the Committee should be dissolved.

2. That each member of the Unification and Registration Committee be thanked for his services, and his appointment cancelled.

3. That a Committee be appointed of members of the R.I.B.A., with power to add to their number and to co-opt, if necessary, non-members of the R.I.B.A. and to obtain expert advice to draft a Registration Bill with a view to its being deposited in November 1922.

4. That a small Committee be formed to consider the revision of the Charter and By-laws, and to report to the Council at the earliest possible date. The Committee to have power to add to their number and to take expert advice. The new Charter to provide for equal voting powers for all corporate members, etc.,etc. A note to be inserted in the Journal asking members to send any suggestions to the Committee.

The Henry Jarvis Travelling Studentship

The Faculty of Architecture of the British School at Rome have decided that, subject to the approval of the Faculty, the Henry Jarvis student will be allowed to spend six months of his second year away from the school in any part of the Mediterranean Basin, it being understood that scholars are allowed under present conditions to travel, during the first and second year, for short periods in Italy and Greece.

University College School of Architecture

Following is a list of prize-winners for the session 1921–1922 :—

Donaldson Silver Medal.
F. Jenkins.

Hubert Batsford Prize.
Best First Year Student, Leonora Payne.

Andrew Taylor Prizes.
Second Year Construction, C. G. W. Eve.
Third Year Studio Work, F. E. Towndrow.

Ronald Jones Prizes.
Mediæval History, J. R. Alabaster.
Renaissance History, M. A. Sisson.

Lever Prizes in Architecture.
First Prize, M. C. Glover.
Second Prize, F. E. Towndrow.

Lever Prizes in Town Planning.
First Prize, K. A. A. Ansari.
Second Prize, R. N. Vanes.

"Architects' Journal" Essay Prize.
J. B. Wright.

The following students gained First Class Certificates in the session 1921–1922. (These certificates carry exemption from the R.I.B.A. Intermediate Examination) :—

Alabaster, J. R.
Armitage, H. M. A.
Burckgardt, E.
Cooper, J. B.
Dixon, B. E.
Eve, C. G. W.
Greenidge, J. T. W.
Hargroves, Amy.
Harriss, J. D.
Hawkins, J.
Hill, J. R.
Hobday, R.
Hope, A. F.
Jayasuriya, P. C. R.
Luke, R. L.
Mace, G. M.
Morgan, G. L. Ll.
Nicholson, G. T.
Pouschkine, Barbara.
Rea, H. F.
Short, C. H.
Sisson, M. A.
Stedman, L. R.
Stokes, L. G.
Studdy, Edith.
Sutcliffe, B. L.
Sykes, C. G.
Towndrow, F. E.
Unwin, E.
Wilson, Louise.
Wright, H.

The following students gained Town Planning Certificates, session 1921–1922 :—

Ansari, K. A. A.
Hudson, R. A.
Jayasuriya, P. C. R.
Seneratnem, O. T. F.

The Week's News

Housing at Leeds.

During the past twelve months 1,048 houses have been completed at Leeds.

The New County Hall.

The King opens the new County Hall on July 17.

Barking Town Hall.

Barking Town Hall, built in 1567 by Queen Elizabeth, is to be restored.

Lord Rosebery and Glasgow University.

Lord Rosebery has subscribed £5,000 towards the new schemes of Glasgow University.

New Church for Ventnor.

The old building of St. Alban's Church has been removed, and the erection of the new permanent church will commence forthwith.

New School for Berwickshire.

A new school is to be erected at Eyemouth, by the Berwickshire Education Authority, from plans by Mr. G. R. Black, architect, Edinburgh.

No more Houses for Chesterfield.

The Ministry of Health have declined to allow Chesterfield Town Council to erect fifty houses on the Highfield Hall estate.

Frescoes for Selfridge's.

We understand that Mr. Gordon Selfridge has commissioned Mr. Frank Brangwyn to paint frescoes in the dome of his new store.

Contractor's £580,000 Fortune.

Sir John Scott, Bart., of Darlington, Durham, who carried out big contracts in the construction of reservoirs and docks, has left a fortune of £582,165.

Town Planning at Llandaff and Dinas Powis.

Mr. F. M. Ellwood has been appointed expert adviser to the Llandaff and Dinas Powis Rural District Council with regard to the town-planning scheme.

Shortage of Houses at Middlesbrough.

During the discussion of proposals concerning provision of work for unemployed at a meeting of Middlesbrough Town Council, it was stated that Middlesbrough was 3,000 houses short of requirements.

White City for Sale.

The exhibition ground at Shepherd's Bush known to London as the White City, and famous throughout the world for the international displays that have been held there, is now for sale.

The British Empire Exhibition.

Great progress is being made with the erection of the British Empire Exhibition at Wembley Park. Messrs. John W. Simpson and Maxwell Ayrton, FF.R.I.B.A., are the architects.

More Houses for Bo'ness.

At Bo'ness thirty-two additional houses are to be built in connection with the housing scheme, and the average price works out at £620. These dwellings are three, four, and five apartments.

Estate Agent for Chesterfield.

Chesterfield Municipal Housing Committee have appointed Mr. W. Illingworth, of Bradford, as estate agent, at a salary of £300 per annum, to begin duty on August 1.

Manchester Operatives and the Wage Reductions.

Trade unionists recently met in Manchester and passed a resolution demanding that the executive members who agreed to the last wages reduction should resign immediately.

Housing at Northampton.

Northampton Town Council, having decided to build 100 houses without the Government subsidy, have accepted tenders for forty houses of the non-parlour two bedroom type, at prices ranging from £325 to £337.

Fort Pitt Hospital to be Closed.

Fort Pitt Military Hospital, Chatham, is to be closed down. The fort was originally built as part of a line of fortifications during the Napoleonic wars in preparation for a possible invasion, and later became a military hospital.

Electrifying the S.E. and C.R.

Shareholders of the South-Eastern and Chatham Railway Companies have approved the scheme for electrifying parts of the railway. The scheme, which aims at the electrification of 220 miles of line to a distance of sixteen miles out of London, will cost £6,500,000.

New Peterhead Academy.

Mr. J. A. Ogg Allan, F.R.I.B.A., is the architect for the New Peterhead Academy which is to replace the one destroyed early this year by fire. The new buildings, which are to be erected for the Aberdeenshire Education Authority, will cost about £27,000, excluding fittings and equipment.

"Statue of Liberty" for Portsmouth Harbour.

Portsmouth's war memorial is to be a stone monument 100 ft. high on Southsea Common, near the entrance to Portsmouth Harbour. At its base, looking north, south, east, and west, will be four lions. The names of all those whom the monument commemorates will be recorded upon bronze panels.

New Hotel for Lyons.

Another "Corner House" for London, almost facing the Marble Arch, is contemplated by Messrs. J. Lyons and Company, who have just secured the last three blocks of buildings in the important site in Oxford Street lying between Portman Street and Edgware Road. The total area of the three sites is 160,000 square feet, and the property comprises part of the Portman estate.

New Works for Messrs. J. S. Fry and Sons, Ltd.

Far-reaching extensions by Messrs. J. S. Fry and Sons, Ltd., of Bristol, are being carried out at Keynsham, a few miles from the city on the main Great Western line to London. On a stretch of about 300 acres, new factories are rising and roads, wharves, and railway sidings are taking shape. There are to be playing fields, bathing pools, and other amenities for the workers.

The "Old Stone Age."

The first volume of Mr. C. H. B. Quennell's "Everyday Life Series," dealing with the Old Stone Age, published by Messrs. Batsford last Christmas, has now been issued in America by Putnams. The different conditions of the transatlantic book market have enabled the American publishers to bring it out in a larger and ampler form at the price of $2.50.

£30,000 for Marlborough College.

At the Prize Day ceremony at Marlborough College the Master, Dr. Cyril Norwood, announced that Mr. Herbert Leaf proposed to present to the college the sum of £30,000 to pay the whole cost of installing electric light at the school, and it was his wish that the balance, which would be considerable, should be devoted to the purposes of a war memorial hall.

New Isolation Hospital for Swansea.

Swansea Health Committee have approved plans and drawings for the new isolation hospital which it is proposed to erect on the grounds of Hill House at an estimated cost of £118,252, with an additional £6,000 for furnishing. Accommodation is to be provided for 118 beds. The committee have applied to the Ministry of Health for sanction to borrow £124,250.

Higher Buildings.

Official notification has now been received by the Association of Retail Distributors that the L.C.C. have amended their building regulations in the following particulars: A general height of 80 ft. from the pavement level to the ceiling of the topmost floor is permitted in place of the old limit of 50 ft. A space limit of 500,000 cubic feet is permitted for the area of any one self-contained compartment, with a maximum floor area of 40,000 square feet.

The Late Mr. W. L. Bernard, F.R.I.B.A.

We regret to announce the death of Mr. William L. Bernard, F.R.I.B.A., at the age of seventy-eight. He was articled to the Bath City Architect, was appointed architect to the Bristol School Board in 1888 and had an extensive practice as a school architect. Among the big buildings for which he was architect was the Queen Victoria Jubilee Convalescent Home. He was a past president of the Bristol Society of Architects, a Fellow and member of the Council of the R.I.B.A.

Late Eighteenth-century Decoration and Furniture.

Miss Margaret Jourdain has prepared for early publication with Messrs. B. T. Batsford an important illustrated work on the Decoration and Furniture of the later Eighteenth Century. The volume will treat of the interior work of all the chief architects of the period—the Adam Brothers, Taylor, Dance, the Wyatt Brothers, Stuart, Leverton, Holland, and a number of brilliant decorative painters, native and foreign, Zucchi, Angelica Kauffmann, Rebecca, Pergolesi, Ibbetson, and others.

International Theatre Exhibition.

Queen Mary has paid a visit to the International Theatre Exhibition at the Victoria and Albert Museum. Among recent additions to the exhibition are two important models by Signor Mariano Fortuny. One of them is a very complete mechanical model of the canvas cupola invented by Fortuny for sky and lighting effects, and carried out by him in the Scala Theatre, Milan. The model shows how the canvas cupola can be folded up and moved to the back of the scene when other scenery is required in front. A second model, lighted by electricity, shows the effect of the cupola with a Venetian scene. Another addition is a large model of Drury Lane Theatre before the alterations made in 1921. This model, which was executed by Mr. J. H. Hollyman, is lent by Miss Renée Mayer.

New A.R.A.'s.

At a General Assembly of Academicians and Associates of the Royal Academy, Mr. Frederick Landseer Griggs and Mr. Henry Macbeth-Raeburn have been elected Associate Engravers. Mr. Griggs, who is a Fellow of the Royal Society of Painter Etchers and Engravers, has illustrated the collected works of William Morris, the "Life of G. F. Watts," "Memorials of Edward Burne-Jones," "Old Colleges of Oxford," "History of Eton College," "Highways and Byways in the Cotswolds," and many other topographical publications. He is a constant exhibitor at the Royal Academy, and his works have been purchased by the British Museum, South Kensington Museum, and other public museums and galleries at home and abroad. Mr. Raeburn, the son of Mr. Norman Macbeth, R.S.A., obtained his art training at the Royal Scottish Academy and at Julian's Studio in Paris. He started as a portrait painter in London in 1884, and became an engraver six years later. He has engraved plates after all the well-known masters, and has constantly shown at British and Continental exhibitions since 1884.

Conditions of Contract

The negotiations between the R.I.B.A., the Surveyors' Institution, the Society of Architects, the National Federation of Building Trades' Employers, and the Institute of Builders, which have been proceeding for some time with a view to the preparation of a Standard Form of Contract for building operations, have reached their final stage. A conference of representatives from the above bodies has appointed a Drafting Committee, which is already at work on the contract document. All matters on which the parties fail to reach an agreement will be referred to arbitration by a Tribunal of Appeal, consisting of one representative each of the builders and the architects, under the chairmanship of Sir William Mackenzie, K.C., President of the Industrial Court. Sir William is well known as an arbitrator in industrial disputes, and the acquisition of his services is of the greatest importance to the interests concerned. His appointment was made with the consent of the Ministry of Labour. The expenses of the preparation of the Standard Form of Contract will be borne jointly by the parties interested, and the Council of the R.I.B.A. have voted a sum of £200 for this purpose. It is hoped that the five spending departments of H.M. Government will accept the invitation extended to them to appoint representatives to assist the Drafting Committee.

Correspondence

Architect and Craftsman

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I entirely agree with the remarks of "Architectural Sculptor" in your last issue, but the Gothic architect is in a sorry plight unless he can find a Gothic sculptor.

If such sculptors as worked on Chartres or Wells existed to-day I, for one, would never have dreamed of making any drawings for the sculpture required for our buildings. C. F. A. VOYSEY.

Unification & Registration

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have received a circular letter this morning (July 6) from the Council of the R.I.B.A. informing me that at their meeting on July 3 they passed the following resolutions :—

1. That this Council considers the scheme of the Unification and Registration Committee is contrary to the best interests of the public, of architectural education and practice, and the R.I.B.A. in particular, and is of opinion that the Committee should be dissolved.

2. That each member of the Unification and Registration Committee be thanked for his services, and his appointment cancelled.

In my view, resolution No. 1 is merely a pious expression of opinion by the Council of one of the constituent bodies composing the Unification and Registration Committee, which is premature in view of the fact that the Committee has not made its report. I consider it unfortunate that the Council of the R.I.B.A. should have issued this resolution without consulting the Committee.

I further consider that resolution No. 2 is "ultra vires," and I submit that the Council of the Institute has no power to cancel those appointments on the Committee made by other constituent bodies.

On the matter generally I submit with great respect that it is very unusual for a Committee to be discharged before it has made its report, and that if in the opinion of the Institute Council the Unification and Registration Committee should be discharged at this stage of the proceedings, the proper course is for the Committee to be called together to consider the views of the Council of the Institute on the subject.

If the Committee is eventually discharged with its knowledge and consent either before or after it has made its report to the councils of the constituent bodies, I submit that it would be more in accordance with the fitness of things and with precedent for the Council of the Institute to communicate the fact to the officials of the other constituent bodies rather than send an open unidentified circular letter to the individual members of the Committee purporting to cancel their appointment.

C. McARTHUR BUTLER,
Secretary of the Society of Architects.

New Inventions

Latest Patent Applications.

17041.—American Arch Company.—Brick arches. June 20.

17249.—Brereton, C. A.—Manufacture of compositions for paving, roofing, etc. June 22.

17394.—Cummings, C. L.—Brick building lintel. June 23.

17320.—O'Brien, H. F.—Portable house. June 23.

Specifications Published.

181092.—Sanguinetti, D.—Coloured artificial asphaltum.

181098.—Rogers, R. H.—Beams, or like structural members, for use in reinforced concrete construction.

Abstract Published.

179204.—Artificial stone.—Lamarque, R., 106 Boulevard d'Armentières, Roubaix, France.—In the manufacture of artificial stone from natural stone fragments the latter are crushed and graded by sifting, and the graded material is further crushed and sifted alternately until a dust-free product of uniform fineness corresponding to the natural grain of the stone is obtained. If the stone is crushed wet the grading is effected by repeated washings. The crushed stone is agglomerated by means of a binding-agent capable of hardening in the air or by baking. Pure or mixed cement, coloured or otherwise, burnt of wet clay, or kaolin may be used as binders. The composition may be applied to a core of reinforced concrete. After treatment with acids to remove calcium salts from the surface, the stone may be polished in the known manner.

The above particulars are specially prepared by Messrs. Rayner & Co., Registered Patent Agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

List of Competitions Open

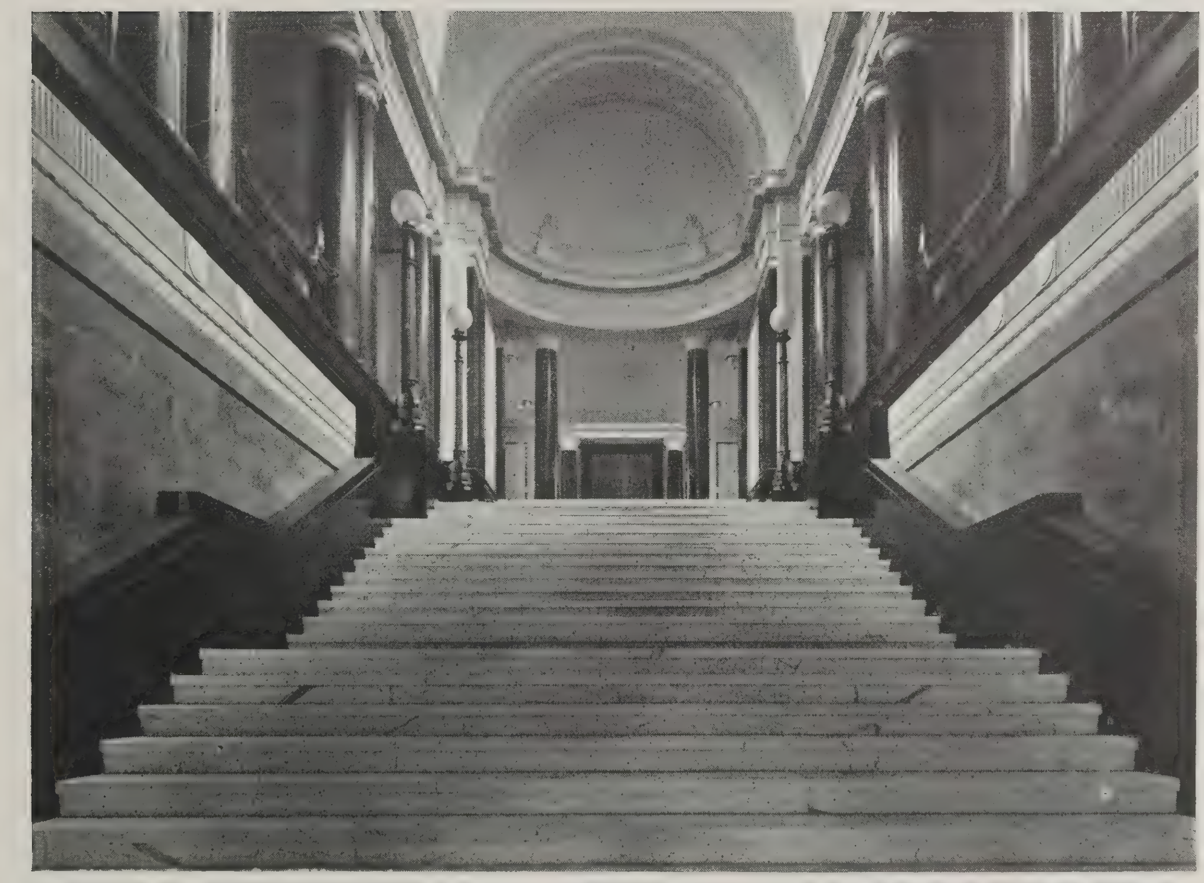
Date of Delivery.	COMPETITION.
July 15	Poster to be used at the R.I.B.A. for advertising the exhibitions of drawings which are held from time to time in the Galleries. Premium £5 5s. Assessors—Mr. Halsey Ricardo, F.R.I.B.A., Professor S. D. Adshead, M.A., F.R.I.B.A., and Mr. Alfred Cox, F.R.I.B.A. Apply Secretary, R.I.B.A., 9 Conduit St., W.1.
Nov. 1	New Town Hall and Municipal Offices in Victoria Park, Colombo. Cost not to exceed Rs. 1,000,000. Premiums Rs. 5,000, Rs. 3,500 and Rs. 2,000. A F.R.I.B.A. will act as assessor. Apply Secretary, Municipal Council, Colombo. Deposit Rs. 25.
No Date	Lay-out of Land at West Cliff, fronting the sea, in Promenades, Recreation Ground, Roads, and Building Plots. Premiums £300, £200, and £100. Apply Mr. A. Blasdale Clarke, Town Clerk, Albion House, Ramsgate.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guiueas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.

Wednesday, July 19, 1922.

Vol. LVI. No. 1437

THE ARCHITECTS' JOURNAL & Architectural Engineer

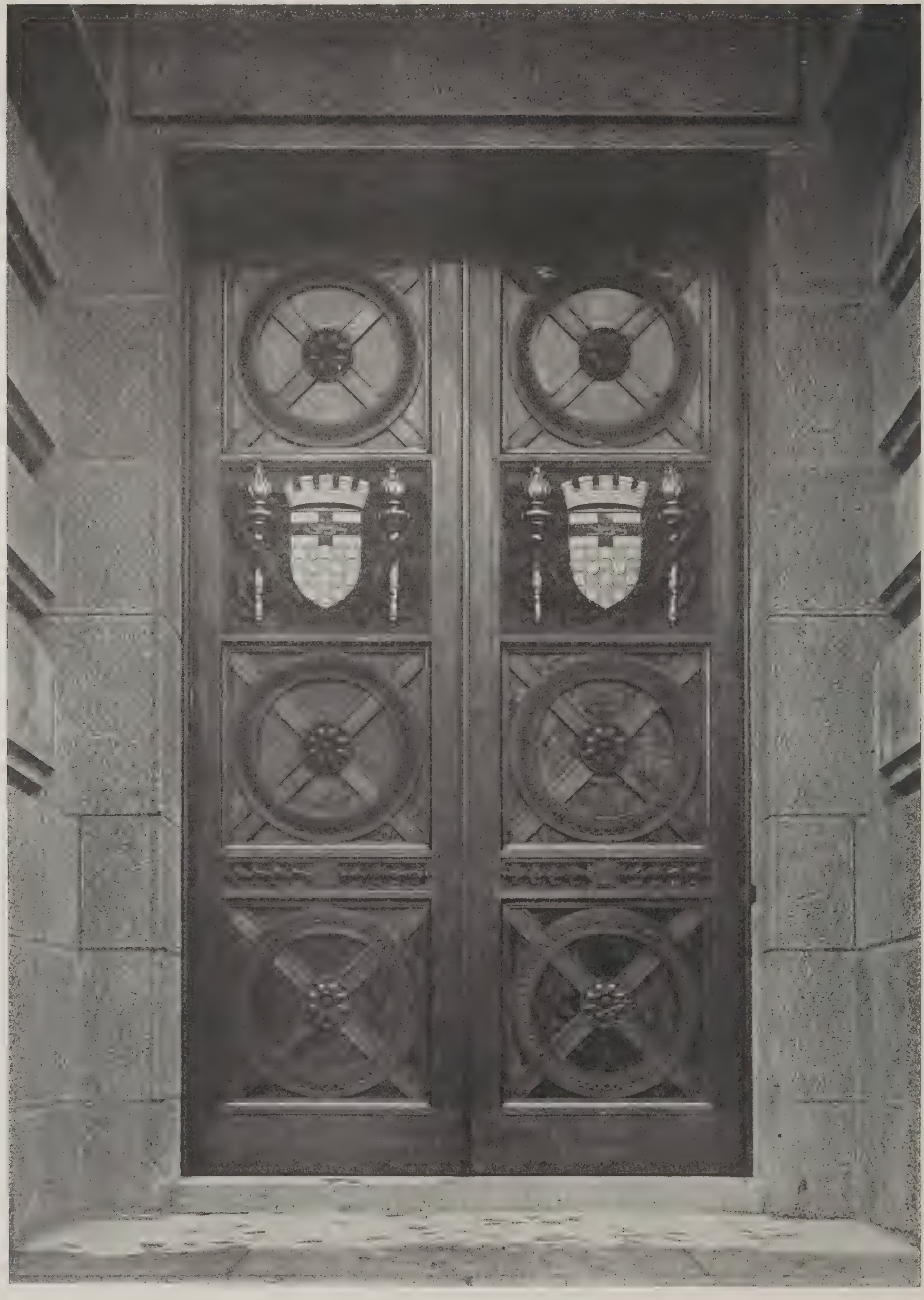
With which is incorporated "The Builders' Journal"



A VIEW OF THE CEREMONIAL STAIRCASE IN THE LONDON COUNTY HALL.

27-29 Tothill Street, Westminster, S.W.1.

Current Architecture. 158.—The London County Hall : Detail of Bronze Doors



The entrance on the Belvedere Road front is intended to be used primarily for ceremonial purposes, and special attention has been given to the design of the doors, which are excellent examples of modern craftsmanship in bronze. Two of the panels are occupied by the arms of the L.C.C. in heraldic colours. (See article in this issue).

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, July 19, 1922

Volume LVI. No. 1437

Does London Lack Civic Courage?

IF the alleged "Economists" were allowed to have everything their own way, they would leave the new London County Hall unfinished for ever and aye. They have already grumbled at the wanton extravagance of placing a marble veneer over walls that could have been distempered at much less expense. And queruously they ask: Why all those fancy fittings in the Council Chamber?

Considering that Londoners are spending some four millions sterling on their County Hall, the present moment is rather inopportune for urging them to spend freely on building nobly, or for charging them with any sort of meanness; and, moreover, right nobly have they come to the rescue of such architectural treasures as the ancient church of St. Bartholomew-the-Great, of the Abbey of St. Peter at Westminster, and now of the East Minster, more familiar as St. Paul's Cathedral, towards the preservation of which the sum of ten thousand pounds has been raised within a fortnight, and mainly in London. How unjust it would obviously be, then, to accuse Londoners either of meanness in money matters or of holding mean views of London and her public buildings!

It is not meanness, but modesty, that prevents the expansion of London through the enterprise of her own citizens, who too often leave it to the Colonies, and to American men of business, to put up colossal buildings in our midst, and to make strenuous attempts to overcome the native aversion to disproportionate height. Unfortunately this native modesty is commonly in excess. The Londoner is peculiarly liable—or his elected representatives are—to intermittent and alternating hot and cold fits, a spasm of lavishness being succeeded by a severe attack of griping Economy, disqualifying the patient from carrying out in a bold spirit his originally bold intentions. Tennyson must have had such instances in mind when he warned our race to "Pray Heaven our greatness may not fail through craven fear of being great."

The national tendency that has passed into a proverb about "spoiling the ship for the sake of a ha'porth of tar" should find no illustration in the case of the new London County Hall. To a public groaning grievously under abnormally heavy burdens of rating and taxation, it would seem almost cruel to suggest that the equipment and adornment of the County Hall should be forthwith completed with a lavish hand. Yet innumerable examples of the dangers of postponement should counsel a more courageous course. St. Paul's Cathedral, as a notorious instance, has remained for centuries inadequately decorated, and to that extent unfinished; while the Parthenon-like fragment on Calton Hill has excited two or three generations of derisive comment, as "Edinburgh's folly," "Scotland's disgrace," "Athens abridged," and so forth.

There is nothing that provokes more ridicule and contempt than an abortive scheme; and if it should chance by ill-hap that London's County Hall falls into the too-familiar category of "white elephant," the gibe should be incapable of literal interpretation as to the colour of the animal. The County Hall should show colour—warm and smiling—within and without.

To some extent it is already invested with that gracious feature, its interior marble decorations redeeming the promise of its red-tiled roofs; concerning which latter, by the way, certain newspaper writers have made haste to be hypercritical. In condemning the "flaring," or "staring," or "glaring," or "daring" red of these tiles, the critics seem to overlook the mellowing influence of age, on which the architect has naturally counted. He may have heard also a rumour concerning the "saddening" effect of London smoke—"saddening" in the dyer's sense as well as in the emotional effect on the observer. Soot and the weather may be depended upon to subdue any tendency of the tiles to be unduly gay to the scandal of the Puritanical Londoner. Let it be duly appreciated at home and abroad that there are certainly Londoners who have civic pride and who must be credited with clearness of vision. It is to such as these that we owe the very inception of the County Hall; and they carried the project through in defiance of the taunts of "Little Londoners," who could not or would not understand that the object was not "self-glorification," as they fatuously called it, but a clearer recognition than their own of what was due to the greatness of London. The worthier view has to a great extent prevailed, and London's County Hall is much more than a commodious building into which the scattered departmental clerks could be collected from the various outlying buildings where they were only accessible after consulting the telephone book and the Post Office Directory. And it is also much more than a place in which County Councillors can wrangle in comfort over some vital question of reducing (or increasing) the rates by a farthing in the pound.

The London County Hall has much higher functions to fulfil—functions that are not merely administrative, palpable, practical. Its projectors meant it to be also significant, symbolical of the greatness of the capital of a great Empire. It is, if you will have it so, a monument to London's civic pride, which, as all enlightened psychologists know, is not a vice to be condemned, but a virtue to be visualized and encouraged; for London Pride will make this stately civic palace an incentive to noble building in the immediate future, and especially in the immediate district.

London's County Hall, being fit for a king to open, is not unfit to be a near neighbour to Barry's magnificent pile on the opposite bank of the river—that river which flows between as "liquid history," or is thus construed by that great Londoner and erstwhile eminent County Councillor, John Burns.

To Lord Rosebery (the Council's first chairman), to John Burns, and to all other Great Londoners who have worked hard for London's aggrandizement, or for her redemption from sordidness, all honour and praise in this their hour of triumph and rejoicing over the partial fulfilment of their dreams and hopes. Sir John Benn, and many another stalwart friend of London, would have rejoiced to see the opening by His Majesty the King of London's civic Parliament. For London's new County Hall shall stand as a perpetual and not ignoble memorial to the awakening of London's civic consciousness and as an enduring testimony that London does *not* lack civic courage.

Notes and Comments

Higher Buildings Risks

STRONG objections against increasing the permissible heights for London buildings continue to be urged. One of the strongest recently advanced is "the serious aggravation of the traffic problem which must result if the available 'floor-space' in the central portion of this great city is increased beyond what is attainable under existing regulations." Already the means of transit to and from town are, at certain hours, tremendously overworked, and to board 'bus, train, or tram at such times is an exciting adventure in which lives and limbs and pockets are alike unsafe; but if the competitors for places were multiplied a hundredfold, as they would be if "skyscrapers" suddenly became numerous, the struggles at the termini would become as terrific as they are in New York or Chicago. And inconvenience is by no means the greatest of the ills of this congestion. A gentleman signing himself (in a letter to "The Times") "Winchester House," does not greatly, if at all, exaggerate the case in declaring that "to those who travel to and from the outer fringe of London the aggregate of hours given to standing or being stifled comprises a mild form of purgatory, and a positive injury to health." There is no room for doubt about the standing and the stifling—no room for anything, in fact, inside or outside; and the "positive injury to health" that must accrue from the close packing of persons, of whom a percentage may be only too safely assumed to be suffering from some form of transmissible and perhaps deadly disease, is a risk that should in no avoidable circumstances be increased. There is no necessity to increase it by exaggerating the height of London buildings and hence multiplying indefinitely the number of persons occupying a given area.

Inefficient Cottage Ranges

Something should be done about the cottage range. Indeed, something has been done about it. An investigation into the subject has been conducted by Mr. A. H. Barker at the request of the Fuel Research Board. Mr. Barker finds, in effect, that the cottage range suffers in efficiency from having, as it were, too many irons in the fire—is, it would seem, a Jack-of-all-trades and master of none. It is called upon to perform half a dozen functions, and is remarkably inefficient in them all, mainly because it is asked to do several different things simultaneously. All that is really necessary to it may be just a hot plate, but commonly "the hot plate cannot be heated without simultaneously heating the oven and the hot-water supply," great extravagance in fuel being thus involved. Whereas in an apparatus of special design an efficiency of 30 per cent. was easily obtained, the highest percentage obtained with common types was about 11 per cent., the average being about 7 per cent. The test for efficiency in hot-water supply showed an average of 11 to 12 per cent. against an efficiency of 45 in a range designed by the investigator, who recommends that, in the interests of economy, each portion of the plant should be designed for maximum efficiency separately. In an ordinary coal-fed range, wasteful in its fundamental principle of design, this segregation of functions is difficult to secure, but is common enough in the gas-heater or cooker; which also meets—or, rather, has anticipated—the investigator's recommendation of a communal or central heating system. As yet it is not possible to install central systems everywhere, nor is gas available in all the remote districts in which there are cottages. Consequently there must be many persons in the predicament of the gentleman who, writing to the Press, states that while wishing to abolish one of the ranges that the report condemns, he is at a loss to know what to put in its stead. "Cooking," he says, "can obviously be done by gas, but the question to which we all want an answer is: 'What is the best type of heating apparatus for supplying hot water in a small house?'" Many manufacturers are no doubt prepared to take up the challenge with confidence. The question of design should not be entirely forgotten. It is one that should be submitted to the architect more often than it is; although there are certainly a few manufacturers who are well aware of the value of architectural advice in such matters.

House, Road, and Motor

While much attention is being given to the effect of heavy traffic on the roads, there is, as Mr. Futvoye Francis, F.S.I., has said, an aspect of the subject that is unduly neglected. Roadside houses are being shaken to pieces by the rolling loads that are so destructive to the roads themselves. Bricks and mortar, Mr. Francis remarks, cannot stand the strain, but he does not suggest an alternative mode of construction; nor does he mention the havoc wrought on plaster ceilings, which are easily shaken down by the lumbering lorry-loads, omnibuses, charabancs, that rumble past with the effect of earthquake shocks. Reinforced concrete structures would no doubt offer more resistance to vibration than those of ordinary brickwork, which naturally "spring at the joints" when severely shaken; and boarding of one kind or another, plain or composition, gets rid of the inherent weakness of lath-and-plaster. On such matters the designers of houses, of roads, and of motors, should meet in consultation, with the object of solving a very serious problem of rather violently clashing interests. Sir H. R. Fairfax-Lucy, of Charlecote (how delightfully redolent these names of the escapades of the youthful Shakespeare!) supports Sir Walter de Frece's plea for taking in hand at once and "on a large scale the whole question of scientific and up-to-date road reconstruction to carry the enormous amount of modern traffic." Sir H. R. Fairfax-Lucy recalls that when he was a member of the Departmental Committee of the Ministry of Transport he pressed for a complete revolution in the methods of road-making. This opinion he now reiterates, adding that the alternative to this revolution is that this heavy motor traffic must pay proportionately to the damage that it does, "in which case it would probably be driven off the roads." Apparently he is among those who would not greatly regret this contingency, seeing that these heavy vehicles "are making the roads impossible for light motor traffic, unsafe for all other kinds of traffic, and are throwing an unbearable burden upon the ratepayers." A heavy indictment; and to it is to be added, as we saw above, the further charge that it shakes to pieces the wayside houses.

Co-operation with and among Architects

The British pavilion at the Brazilian Centenary Exhibition, Rio de Janeiro, is a notable example of happy co-operation between artists of various denomination. Messrs. John W. Simpson and Maxwell Ayrton, who designed the pavilion, had the enthusiastic help of Mr. Charles Sims, R.A., Keeper of the Royal Academy; of Mr. Anning Bell, R.A.; and of Mr. Reginald Bell, the artist in stained glass. Here is the interesting point that arises: these are all artists of marked individuality of style and temperament, and yet they have worked together in closest and most cordial sympathy and unity with most harmonious æsthetic effects. This result is of happy augury for the artistic success of the British Empire Exhibition, concerning which, by the way, it was stated officially in the House of Commons, on the occasion of the third reading of the Amending Bill for its sanction, that the formal opening of the Stadium is to take place next April. It is believed that the next Football Cup Tie match will be played there, where 125,000 spectators may assemble round a playing pitch of three acres.

The Rome Scholarship in Architecture, 1922

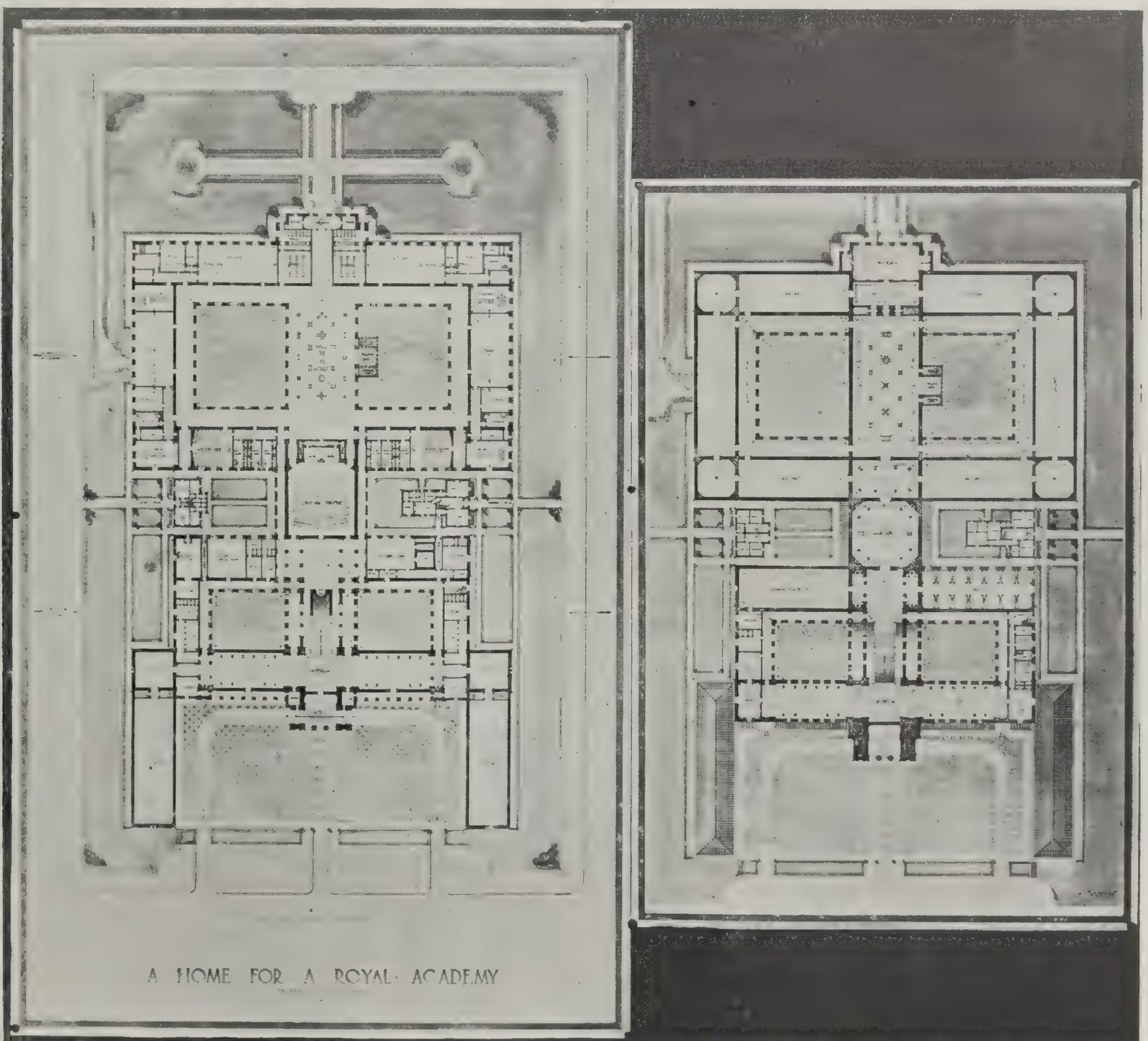
A Criticism of the Designs

THE drawings submitted in the Final Competition for the Rome Scholarship in Architecture, 1922, are now on view at the Galleries of the Royal Institute of British Architects.

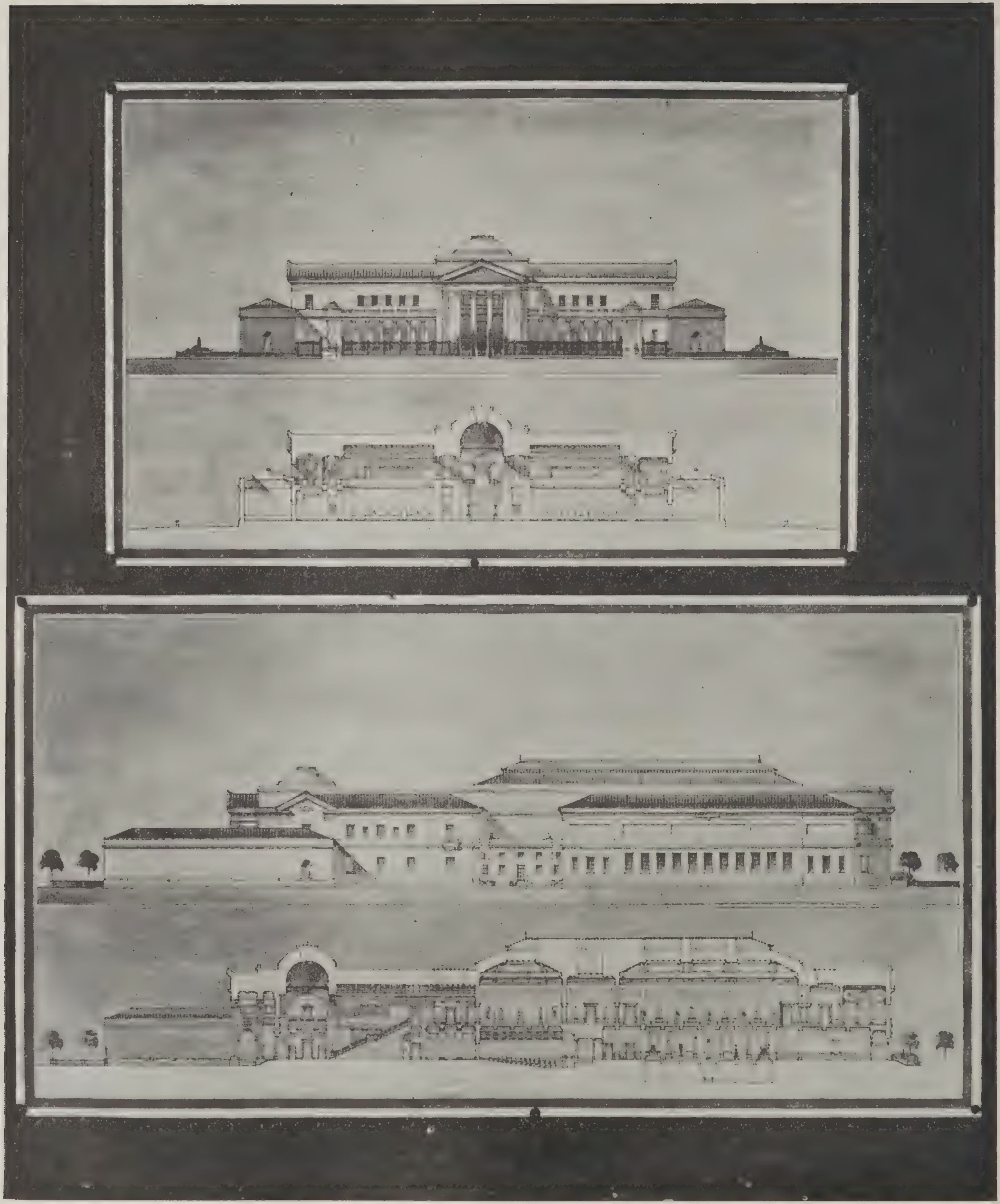
The subject set was "A Home for a Royal Academy Fronting a Public Square, forming the Centre of a Capital City." The buildings were to be on an island site 650 ft. by 40 ft., with wide roads all round, and a main thoroughfare 160 ft. wide on the central axis. The accommodation is generally divisible under two sections—administrative and educational—the administrative part to include a court of honour, large entrance vestibule, registrar's offices, and grand staircase leading on the first floor to galleries, library, banqueting hall, council room, etc.; the educational division with a separate entrance to consist of schools of painting, sculpture, architecture, and engraving, two lecture-rooms to seat 100, and one large lecture theatre —accessible from the public side of the building—to seat 300. The programme is very clearly drawn up with divisions and sub-divisions so as to leave no room for ambiguity.

In the nine designs submitted there is a general agreement in the disposition of departments. There is also a markedly uniform level of excellence reached by all competitors, so that it would be impossible on a merely superficial survey to decide on their varying merits. All have adhered closely enough to their sketches done during the first thirty-six hours. With regard to the sketch itself there seems some slight doubt as to what is required. Some merely indicate the general intention of the competitor, others are so finished as to allow little opportunity for modification of the design. These sketches on the whole lack conviction, and in some cases the finished design shows little or no improvement on the first idea. A certain inability to develop the "esquisse" characterizes most of the work.

There is no display of conspicuous draughtsmanship in the exhibition. The presentation generally is sober and sufficient, the prevailing monotone being noticeable. The drawings show timidity in shading and in the relative treatment of planes. In rendering plans some competitors omit detail, while others, obviously influenced by Beaux-Arts methods, have laboriously covered floor and courts with elaborate mosaic patterns, thus conclusively demonstrating their limited understanding of these methods. All designs naturally show such minor faults as are common



"A HOME FOR A ROYAL ACADEMY.'
THE WINNING DESIGN BY STEPHEN WELSH, A.R.I.B.A. (LIVERPOOL UNIVERSITY)



"A HOME FOR A ROYAL ACADEMY."

THE WINNING ROME SCHOLARSHIP DESIGN BY STEPHEN WELSH, A.R.I.B.A. (LIVERPOOL UNIVERSITY).

not only in students' drawings, but in all competitive work executed in haste under high pressure.

There is no reason for disappointment in the work shown. Twenty years ago no student would have been capable of producing such drawings single-handed in the ten weeks allotted. All the nine competitors are to be congratulated on their work.

The design placed first and awarded the Rome Scholarship is that of "Avon." It shows restraint and scholarship, and the subject is handled with skill and confidence. The plan, however, is not a very simple solution of the problem. In addition to a forecourt there are four internal courts and two open on one side, all of which are naturally small owing to the limitations of the site. The main front is hardly appropriate to the purpose of the building. The large portico seems to have little justification for its existence except to provide a box for the porters in the thickness of its walls. The dome over the vestibule is also too high to be effective internally. The grand staircase is a fine feature. It rises easily and directly to an ample space in front of the reception-room. The planning of this staircase should be the central motive of the whole design, and "Avon" and one other are the only competitors who have realized this and given it the necessary importance. The development of vestibule, grand staircase, and reception galleries on the main axis of the building is well conceived and entirely successful.

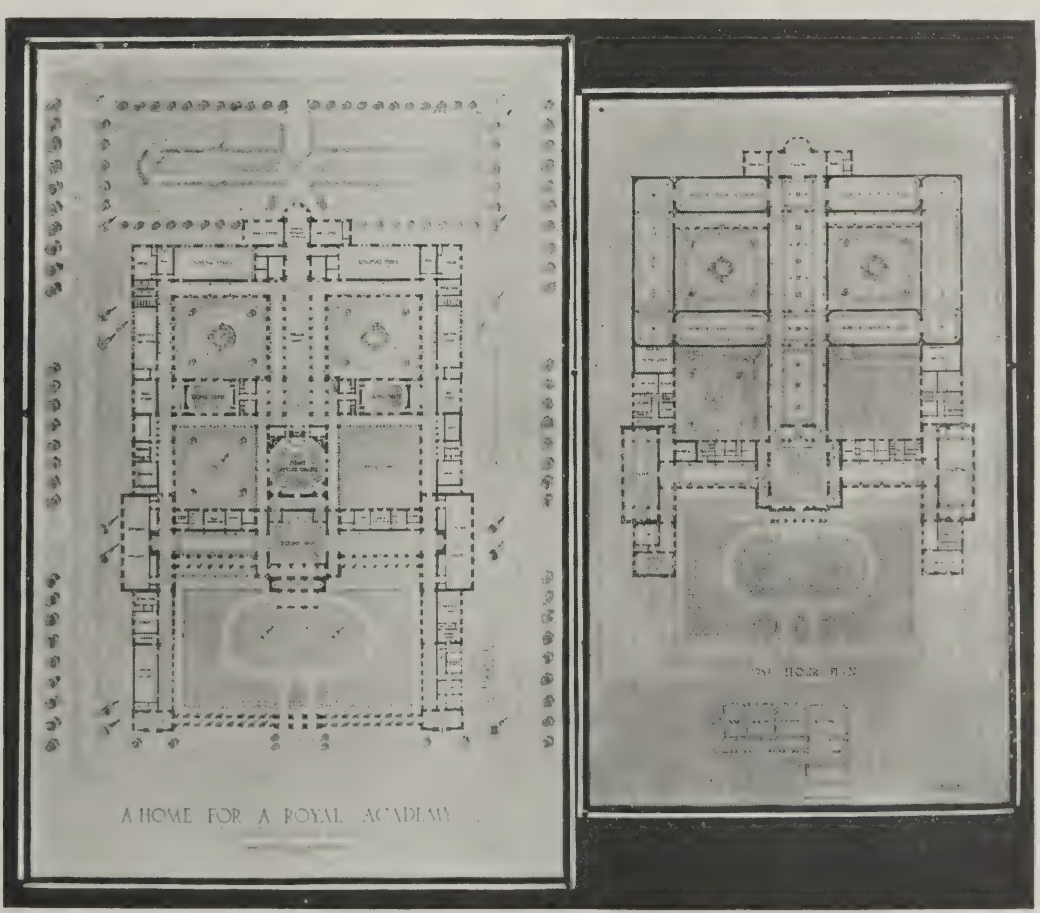
"Timgad," who is placed second and is awarded the Jarvis Studentship, has a simpler plan with four courts. It is, however, in detail inferior to Avon's. The grand staircase is involved and troublesome. It projects far into the vestibule, divides left and right, and finishes on the threshold of the gallery. By this arrangement of his vestibule and staircase he interrupts communication along the front of the building on the first floor. His elevations show ability, and some will probably prefer them to those of the winner. His sense of composition is, however, weak, and his work suffers from over-emphasis of subordinate features. The design, while displaying a lack of experience, is full of promise.

Of the other designs that by "Ono" deserves attention. His drawings are complete and carefully presented. The plan shows a sense of economy, and the accommodation is arranged round two courts. But this solution involves two corridors with borrowed light on the ground floor. He is the only man beside the winner who has a ceremonial staircase which is direct and well designed. The elevations have the "reticence" suggested in the conditions, and are well composed and chaste in detail.

"Belghian" goes rather far—too far, we are inclined to think—in his sketch. His plan is faulty in detail—the keeper's house impossible. (These quarters seem to have been a stumbling-block to most of the competitors.) Here is a design in which the author would have been better employed in solving the many difficulties of his plan rather than in covering the ground with elaborate patterns. The staircase is reminiscent of the Bordeaux Theatre, and the elevations betray an affection for the style of the Petit Palais, Paris.

"Tony" wasted time in inking in his sketch. That as a design it needed further consideration is proved by the fact that he was eventually obliged to depart from it to an extent which might have disqualified him. The single court is practically filled by a central block, and the double staircase of the sketch has been abandoned for another, little better, which projects too far into the vestibule.

"Baldaruzzi's" cheap pseudonym is typical of his work. His work is full of slick draughtsmanship and the hectic piling-in of meretricious detail badly proportioned and in-



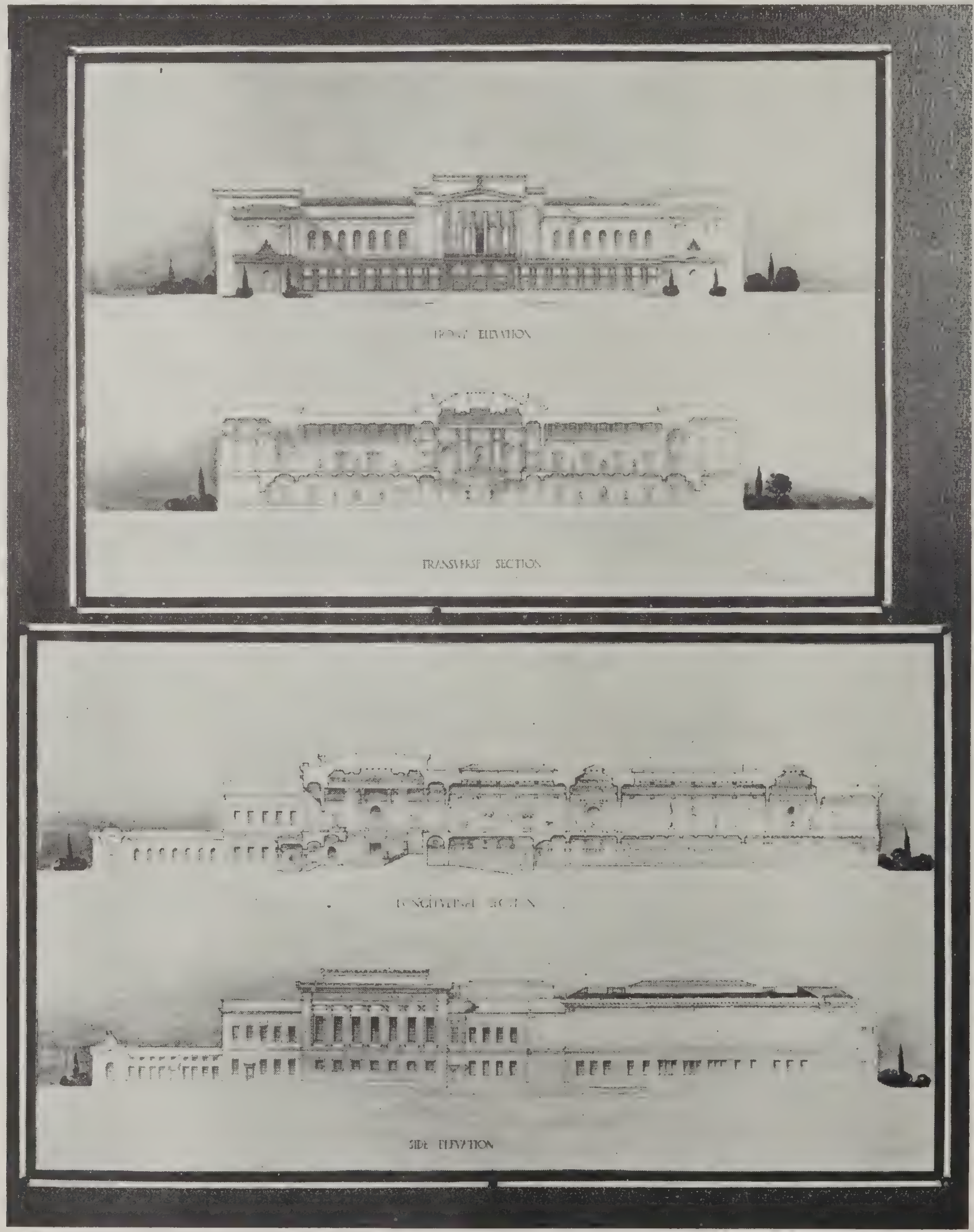
'A HOME FOR A ROYAL ACADEMY."
THE DESIGN AWARDED THE HENRY JARVIS STUDENTSHIP, BY GEORGE CHECKLEY, A.R.I.B.A. (LIVERPOOL UNIVERSITY).

appropriate. The half-inch shows no understanding of relative scale. The plan is simple but hastily conceived. Time has been wasted on meaningless "mosaic," which far from emphasizing the composition and relative importance of the parts, completely confuses the whole plan. A single court broken into by a lecture-room block spoils his suggestion of a "cortile," and obscures the open loggia which runs round at the first-floor level.

The design of "Ictinus" is marred in the very centre of its plan by the staircase, which is cramped, has a small light-well over, and makes an obstacle in the middle of the vestibule. Dark corridors go left and right; in fact the greater part of the ground floor is badly lit, producing an exterior mass almost unbroken by windows and false in expression.

"Ted's" sketch is careful and closely followed. His plan is simple, marred in rendering by distracting shadows of lamps and trees. He has one large court in the centre of which is the lecture-halls block. The exterior shows ability to design. It is sympathetic, well composed, and delicately presented.

"Toledo" has the usual difficulty with his grand staircase. It occupies too much space in the vestibule, and the landing at the top is too small. The elevations incline to be amateurish, and the design shows an inadequate sense of composition.

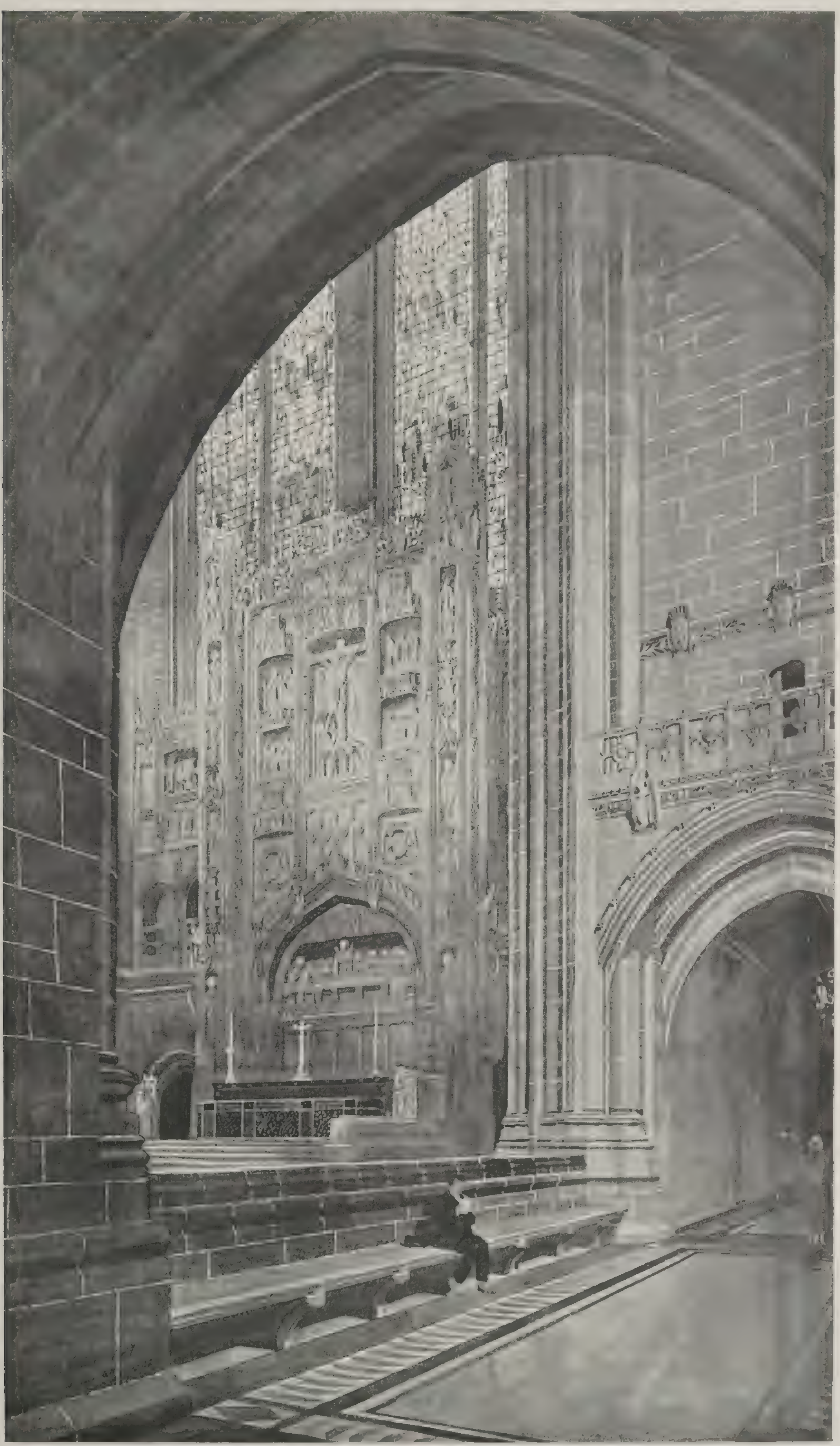


"A HOME FOR A ROYAL ACADEMY."

THE DESIGN AWARDED THE HENRY JARVIS STUDENTSHIP, BY GEORGE CHECKLEY, A.R.I.B.A. (LIVERPOOL UNIVERSITY)

Drawings of Architecture. 5.—Liverpool Cathedral

From a Water-colour Drawing by G. Gilbert Scott, R.A.



An Interior View of the East End from the South Choir Aisle.

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The Young Architect's Future

MY Uncle Donne remarked to me the other evening while passing the port, "I am thinking of making Francis (his adopted boy, now at a Public School) an architect. What do you think of the future for architects?" In an after-dinner mood I was inclined to be optimistic, but the importance of the whole position for the middle-aged of this generation, and for the youngster inclined to care for buildings, has given much food for thought. The resultant conclusions from much deliberation are put forward below. Let us start at the beginning.

Architecture as a separate profession, or art, if you prefer a more kindly label, is a comparatively modern production. To be a success an architect must have a wide vision, be capable of tremendous application, and with all respect to the believer in the principle that "genius will out," have a good slice of luck into the bargain. Very few opportunities are given to a real architect in the purely utilitarian or commercial side of his work. The factory and similar type of building is an engineering problem of a highly specialized nature, and a real architect has no concern with such. There is no scope.

The best opportunity for the architect who is an artist (and one need not consider seriously the other variety) lies in domestic work, church building, and occasional public, or semi-public, offices. This represents a small percentage of the total amount of labour which absorbs the building industry as a whole; probably, indeed, if one could arrive at reliable statistics, no more than 20 per cent. Pre-war conditions are assumed at the moment, as recently the whole position is so chaotic as to baffle any attempt at a coherent survey.

The real architect, therefore, has depended through the period up to the war on domestic and church work, etc., for his realization of ideals. How far he is likely to be offered a medium in which to express himself in the next few years is a matter for speculation. It is obvious that if civilization in Western Europe continues, a vast amount of commercial work must also continue, but with this the present writer is not really concerned. It is reasonable on the basis of the above argument to accept the fact that the architect has his opportunity in what may be called for the moment non-essential or luxury buildings. In accepting this fact one also accepts the principle that he comes into line with all his fellow artists—painters, sculptors, etc.

Now, what does the immediate future offer on these lines for the embryo architect? The political and economic situations of Western Europe are so obscure that a prophecy as to what the social system will have developed into by, say, 1935, would be undertaken only by the very rash or very ignorant. There are so many forces at work, and forces of a most violent nature, which pull in so many directions that it is impossible to foresee what the world will be like in twenty years' time. The surprising pact between Germany and Russia, to take one example, may well alter the whole position of England in Europe. The great industrial towns of the North may likely enough have reached their zenith, and it is quite reasonable to suppose that many of them will decline to a greater or lesser extent, and never again carry the big populations that they have in the past. If our export trade does not recover—and, moreover, recover fairly soon—it seems probable that the strain on the national resources will be too great, and the industrial machinery will break down. Indeed, in many ways it has broken down—labour and capital are at the moment glaring at one another over as wide a gap as they have ever had to face. The great mass of labour has become vocal, and not only vocal, but definitely articulate; and capital has got its back to the wall, an uncomfortable position which it has been forced into largely as a result of its inertia and lack of foresight in the past.

If this is true, and the country as a whole is indeed going to take a lower position in the world than previously, it is quite clear that the luxury building (as defined above) is going to be a matter of much smaller importance than it has been. The wonderful period of the eighteenth century, apart from the great mansions built by the landed gentry and nobility, was made possible only by the amazing increase in wealth of the merchant and middle class. If this is not understood, a study of the history of Bath, Dublin, or any other of the great eighteenth-century cities will be found convincing.

Now, England is either going to recover fairly rapidly or is going to settle down and stabilize on a lower plane; we all have our own views as to which is the probable course she will follow. To the ordinary man the latter seems overwhelmingly the more likely; if this is correct, it follows that the scope for the next generation of architects is going to be much more limited than it was in the period between, say, 1870 and 1914. The outlook, therefore, for the youngster is none too hopeful, and he is likely to go through his early days of practice without much opportunity of real architecture. That a certain number of architects will have plenty of work, and a large number a certain amount of work, is, of course, obvious; but the best opportunity for architecture is certainly going to be very limited. The advice that might be given to the boy thinking of starting architectural study is not to do so unless he has a real taste for the work, and, moreover, a sufficiency of this world's goods to make him independent of the more sordid side of his work. If these things are not his he is risking a life of disappointment, and of a disappointment keener and with less comfort than most other callings have to offer.

P. L. D.

The New Thames Bridge Site

In "The Times" of July 12 Lord Plymouth, as President of the London Society, Sir Aston Webb, P.R.A., as Chairman of its Council, and Sir Reginald Blomfield, as a member of Council, issued a powerful appeal regarding the choice of site for a new Thames bridge. They urged the Corporation of the City of London to postpone an impending decision to build the St. Paul's Bridge, and to give further consideration to the desirability of placing the bridge where, they submitted, the need for it is much greater. Instead of crossing the river between Southwark Bridge and Blackfriars, the new bridge should cross it between Waterloo and Westminster Bridges, in which position a bridge is very badly wanted. On the other hand, it is contended, the proposed St. Paul's Bridge is not really necessary. Whether it is wanted or not has been always a moot point. The plea for a bridge between Waterloo and Westminster is sufficiently practical. Waterloo Bridge is both awkwardly situated and grossly overworked. The ceaseless stream of traffic (increasing in consequence of the development of Waterloo Station) it pours across the Strand would be greatly reduced in volume by the relief that would be afforded by a bridge that might with great æsthetic as well as practical advantage take the place of the monstrous Charing Cross railway bridge. The signatories to the letter paid the Corporation a well-deserved compliment in recalling its splendid public action with respect to the Burnham Beeches, Epping Forest, and Shadwell Park, and besought them to act in this spirit with regard to the bridges. There is some hope that they may yet do this, for when the report of the Bridge House Estates Committee was presented at the meeting of the Corporation on Thursday last, the proposal for St. Paul's Bridge was referred back, largely in consequence of a powerful speech by Sir Banister Fletcher, F.R.I.B.A.

The London County Hall

Ralph Knott, F.R.I.B.A., Architect, in association with W. E. Riley, R.B.A., F.R.I.B.A., late Architect to the L.C.C.

THE opening of the London County Hall by His Majesty the King marks the completion of the first part of a great Metropolitan architectural undertaking that has been proceeding continuously over a period of fifteen years. A considerable section of the building on the northern flank still remains unbuilt, but this will probably have to be put in hand at no far-distant date to meet the ever-increasing demands of London's Government for headquarters accommodation.

Articles on the progress of the work have appeared in these pages at frequent intervals; but, apropos of the official opening, some of the main facts in connection with the building may be appropriately recapitulated.

Details of the earlier history of the New County Hall scheme are, perhaps, hardly necessary, but it may not be amiss to remind our readers that an international competition was held in two stages in the year 1907, to obtain designs for the building, and was settled early in 1908 in favour of Mr. Ralph Knott, who was then appointed architect for the new building in association with Mr. W. E. Riley, R.B.A., F.R.I.B.A., the then architect to the Council, in whom was vested discretionary power in all matters relating to internal economy, building construction, and stability.

The New County Hall when completed will be 750 ft. long by an average width of rather more than 300 ft. Its site is roughly 6½ acres in area, of which about 2½ acres represents reclaimed river foreshore.

The style of the building may be described as of the severe phase of English Renaissance, interpreted in a modern spirit, with a considerable measure of originality and freedom from the more arbitrary restrictions of architectural orthodoxy.

The plan that we see to-day differs materially from that submitted in the competition. It embodies various features that were subsequently considered desirable to produce a satisfactory arrangement of plan, including the straightening up of the old irregular Belvedere Road frontage to a new improvement line. As now planned the council chamber forms the centre of the building, being placed at the intersection of the longitudinal and two transverse axes, the latter being at right angles to the river and Belvedere Road fronts respectively. The cross blocks are placed at right angles to the longitudinal axis, which, as it happens, is practically due north and south, and in all blocks direct natural lighting is provided to both the rooms and corridors. The members' courtyard, with entrance drive from Westminster Bridge approach, is an interesting feature of the plan. By its means members of the Council are brought in direct touch with their own apartments in the building, centring around the council chamber.

Another means of access to the members' portion of the building, intended primarily for ceremonial purposes, is from the large entrance hall (85 ft. by 32 ft.) in the centre of the Belvedere Road front, at the ground-floor level, from which a straight staircase leads up to the eastern lobby of the chamber. This stair is 15 ft. in width, and its side walls, which are lined with marble, support a colonnade carrying the barrel-vaulted ceiling of the staircase intersected by the groins of the semicircular windows which light it. The walls of the corridor and lobbies surrounding the council chamber, with their cross arches, are lined with white marble—a considerable amount of which is Pentelic, from the old Athenian quarry—relieved by panel bands of Sienna or Cipollino. The columns which are freely used in the decorative treatment of this portion of the building are of black Belgian, Bleu de Savoie, or Ashburton marble. The finish of the marble generally is that known as "egg-shell" polish. The square voting lobbies, which occur north and south of the chamber, are top lighted, and are lined with Indian laurel wood panelling up to the column screens. The principal floor corridor is vaulted in plaster, and lined below with oak panelling. It is 10 ft. in width, and on office floors above is 7 ft. 6 in.

With regard to the chamber itself, the plan is approximately octagonal, with three entrance doors and one private door for the chairman, and lighted by four long-shaped windows, above the high dado, in the shorter sides. Above the entrance doors occur spacious galleries (seating about fifty persons each), which overlap the lobbies outside, on the level of the chamber floor. Three galleries are for the public and one for use of the Press. The height of the chamber is 55 ft., and its area about 3,500 sq. ft. The walls are lined with a high marble dado up to the gallery level—the plinth and capping are of black Belgian and the filling between them of Greek Cipollino, from the Island of Euboea, the quarry of which up to twenty years ago had not been worked since the time of Justinian. Above this the walls will have a plaster finish, the ceiling being of decorative plaster.

The very beautiful columns supporting the lintols of gallery openings are monoliths of rare Veine Dorée marble, quarried over 5,000 ft. above sea level in the Italian Alps. The seating is arranged on the usual horseshoe plan, stepped up from the central "well" of the floor, and the joinery is carried out in oak. It is proposed to cover the chairmen's seats on the dais with a veneer of very old oak taken some years ago from a London excavation.

The architectural settings to the doorways of the chamber, with their canopies, are of black Belgian marble. Near by in the northern cross block is situated the largest of the many committee-rooms, intended primarily for education purposes, and having accommodation for the public and the Press. By means of sliding screens it is divisible into three, as occasion may require. The large central division of this room has a barrel-shaped ceiling, intersected by the groins of the round-arched window heads and the gallery openings. As with most of the rooms on the members' floor, it will be lined with oak panelling, treated in a broad and simple way. The wood carving generally is by Mr. George Alexander, of Chelsea. The flooring throughout the building, apart from the two basement floors, is of English oak blocks. Windows are fitted with steel casements.

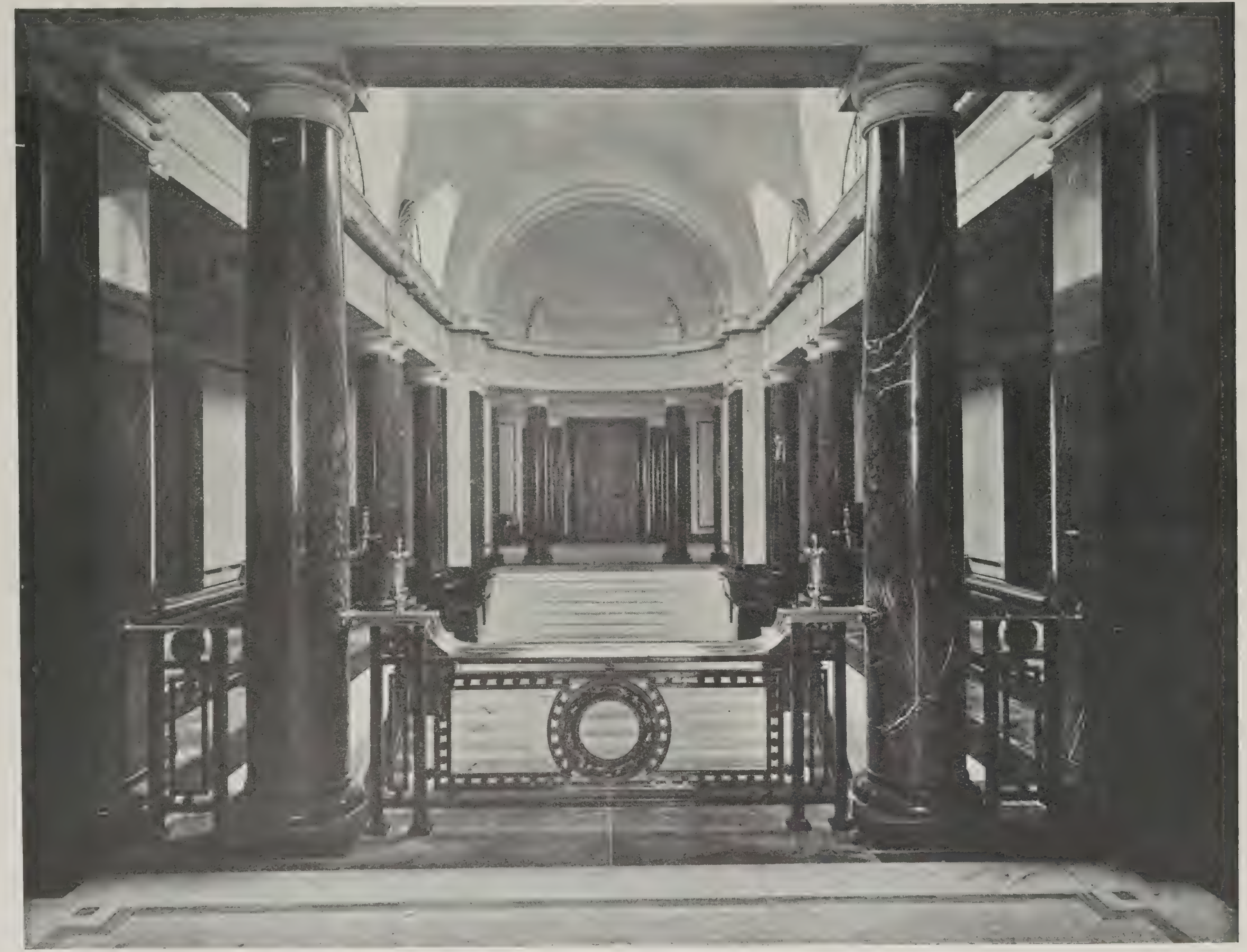
The crescent of the river front is probably the most striking architectural feature of the building, with its large Ionic order embracing four stories, columns over forty feet in height, and bold, sweeping, horizontal lines. The connecting chord across its terminating pavilions encloses the members' terrace, raised well above and disconnected from the new embankment road passing in front of it, and a few feet lower than the principal or members' floor itself. At or adjacent to the northern end of the crescent are the members' refreshment-rooms—at its southern end the reading-room and library, with access from and to the terrace in both cases. Within the curve of the crescent block are contained the private rooms of the chairman and vice- and deputy-chairmen of the Council, and the party whips, conveniently near to the council chamber.

We have before referred to the members' rectangular courtyard and its approach from Westminster Bridge. The heavily treated, stone-vaulted carriage-way, with its granite base, is a most interesting and impressive feature of the building. Entering it from the public roadway the vista terminates in the members' entrance doorway, finished with a semicircular arched head, and flanked on either side by pedestals designed to receive bronze

(*Continued on page* 88.)

Current Architecture. 159.—The London County Hall: Ceremonial Staircase looking towards Council Chamber

Ralph Knott, F.R.I.B.A. Architect, in association with W. E. Riley, R.B.A., F.R.I.B.A., late Architect to the L.C.C.



This staircase, which leads from the Belvedere Road entrance direct to the eastern lobby of the Council Chamber, is 15 ft. wide. Its side, walls, which are lined with white marble, support a colonnade carrying a barrel-vaulted ceiling, which is intersected by the groins of the semicircular window openings.

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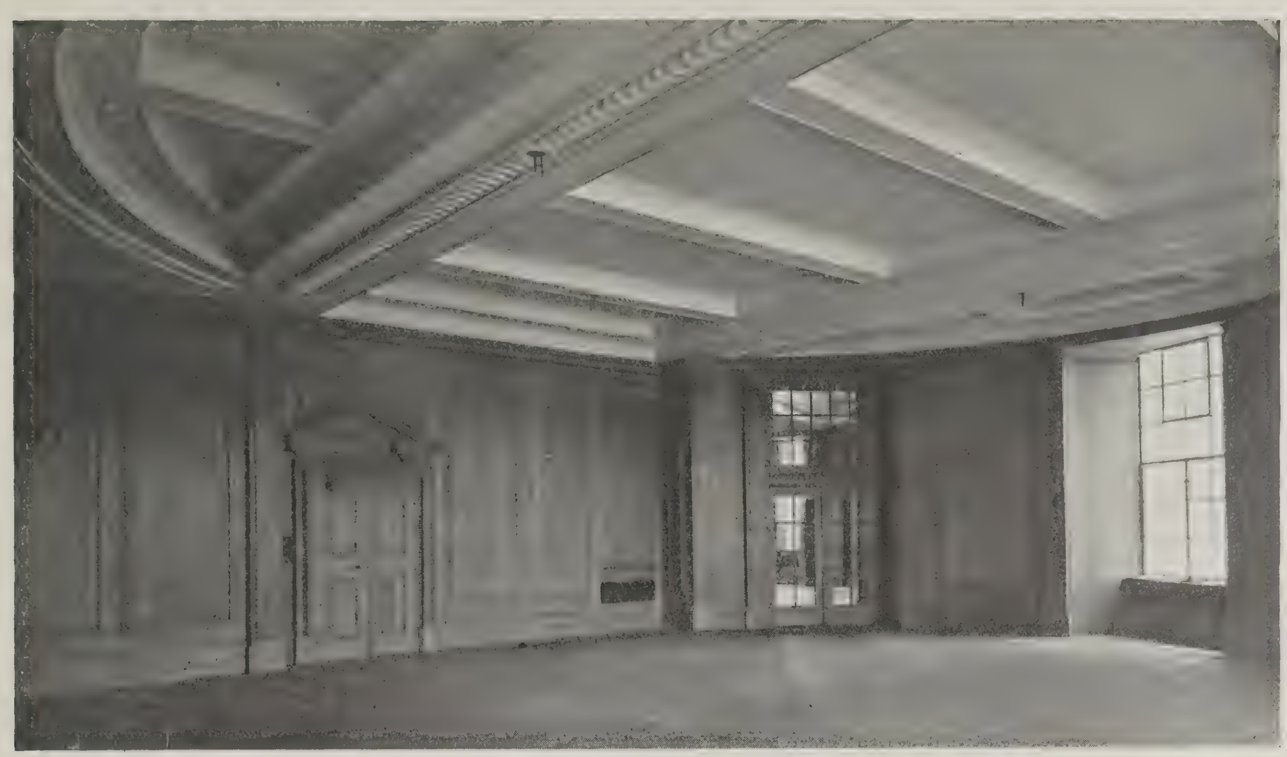
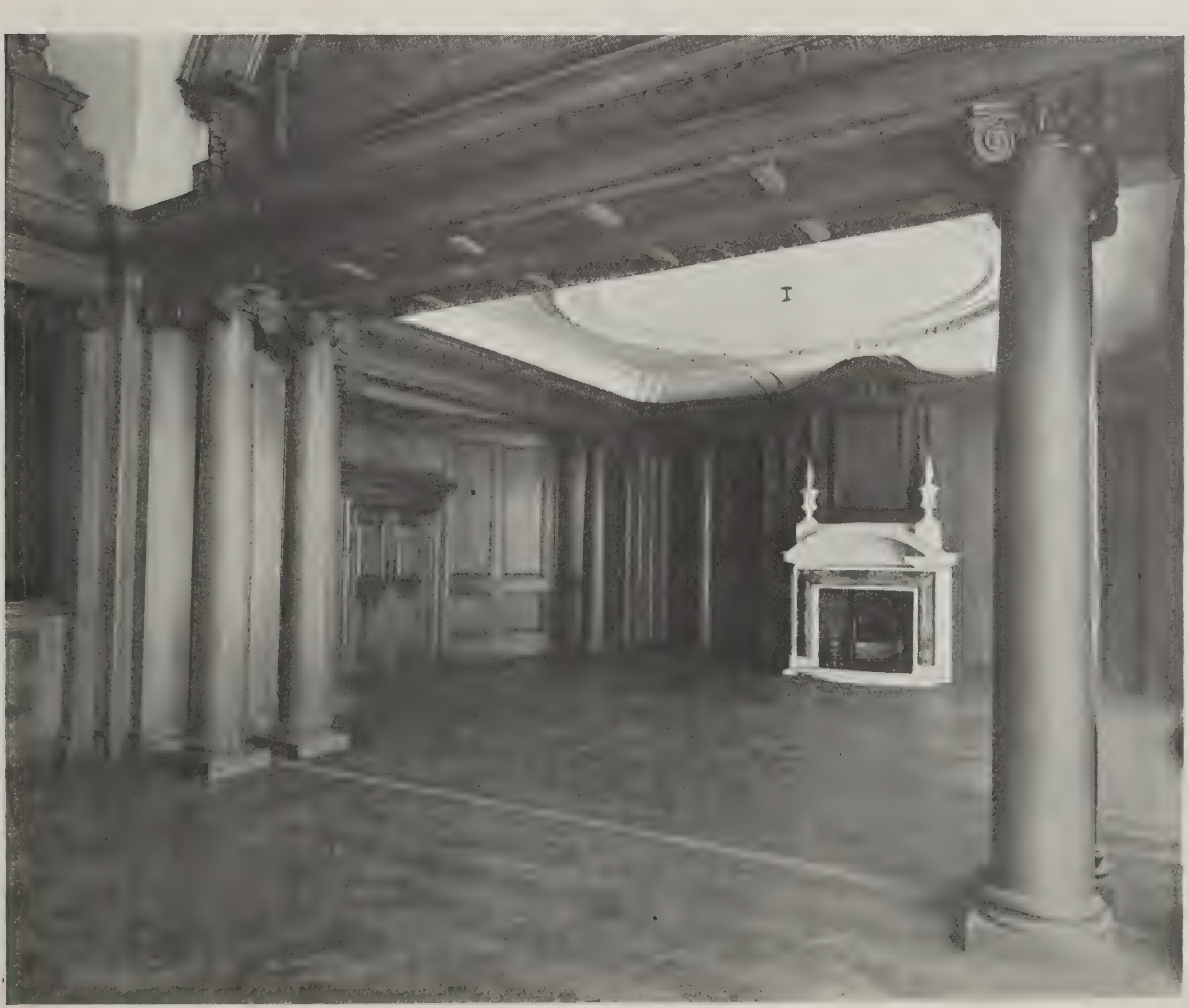
Current Architecture. 160.—The London County Hall: Interior Views



The Members' Luncheon-room at North End of Crescent.



The Large Committee-room, showing Dividing Screen lowered.

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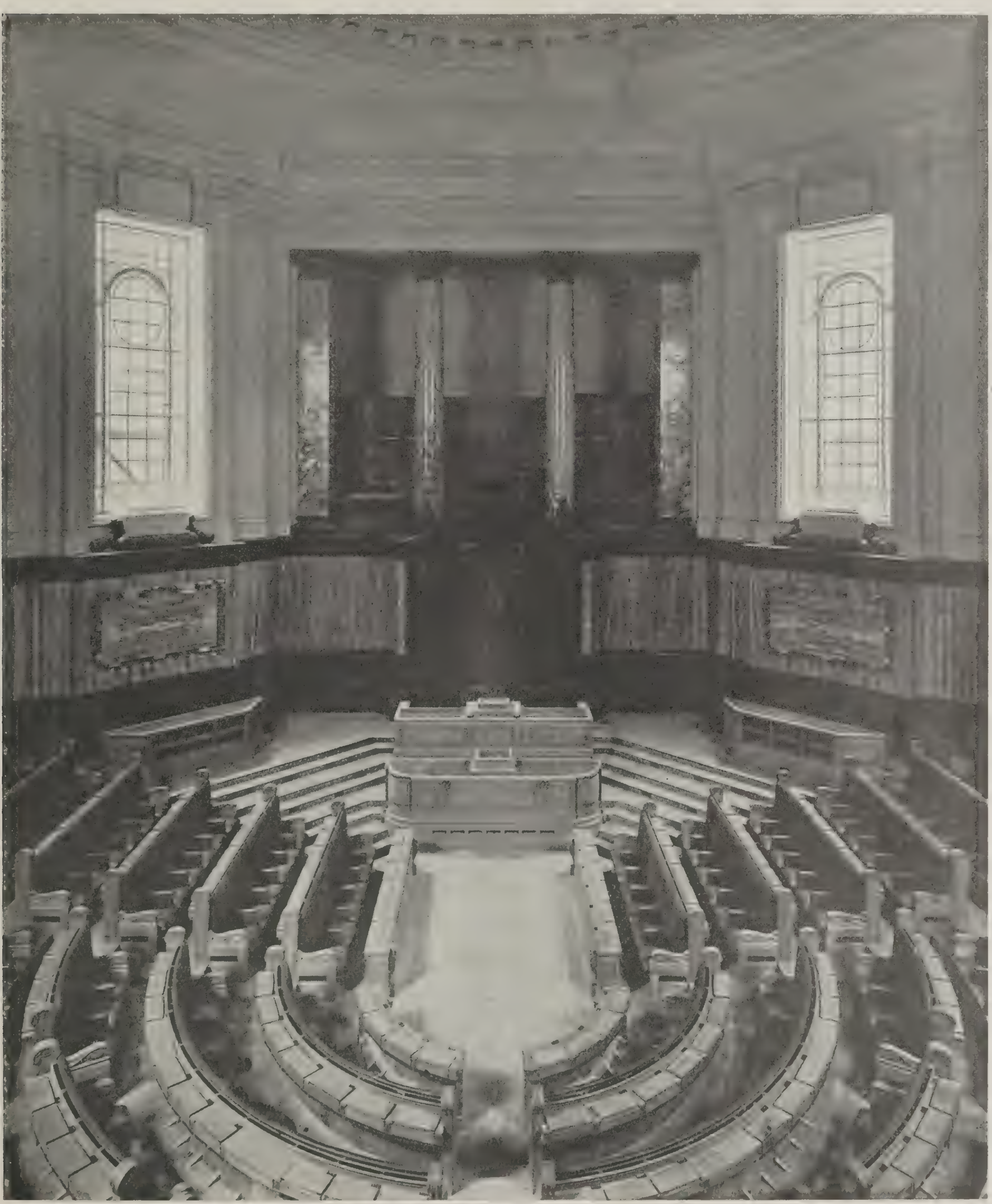
Current Architecture. 161.—The London County Hall : Council Chamber

Ralph Knott, F.R.I.B.A., Architect, in association with W. E. Riley, R.B.A., F.R.I.B.A., late Architect to the L.C.C.



The Council Chamber is approximately octagonal on plan and 55 ft. high. It is lighted by four high windows above a marble dado. The walls have a plaster finish, and the ceiling is of decorative plaster. The seating is arranged on the "horseshoe" plan, stepped up from the central well of the floor. Four capacious galleries are provided—one for the Press and three for the public. The columns supporting the lintols of the gallery openings are monoliths of rare Veine Dorée marble.

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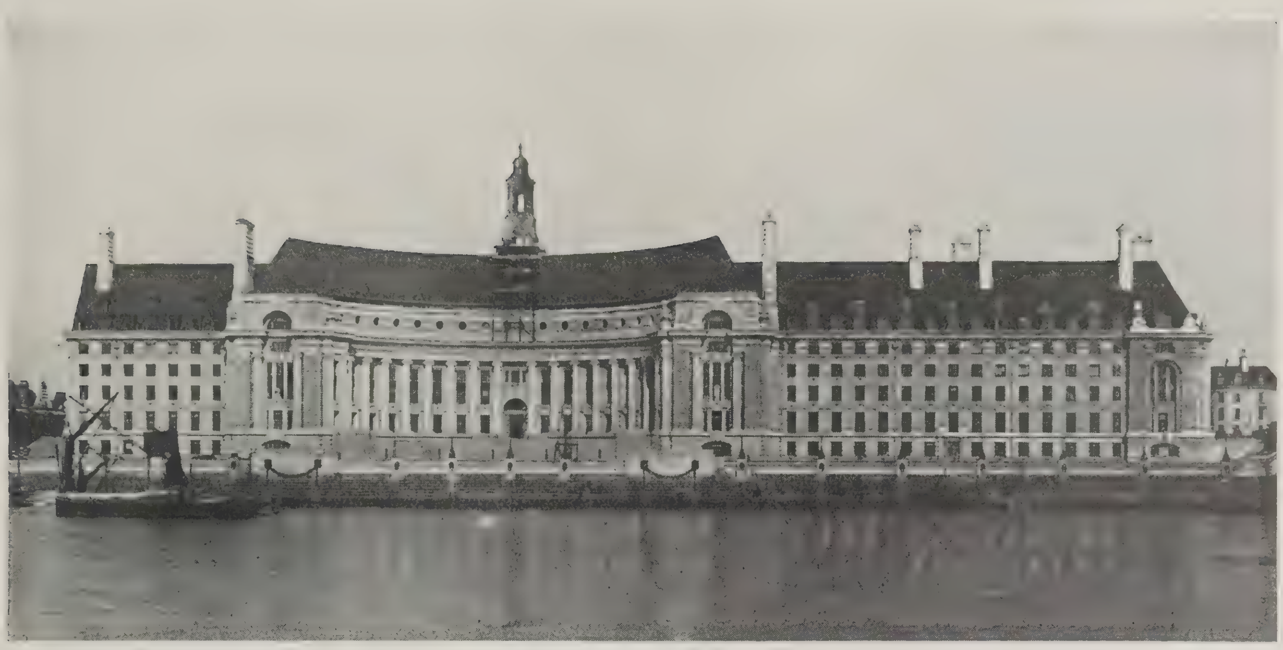
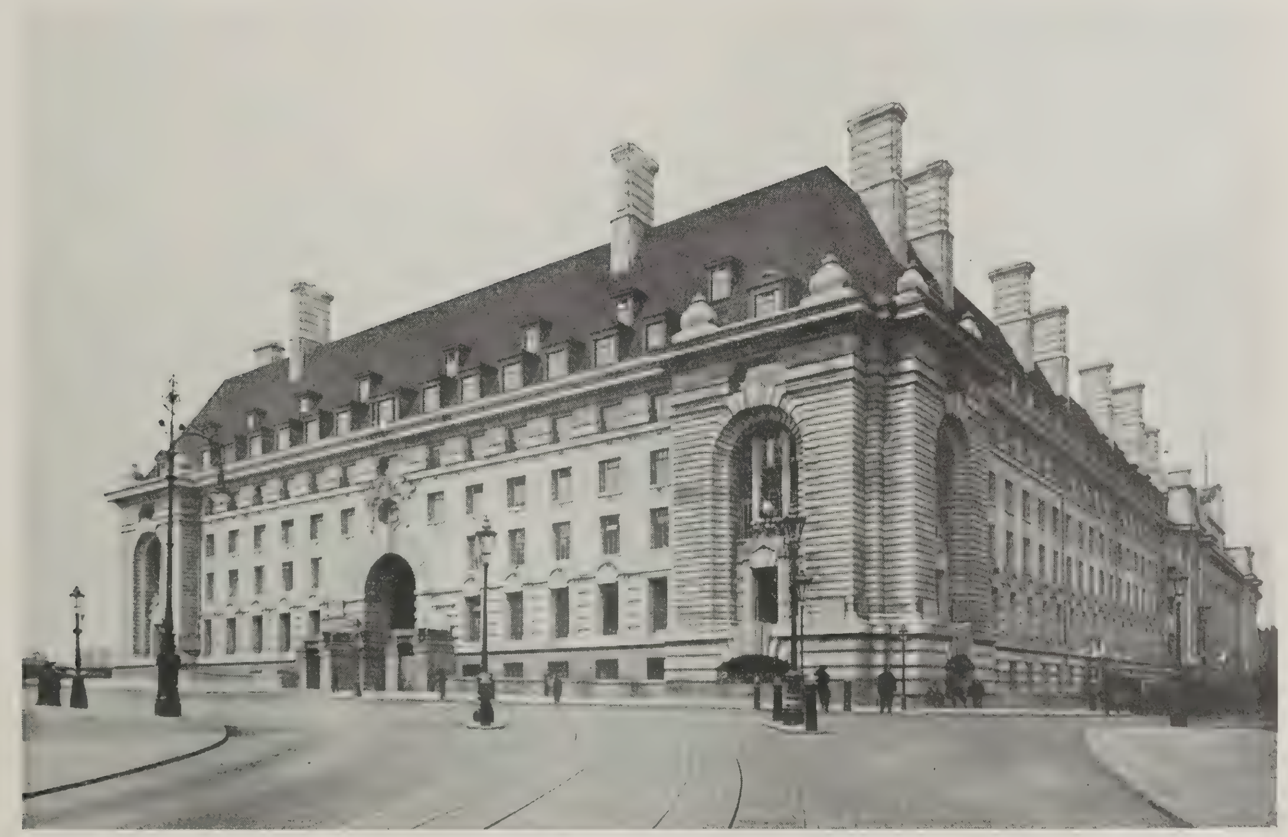


THE RIVER FRONT.



FRONTS TO WESTMINSTER BRIDGE AND BELVEDERE ROAD.

THE LONDON COUNTY HALL.

RALPH KNOTT, F.R.I.B.A., ARCHITECT, IN ASSOCIATION WITH W. E. RILEY, R.B.A., F.R.I.B.A.

lamps. The façades of the four blocks of building giving on to the courtyard are treated similarly to the external fronts—Portland stone facings on a granite substructure and a steep-pitched roof with two stages of dormer windows.

The height of the main cornice of the building is, roughly, 90 ft. above the foundation, the ridge of roof 130 ft., and the top of the flèche 190 ft. The structure embraces nine stories, the two lowermost being the basement and sub-basement, devoted more particularly to storage purposes. Exclusive of these, and with the further exception of the first floor allotted to members and heads of departments, practically the whole of the building will be required for the accommodation of the Council's office staff. The rooms intended for the latter are treated in a severely simple way, and, indeed, extraneous or unnecessary ornament is generally avoided in the treatment of the building.

The medical officer's department includes laboratories for various uses, and rooms for the medical examination of school children. Luncheon-rooms for the Council's staff are provided for on the sixth floor of the crescent block, with provision for the catering service and its staff above, and lift connections with the members' floor, basement larders and stores, and with the goods delivery road. At the extreme north end of the building, when it is eventually extended and completed, will be a roadway connecting Belvedere Road with the embankment, thus securing, moreover, a lighting area for the northern front. Off this roadway will be formed the goods delivery and service cartway leading into the internal area of the building adjacent to the boiler house (beneath the large committee-room), by which means coal and other fuel will be delivered and the general supply of material and stores maintained.

The figure sculpture in Portland stone and bronze, above the heads of the pavilion windows of the principal floor, is the work of Mr. Ernest Cole, and Mr. C. H. Mabey, of Vauxhall, is responsible for architectural carving in stone.

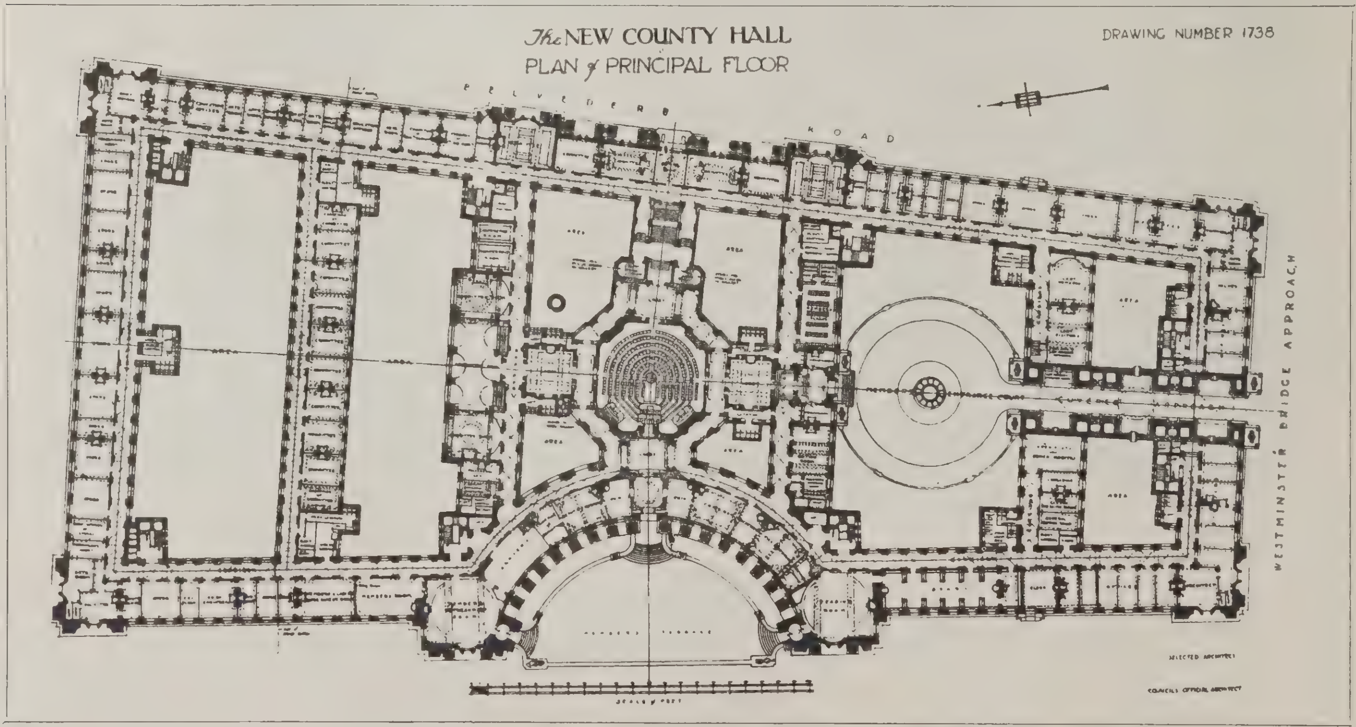
The heating of the building is effected generally by means of a low-pressure hot-water system, the water being heated in four boilers of the marine type, and circulated by a central pumping plant. Two boilers of a similar type are used to provide steam to the cooking apparatus, to calorifiers for the hot-water services, and to the various air-heating batteries. The council chamber and the education committee room are heated and ventilated by a system combining direct radiation with a supply of warmed, humidified, and washed air.

The ventilation of the smaller committee-rooms and offices generally is by means of extraction fans connected with ducts over the corridors, to which vitiated air is drawn through gratings in the upper part of each room. The entering air passes through specially controlled inlet gratings behind those radiators which occur on external walls.

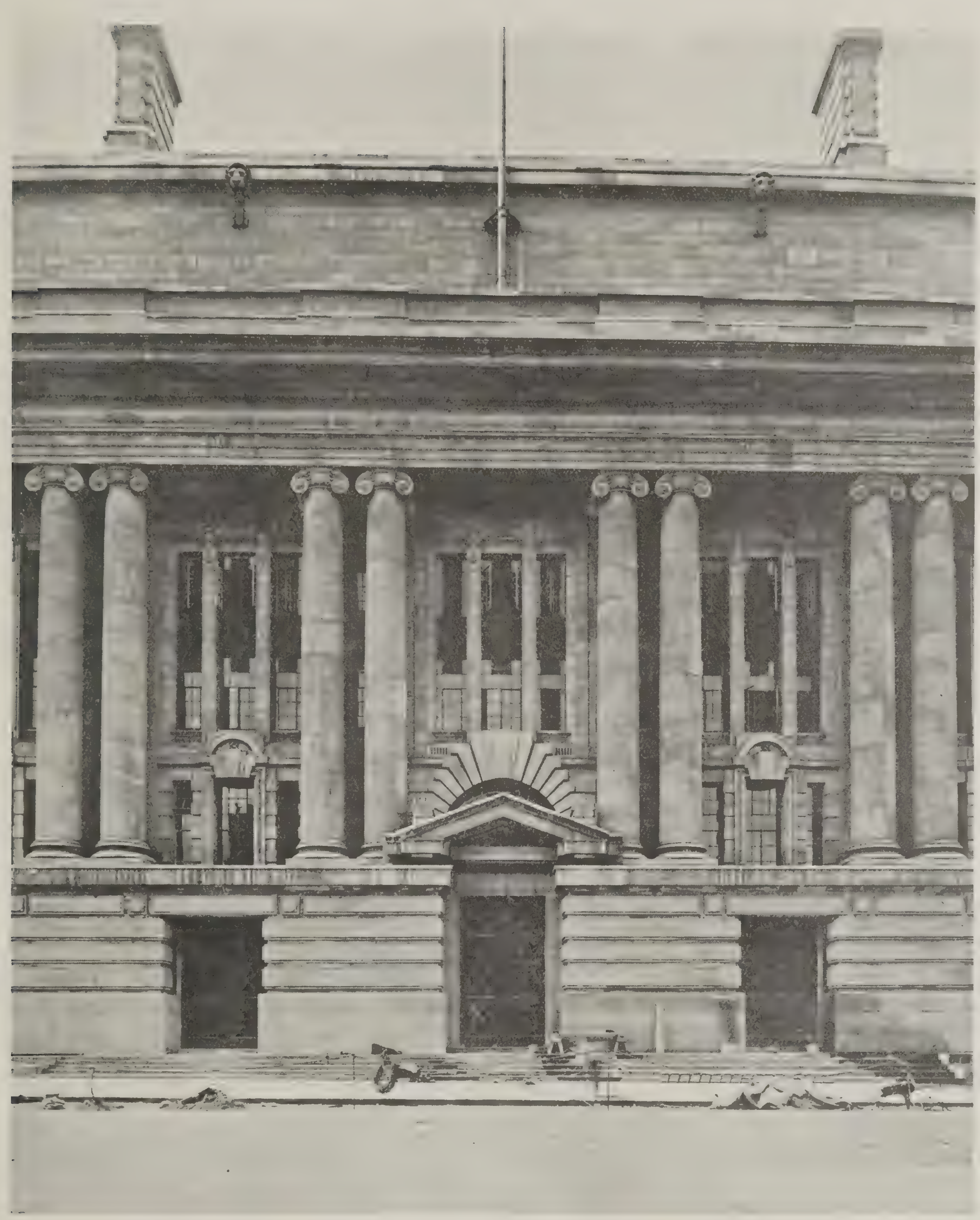
The sub-basement is considerably below the ground level, and a positive supply of warmed air is forced in to ensure that this part of the building is maintained in a satisfactory condition.

Floors and flat roofs generally are of the usual steel joist and concrete construction. The structural work includes built-up steel stanchions where required by the planning of the building; and the steel framing for the roof, which includes two floors of offices, has required special treatment, owing to its somewhat unusual form and the heavy loads to be carried.

Mr. Knott's consultant engineers for structural steelwork were Messrs. Whitaker, Hall, and Owen, of 1 Gresham Buildings. The general contractors were Messrs. Holland and Hannen and Cubitts, Ltd., of Gray's Inn Road, W.C. The whole job was under the supervision of Mr. E. C. Hannen, assisted by Mr. C. R. Waters, chief surveyor of the company, Mr. I. Stone, the manager on the works, and Mr. Sweett, who was responsible for the whole of the joinery work. The clerk of works was Mr. W. H. Hookham. Sub-contract work has been done by the following firms: Henry Hope and Sons (steel casements); Doulton & Co. (sanitary work); F. Braby & Co., Ltd. (copper flèche on roof and copper finishings to windows); J. Whitehead and Sons, Ltd. (marble work); Waygood-Otis, Ltd. (lifts); Bromsgrove Guild (bronze and wrought-iron work); Vertigan & Co. (wood block flooring and floor polishing); Heffer and Scott (painting (Keystona)), British Luxfer Prism Syndicate (lantern lights); J. W. Singer and Sons (bronze panels); Express Lift Company (lift); London Brick Co., Ltd. ("Phorpres" bricks); Sneyd Collieries (glazed bricks); Crittall Manufacturing Company (bronze and wrought ironwork); Strode & Co. (bronze and wrought ironwork); Benham and Sons (cooking apparatus); Newton-Witter Engineering Co., Ltd. (sprinklers); F. and C. Osler, Ltd. (ornamental fittings).



PRINCIPAL FLOOR PLAN OF THE LONDON COUNTY HALL.



THE LONDON COUNTY HALL: CENTRE OF BELVEDERE ROAD FRONT, SHOWING MAIN ENTRANCE DOORS.
RALPH KNOTT, F.R.I.B.A., ARCHITECT, IN CONJUNCTION WITH W. E. RILEY, R.B.A., F.R.I.B.A.,
LATE ARCHITECT TO THE L.C.C.

The Design of Monolithic Reinforced Concrete Structures

By R. J. HARRINGTON HUDSON, B.Eng.,A.M.I.C.E.,A.M.I.Mech.E.,M.C.I.,M.Am.C.I.

IT will be convenient to divide structures into two broad classes :—

(1) Structures in which the connections between the individual members are of a yielding nature. When a member of such a structure is stressed its connections offer little or no restraint to the free bending and deflection of the member, and the bending stresses cannot be transmitted through the connections to other adjoining members of the structure.

(2) Structures of a monolithic nature in which there is a continuity of material and in which the connections between individual members are unyielding. When a member of such a structure is stressed the bending and deflection of the member are restrained by other adjoining members through the rigid connections between the members and, by offering this restraint, stresses are developed in the adjoining members of the structure. Many steel structures, particularly those known in America as "pin-jointed," come under class (1). Reinforced concrete structures come under class (2).

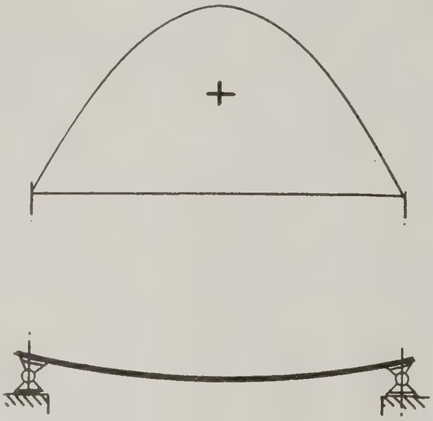
In structures of class (1) the members are often designed independently. Structures of class (2) should be treated as a whole and designed as a whole as one member affects another, and it is not possible to design any one member independently without reference to other members of the structure.

As a simple illustration of each class of structure consider a beam of single span. The ends of the beam may be simply supported on rocker bearings, Fig. 1. In this case the supports offer no restraint to the free bending and deflection of the beam and the bending moment diagram is positive throughout the length of the span. This simple structure comes under class (1). Now suppose that the ends of the beam are fixed in a horizontal direction, Fig. 2. In this case the supports restrain the ends of the beam, and the bending moment diagram is negative at the supports and positive towards the centre of the span. This structure would come under class (2). Simply supported beams are common in many types of structures. Beams with the ends rigidly fixed in a horizontal direction are very rare.

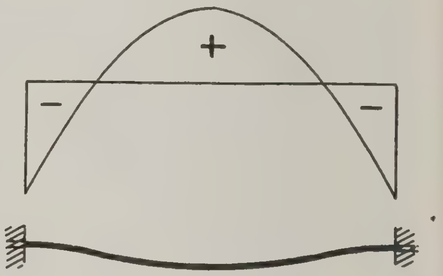
We might design two monolithic reinforced concrete structures consisting of a beam rigidly connected to two pillars to approach very nearly to the two extreme cases mentioned above, *i.e.*, a beam simply supported and a beam with its ends fixed horizontally.

Consider the first case; if a beam of single span is to be simply supported on pillars to which it is rigidly connected, then the pillars must offer the least possible restraint to the bending of the beam, *i.e.*, the pillars must be either as light and flexible as possible, Fig. 3, or the pillars must be as long as possible, Fig. 4. In either case the restraint offered by the pillars will be very slight and the bending moment diagram will approximate to that of a simply supported beam.

Consider the second case; to design such a structure to approximate to a beam with ends fixed horizontally it is necessary that the pillars should be either as rigid or stiff as possible, Fig. 5, or that the pillars should be as short as possible, Fig. 6. In either case the pillars will offer the maximum restraint at the ends of the beam, *i.e.*, tend to fix the ends horizontally, and the bending moment diagram will approach that of a fixed beam.



1.



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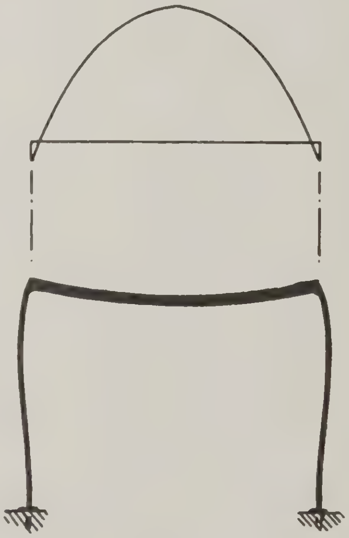

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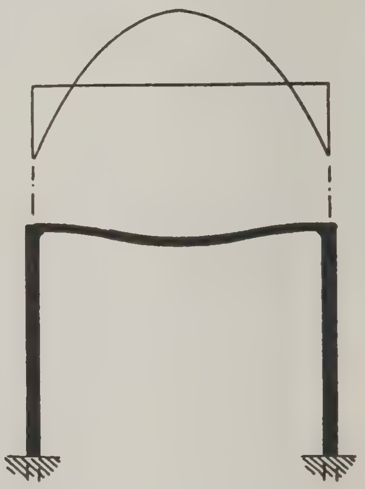

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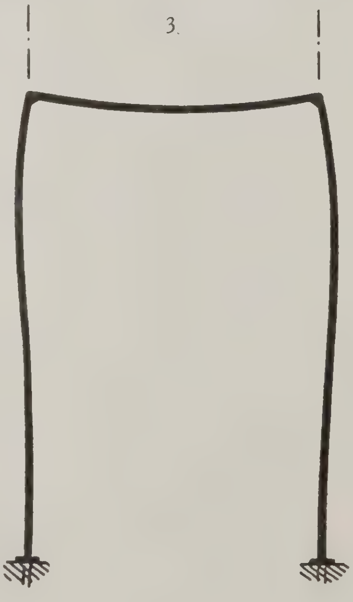

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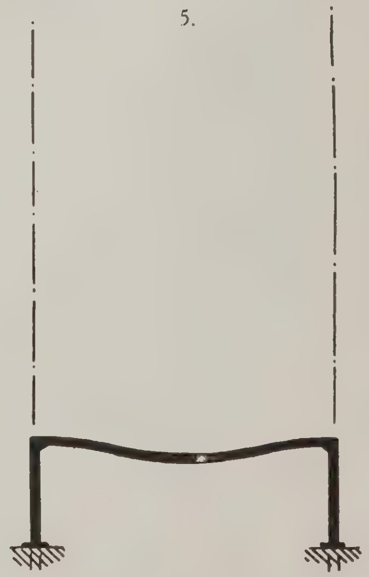


6

In practice we have monolithic reinforced concrete structures of normal proportions which lie between the above extreme cases, and in each case it is necessary to examine the effect of the pillars upon the bending moments in the beam or, a matter of even greater importance, the effect of the stressed beam upon the pillars.

Experiments on large reinforced concrete frames have shown that there is every reason to have confidence in the rigidity of the connections when the structure is properly designed, and that the bending moments are transmitted from member to member by the connections. The negative bending moment at the end of a beam monolithic with a pillar is therefore transmitted to the end of the pillar to which the beam is connected, and the value of this bending moment at the end of the pillar is the same as the value of the negative bending moment at the end of the beam. We have seen that this negative bending moment may approach zero when the dimensions of the structure correspond to those shown in Figs. 3 or 4, and may approach a maximum (equal to the negative moment at the end of a similar fixed beam) when the dimensions of the structure correspond to those shown in Figs. 5 or 6.

The stiffness of a member depends upon the inertia moment of its cross-section. The two properties, (1) inertia moment, and (2) length, may, therefore, be used to determine the influence which one member of a monolithic structure exerts upon other adjoining members, just as the flexible pillars of low inertia moment, Fig. 3, or the pillars of great length, Fig. 4, will simply support the ends of the beam without restraint, whereas the stiff pillars of high inertia moment, Fig. 5, or the short pillars, Fig. 6, will restrain the ends of the beam and tend to fix them in a horizontal direction.

Inertia moments are measured in units of area multiplied by lineal units raised to the second power. If the inch is the unit selected then inertia moments are expressed in (sq. in × in.^{2}). Lengths are measured in any convenient lineal units. The properties, (1) inertia moment and (2) length of one member A of a monolithic structure, may be compared with those of another member B by the two *pure* ratios.

$$\textit{Ratio of inertia moments } (ri) = \frac{\text{inertia moment of A}}{\text{inertia moment of B}}$$

$$\textit{Ratio of lengths } (rl) \ldots\ldots\ldots = \frac{\text{length of A}}{\text{length of B}}$$

Any convenient units may be selected for measuring inertia moments and lengths when *pure* ratios are used, as the value of a pure ratio is not altered by a change of unit. The above pure ratios are also particularly convenient in the final forms of the equations, and lend themselves to easy manipulation. For example, by using these pure ratios simple alignment charts can be constructed to be used as time-saving devices.

When one member is a beam and the other a pillar of a monolithic structure, then, using standard notation,

Ib = *inertia* moment of *beam*.
l = *length* of beam
Ip = *inertia* moment of *pillar*
h = *height* of pillar,

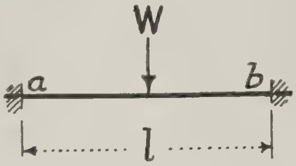
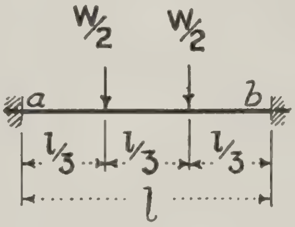
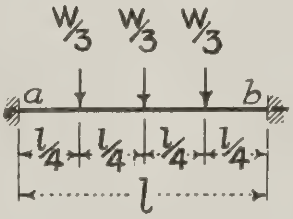
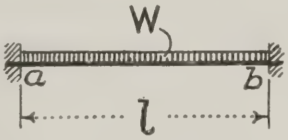
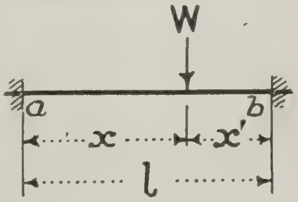
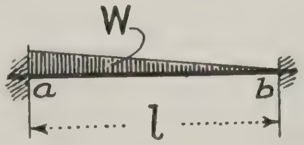
and the ratios of inertia moment and of length are:

$ri = Ib/Ip$
$rl = l/h$

Consider again the simple structure consisting of a beam of single span monolithic with pillars the bases of which are fixed. We have seen that the negative bending moment is a maximum at the ends of the beam and in the pillars to which it is connected when the pillars are very stiff or very short, i.e., when the ratio $ri = Ib/Ip$ is very small or the ratio $rl = l/h$ is very great. Ultimately, when the ratio $ri = Ib/Ip$ is infinitely small or the ratio $rl = l/h$ is infinitely great, this negative bending moment at the ends of the beam and in the pillars becomes equal to the negative bending moment at the ends of a similar fixed beam. For the purpose of our investigations it is necessary to determine the values of this negative bending moment at the ends of a fixed beam. For ready reference several of the more common distributions of weight on a beam are shown in Table I, together with the corresponding values of the negative bending moments at the ends of the beam. These negative bending moments are to be used as *qualifiers* to denote the distribution of weight on the beam, and we shall symbolize them, Qa, Qb, . . . according to the end of the beam or the point of support a, b, . . . to which they refer.

We will now examine the bending moments at the ends of the beam and in the pillars, but before doing so it will be well to consider the degree of fixity of the bases of the pillars. Here again we have two extreme cases: (1) the bases freely

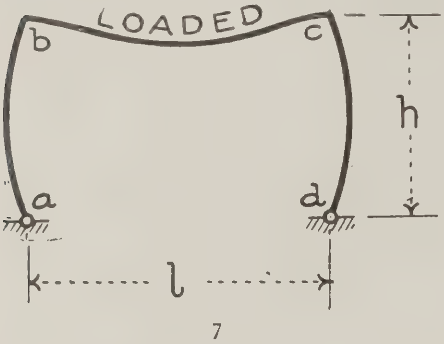
TABLE I.

Distribution of Weight.		Values of Qualifiers.	
SYMMETRICAL.		Qa	Qb
 1.	1. Weight concentrated at centre.	$W \cdot l/8$	$W \cdot l/8$
 2.	2. Weight concentrated at third points.	$W \cdot l/9$	$W \cdot l/9$
 W/3 W/3 W/3 a b l/4 l/4 l/4 l/4 l 3.	3. Weight concentrated at quarter points.	$5W \cdot l/48$	$5W \cdot l/48$
 4.	4. Weight uniformly distributed.	$W \cdot l/12$	$W \cdot l/12$
UNSYMMETRICAL.			
 5.	5. Weight concentrated at any point.	$W \cdot x^2 \cdot x'/l^2$	$W \cdot x \cdot x'^2/l^2$
 6.	6. Triangular distribution of weight from a maximum at a to zero at b.	$W \cdot l/10$	$W \cdot l/15$

Note.—When the weight is distributed symmetrically $Qa = Qb = Q$.

hinged, and (2) the bases fixed. It is necessary to examine each of these extreme cases in order to obtain the formulæ we require, but in practice the bases of the pillars are usually monolithic with reinforced concrete footings, and are much more nearly fixed than free. It has been the present writer's practice to assume that the bases of pillars in a monolithic reinforced concrete structure are fixed except in very special cases. A large proportion of monolithic reinforced concrete structures would seem to justify this assumption, and when the fixity of the bases of the pillars is doubtful the assumption errs on the side of safety.

Consider a beam *b*—*c* monolithic with pillars *a*—*b* and *d*—*c*, the bases of which are free to rotate (see Fig. 7). The beam is loaded with any distribution of weight.



7

Using the following standard notation,

Bb = *bending* moment at *b*
Bc = *bending* moment at *c*
Ib = *inertia* moment of *beam*
Ip = *inertia* moment of *pillars*
l = *length* of beam
h = *height* of pillars
ri = *ratio* of *inertia* moments = Ib/Ip
rl = *ratio* of *lengths* = l/h
Qb = *qualifier* for the end *b* of the beam (see Table I)
Qc = *qualifier* for the end *c* of the beam (see Table I)

and applying the familiar theorem of Three Moments, we can obtain expressions for the bending moments at *b* and *c*,

$$Bb = -\left[\frac{3}{2\,(ri/rl) + 3}\right] Qb \ldots\ldots\ldots\ldots\ (1)$$

$$Bc = -\left[\frac{3}{2\,(ri/rl) + 3}\right] Qc \ldots\ldots\ldots\ldots\ (2)$$

The expressions within square brackets in formulæ (1) and (2) are identical; they represent the *factor* by which the *qualifiers* Qb and Qc must be multiplied to determine the bending moments Bb and Bc respectively; in other words, the fraction of the negative bending moments at the ends of a similar fixed beam. This *factor* may be represented by the symbol F, and formulæ (1) and (2) may then be written in the simple form :

$$Bb = -F{\cdot}Qb \ldots\ldots\ldots\ldots (1a)$$

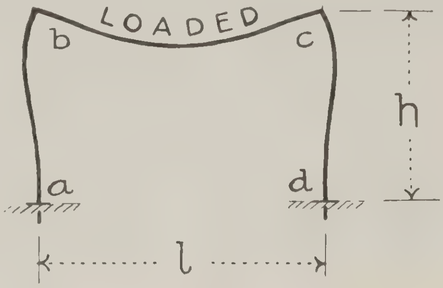
$$Bc = -F{\cdot}Qc \ldots\ldots\ldots\ldots (2a)$$

It will be observed that the above formulæ consist of two quite independent expressions; a *factor* F, the value of which depends solely upon the form and dimensions of the structure and the manner in which the bases of the pillars are fixed, and a *qualifier* Qb or Qc, which represents the negative moment at the ends of a similar fixed beam, and therefore depends solely upon the distribution of weight on the beam.

In a similar manner, when the bases of the pillars are *fixed* (see Fig. 8) the bending moments at *b* and *c* are :

$$Bb = -\left[\frac{2}{(ri/rl) + 2}\right] Qb \ldots\ldots\ldots\ldots\ldots\ (3)$$

$$Bc = -\left[\frac{2}{(ri/rl) + 2}\right] Qc \ldots\ldots\ldots\ldots\ldots\ (4)$$



8.

The *factor* within square brackets in formulæ (3) and (4) may be represented by the symbol F*a*, and the formulæ may then be written in the simple form,

$$Bb = -Fa{\cdot}Qb \ldots\ldots\ldots\ldots (3a)$$

$$Bc = -Fa{\cdot}Qc \ldots\ldots\ldots\ldots (4a)$$

When the weight on the beam is distributed symmetrically (see Table I), $Qb = Qc = Q$, $Bb = Bc$, and formulæ (1) to (4) may be written in the following forms :—

Bases of pillars *free :*

$$Bb = Bc = -\left[\frac{3}{2\,(ri/rl) + 3}\right] Q \ldots\ldots\ldots (5)$$

$$Bb = Bc = -\ F{\cdot}Q \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ (5a)$$

Bases of pillars *fixed :*

$$Bb = Bc = -\left[\frac{2}{(ri/rl) + 2}\right] Q \ldots\ldots\ldots\ (6)$$

$$Bb = Bc = -\ Fa{\cdot}Q \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ (6a)$$

By the aid of formulæ (1) to (6*a*) the bending moment at any point of a pillar monolithic with a beam of single span may be ascertained. The only variables in the expression represented by F*a* are ratio of inertia moments *ri* and ratio of lengths *rl*. A convenient Alignment Chart may therefore be constructed from which the value of the factor F*a* may be readily ascertained for any ordinary values of *ri* and *rl* (see Chart I).

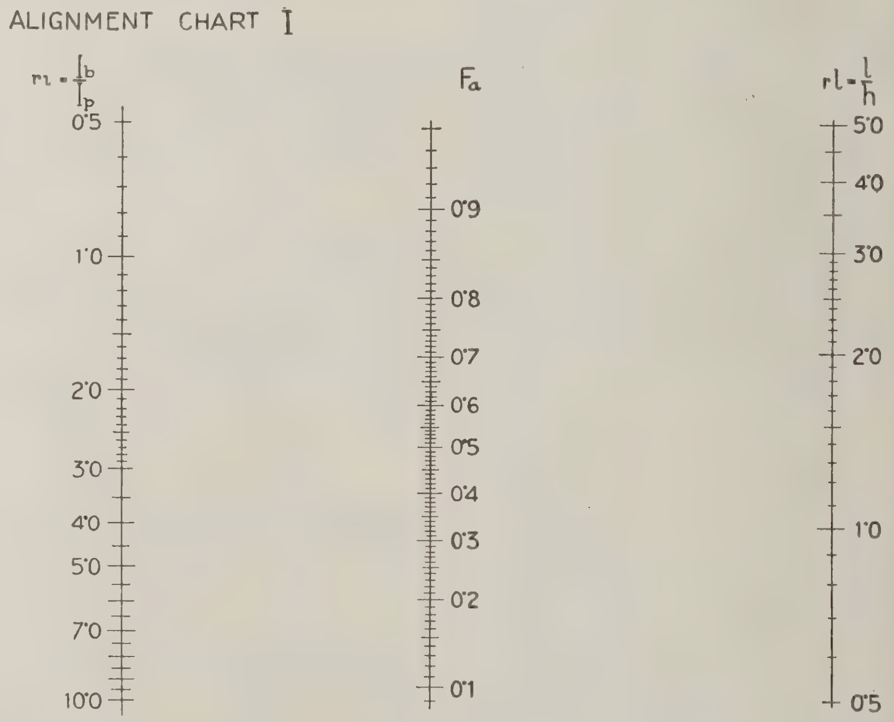
CHART I.

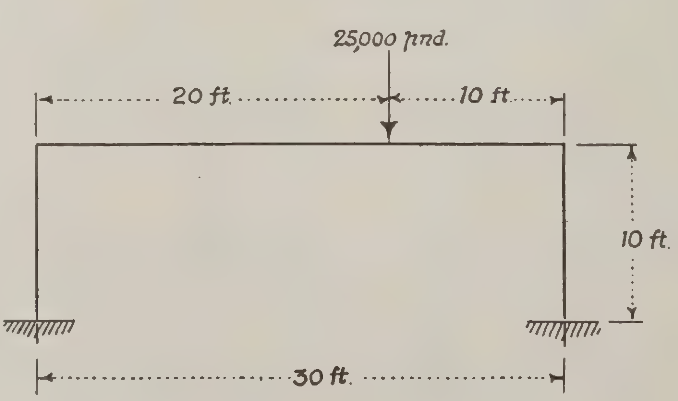
A simple example will best illustrate the use of this chart. A beam monolithic with pillars carries a weight W concentrated at any point on the span. The bases of the pillars are fixed (see Fig. 9).

Let $l = 30$ ft.
$h = 10$ ft.
$x = 20$ ft.
$Ib = 16{,}000$ sq. in. × in.^{2}
$Ip = 8{,}000$ sq. in. × in.^{2}
$W = 25{,}000$ pnd.

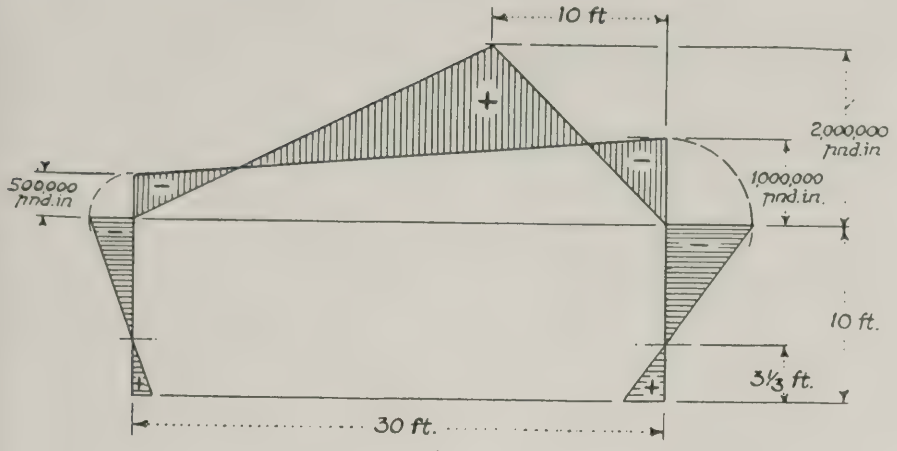
First calculate the values of *Qb* and *Qc* from data given in Table I.

$$Qb = \frac{W{\cdot}x{\cdot}x'^2}{l^2} = \frac{25{,}000\ \text{pnd.} \times 20\ \text{ft.} \times (10\ \text{ft.})^2}{(30\ \text{ft.})^2}$$
$$= 55{,}555\ \text{pnd. ft.}$$
$$= 666{,}667\ \text{pnd. in.}$$





9.



10.

$$Qc = \frac{W \cdot x' \cdot x^2}{l^2} = \frac{25{,}000 \text{ pnd} \times 10 \text{ ft.} \times (20 \text{ ft.})^2}{(30 \text{ ft.})^2}$$
$$= 111{,}111 \text{ pnd. ft.}$$
$$= 1{,}333{,}333 \text{ pnd. in.}$$

The value of the factor F*a* may be found from Chart I.

$$ri = Ib/Ip = \frac{16{,}000 \text{ sq. in.} \times \text{in.}^2}{8{,}000 \text{ sq. in.} \times \text{in.}^2} = 2 \cdot 00$$

$$rl = l/h = \frac{30 \text{ ft.}}{10 \text{ ft.}} = 3 \cdot 00$$

Lay a straight-edge across the Alignment Chart from 2·00 on the *ri* scale to 3·00 on the *rl* scale, and read off the point at which the straight-edge cuts the F*a* scale. This reading gives the value of the factor,

$$Fa = 0 \cdot 75$$

Using formula (3*a*),

$$Bb = -Fa \cdot Qb = -0 \cdot 75 \times 666{,}667 \text{ pnd. in.}$$
$$= -500{,}000 \text{ pnd. in.}$$

Using formula (4*a*),

$$Bc = -Fa \cdot Qc = -0 \cdot 75 \times 1{,}333{,}333 \text{ pnd. in.}$$
$$= -1{,}000{,}000 \text{ pnd. in.}$$

The bending moment at the point on the beam where the weight W is concentrated when the beam is simply supported, is given by the familiar formula,

$$B = \frac{W \cdot x \cdot x'}{l} = \frac{25{,}000 \text{ pnd.} \times 20 \text{ ft.} \times 10 \text{ ft.}}{30 \text{ ft.}}$$
$$= 166{,}667 \text{ pnd. ft.}$$
$$= 2{,}000{,}000 \text{ pnd. in.}$$

With these values of B*b*, B*c*, and B, we can construct the complete bending moment diagrams for the beam and pillars, remembering that the points of contraflexure in the pillars lie at a height of one-third the height of the pillars measured from the bases. These bending moment diagrams are shown in Fig. 10.

When the pillars rise through more than one story we may use the same formulæ (1) to (6*a*), but it is necessary to determine the points of contraflexure in the pillars above first-floor level. At a point of contraflexure the bending moment is zero, and the pillar may be assumed to be hinged. When the point of contraflexure is found, formulæ (1), (2), or (5) for bases of pillars *free* may then be applied to determine the bending moments.

Consider a structure consisting of two beams of single span monolithic with pillars rising to two stories of equal height *h*, the bases of the pillars being fixed (Fig. 11).

A weight W is distributed symmetrically over each beam, the negative bending moments at the ends of similar fixed beams may there be represented by the qualifier Q (see Table I).

Using standard notation as before :

I*b* = *inertia* moment of each *beam*.
I*p* = *inertia* moment of each *pillar*.
l = *length* of each beam.
h = *height* of each pillar between lateral supports, i.e. height of each story.

Let N = a fractional *number* such that the height of the point of contraflexure above the first-floor level is

$$y = N \cdot h$$
$$\text{or } N = y/h$$

Let R = the *ratio* of the ratios *ri* and *rl* = *ri*/*rl*.

The structure is symmetrical about the centre, i.e. about the vertical passing through the centre points of the spans, so the bending moments in one pillar only (pillar *a*—*d*) will be considered (see Fig. 12).

$$Ba = -\tfrac{1}{2}Bb \ldots\ldots\ldots\ldots\ldots\ldots (7)$$

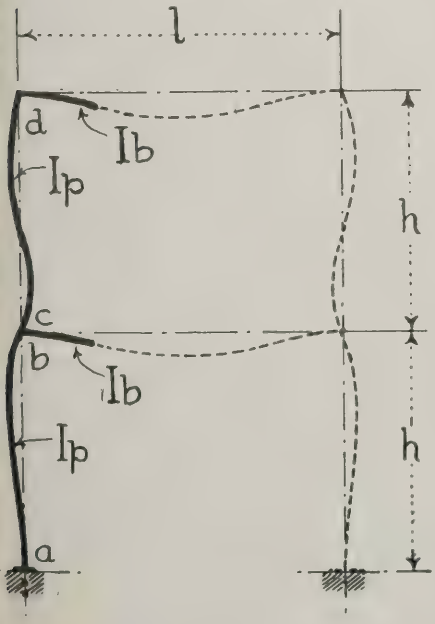
$$Bb = -Bc = -\left[\frac{3 + 4N}{4R \cdot N + 8N + 6}\right] Q \ldots (8)$$

$$Bd = -\left[\frac{3}{2R - 2R \cdot N + 3}\right] Q \ldots (9)$$

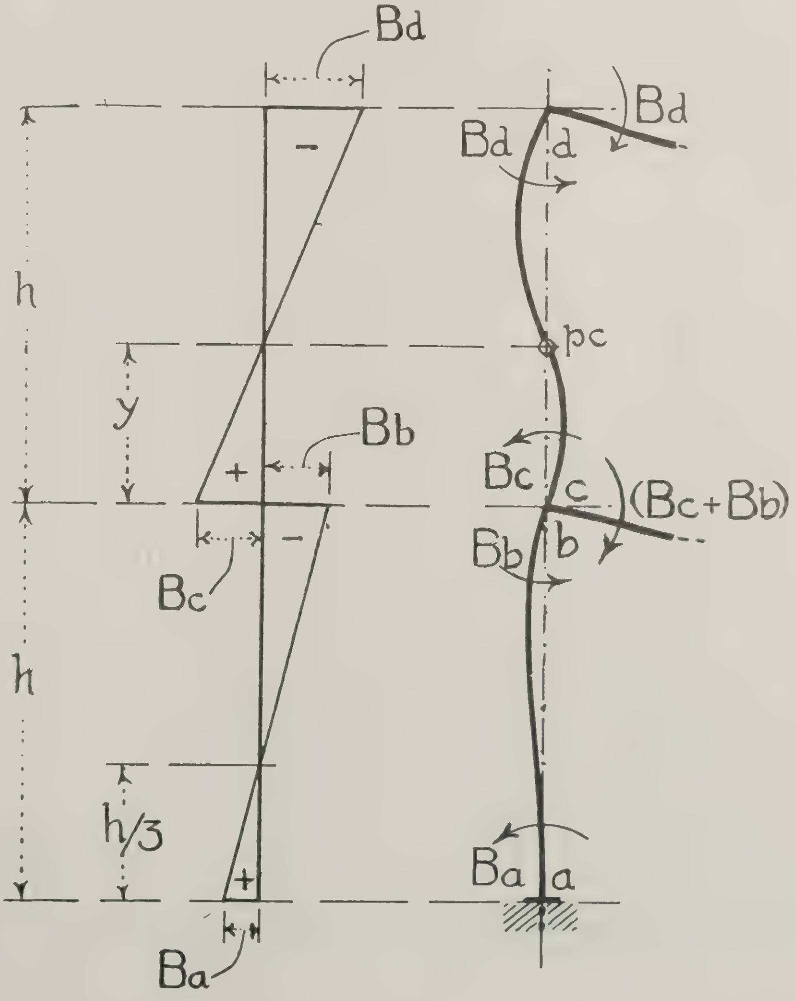
As in the previous case, equations (8) and (9) may be written in the simple forms :

$$Bb = -Bc = -Fb \cdot Q \ldots\ldots\ldots\ldots (8a)$$
$$Bd = -Fc \cdot Q \ldots\ldots\ldots\ldots (9a)$$

in which the factors F*b* and F*c* represent the expressions within square brackets in equations (8) and (9) respectively.



11.



12.

The value of N is found from the following equation :

$$8R{\cdot}N^3-(22R+36)N^2-(4R+15)N+(6R+9)=0\ \ldots\ldots\ldots(10)$$

The values of factors F*b* and F*c* may be read from Chart II for any ordinary values of the ratios *ri* and *rl*.

For example, with values of I*b*, I*p*, *l* and *h* the same as in the previous example,

$$ri = 2{\cdot}00$$
$$rl = 3{\cdot}00$$

Lay a straight-edge across Chart II from 2·00 on the *ri* scale to 3·00 on the *rl* scale. The values of factors F*b* and F*c* are read where the straight-edge crosses the F*b* and F*c* scales, i.e.

$$Fb = 0{\cdot}45$$
$$Fc = 0{\cdot}78$$

To ascertain the values of these factors by calculation without using Chart II it is necessary to solve equation (10) and then substitute the value found for N together with the known value of R, in equations (8) and (9), as shown below.

The *ratio of ratios* $R = ri/rl = 2/3 = 0{\cdot}667$. Substitute this value of R in equation (10),

$$(8\times0{\cdot}667)N^3-(22\times0{\cdot}667+36)N^2-(4\times0{\cdot}667+15)N+(6\times0{\cdot}667+9)=0,$$

from which

$$N = 0{\cdot}37.$$

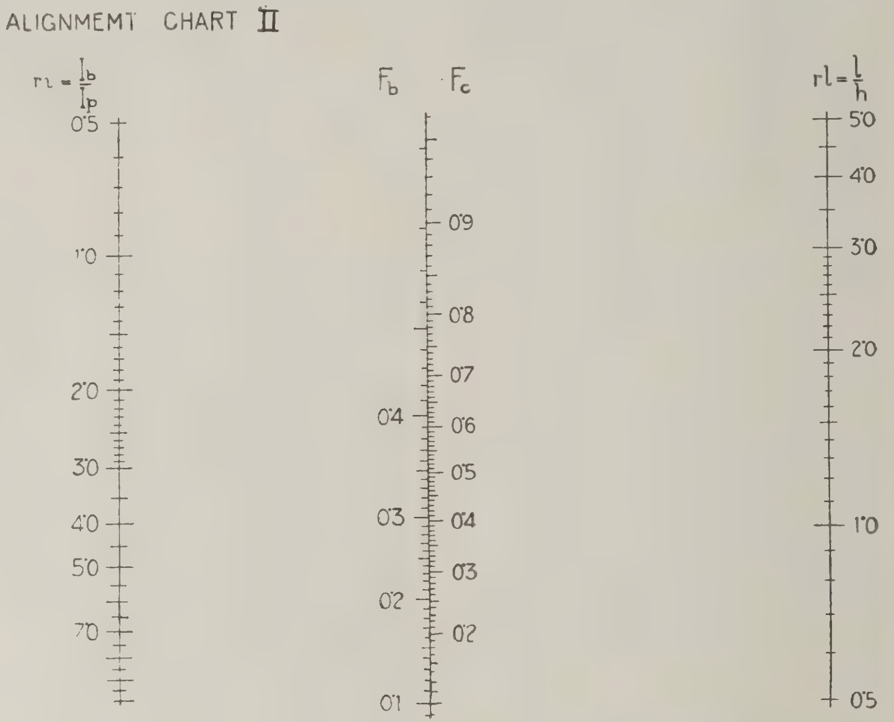
The values of R and N found above are now substituted in equations (8) and (9).

$$Bb = -\,Bc = -\left[\frac{3+1{\cdot}48}{0{\cdot}99+2{\cdot}96+6}\right]Q$$
$$= -\,0{\cdot}45\ Q$$

$$Bd = -\left[\frac{3}{1{\cdot}33-0{\cdot}49+3}\right]Q$$
$$= -\,0{\cdot}78\ Q$$

The qualifier Q depends upon the distribution of weight on the beams, and its value is given in Table I.

Beams of single span only, monolithic with pillars, have been considered in this article. Clapeyron's Theorem of Three Moments lends itself equally well to the treatment of monolithic structures in which the beams are of more than one span, but space does not admit of further discussion or of proofs of the formulæ and equations given in this article. These will be found in "Reinforced Concrete, A Practical Handbook," by Harrington Hudson (Chapman and Hall).



Magazines of the Month*

A Literary and Pictorial Digest

THE Contessina Lisa Scopoli has written an article for the July ARCHITECTURAL REVIEW on "A Pope's Peace Memorial," which, though projected, has not yet been carried out. Three years ago, says the writer, the late Pope Benedict XV entrusted the architect Armando Brasini with the preparing of a scheme for a great basilica as a thanksgiving for the re-establishment of peace. A large piece of ground was offered in the new quarter of the Parioli, in Rome, and the Pope selected Brasini to prepare designs. Brasini is an artist who, "through a curious and interesting psychological peculiarity, seems to perpetuate in himself the artistic vision and temperament of the sixteenth and seventeenth centuries." He is a man under forty who "has worked his way up through personal experience and practical craftsmanship, as artists used to do in the golden times of Italian art," and his passion is the baroque of Bernini, Rossi, Fuga, and Longhena. The building, as the illustrations show, is in this manner, and yet personal to Brasini himself. His plan is exceptionally interesting. It owes its inspiration to Bramante's design for St. Peter's, but he has turned the Greek cross so as to set the façade of the building between two of its arms, instead of at the end of one of them. It has a central altar under the dome, and four chapels at the corners, and the priests' dwellings are connected to the church.

The same issue contains articles on King's Lynn by Professor A. E. Richardson, on the War Memorial at Ely Cathedral by Guy Dawber, on the Architectural Courts at the Crystal Palace, and on the Secretariats or Government Offices at New Delhi—Herbert Baker's great buildings—which are not yet completed. The Secretariats are built in two blocks overlooking Delhi. The Processional Way rises between them and goes on to Government House, which is in the centre of the platform beyond. The stone used generally is a red and white sandstone, the great wall and the basement being red, and the superstructure white. Immense quantities of this sandstone are found on the hills beyond the city; and it is an interesting fact that Delhi has probably been chosen as a capital from time immemorial because of the position of this quartzite outcrop, which is the only stone outcrop on the upper regions of the plains of India. The work is being carried out by the engineering department of the Government of India. Under the engineers are half a dozen English foremen specialists. All the rest of the labour is Indian.

In its section on Architecture, the July LONDON MERCURY deals with the architectural exhibits at the Royal Academy. Messrs. H. Percy Adams and Charles Holden, Sir John Burnet and Partners, Gilbert Scott, and H. S. Goodhart-Rendel are picked out for special mention, but the general opinion of the critic is that "the variety of ideal shows a marked lack of anything approaching a national conviction in this art."

THE CONNOISSEUR for July contains an article on the "Old House" at Sandwich, one of the most perfect Tudor houses that we have left to us in England. The "Old House" is half-timbered. It has a fine entrance hall, and a drawing-room—the old living-room of the Tudor house—panelled in oak wainscot, and with a magnificent carved oaken chimneypiece from floor to ceiling. "The Queen's Bedchamber" is another delightful room, and has a most elaborate ceiling. The "Queen" was Elizabeth.

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* All the magazines here mentioned may be seen in the Reading Room at 29 Tothill Street Westminster.

LA CONSTRUCTION MODERNE has an interesting leader on the Palace of Government of Rio Grande do Sul. "The State of Rio Grande do Sul," says the writer, "is one of the most prosperous in Brazil. The town of Porto Alegre, the capital, had, even before the war, a population of nearly 150,000, and is increasing in importance daily. The Palace of Government was in 1909 not erected, and there was in the country no architect capable of undertaking the work; it was therefore necessary to approach a foreign architect. The Government wished to employ a French architect who would be able not only to furnish designs and plans, but also sacrifice the necessary time for the actual superintendence of the work while it was in progress. So the Government, through the consular service, invited M. Maurice Gras, a Paris architect, to make the journey out in order to study the site. Thus M. Gras arrived in Brazil in 1909, and was entrusted with the commission by the Government of Rio Grande. Enormous difficulties arose, however. Almost all materials had to be obtained from France. Even the stone came from Lorraine, each piece hewn and ready to be placed in position. The steel framework, the staircases, the steel floors, the covering, the decorative features—were all ordered in France, executed in Paris, and sent out to Brazil. The erection of the Palace thus went on without a hitch or untoward incident, despite the difficulties attendant on carrying out work so far away. Supported by the President and the Minister of Public Works, M. Gras was able to place nearly all the contracts, amounting to several million, with French firms. Thus at the same time he swept away the German competition, and, at Government expense, imported French workmen and foremen who established themselves in the country. When in 1914 war broke out, the Palace was not entirely finished, although the main part of the work was completed. Part of the interior decoration, however, remained to be executed, also the outlying buildings and terraced gardens, for which plans and designs had been supplied to the Government. But in 1919, as soon as circumstances allowed, the Government decided to have the scheme finished from Paris. So M. Gras, who was just demobilized, took up the work where he had left off, and superintended the erection of the Palace, which is now almost finished, although temporary difficulties have obliged the Government to postpone till later the completion of the interiors. In acknowledgment of his work, M. Maurice Gras has been presented with a gold medal by the Salon of French Artists."

THE PALACE OF GOVERNMENT, RIO GRANDE DO SUL.
(*From "La Construction Moderne."*)

WENDINGEN is a monthly magazine published in Amsterdam. It is unique because it is published in three different languages—Dutch, German, and English. Each issue is devoted to one subject, and the cottage design illustrated on page 96 is taken from an issue on Dutch Architecture. This remarkable issue contains, besides illustrations, only one page of letterpress—a sort of Editorial at the beginning, which is headed "Representative Members of 'Architectura et Amicitia.'" And since it is extremely interesting to English architects it is here reprinted practically in full.

The two existing federations of architects in the Netherlands: The Bond of Netherlands Architects (B.N.A.) and Architectura et Amicitia (A. et A.), make no distinction between graduates of Technical High School (Architectural Engineers) and other architects on the admittance of members. Both submit the formulated condition of bona-fide professional practice; but while the B.N.A. demands from its members successful results of at least three years'

THE SECRETARIATS, NEW DELHI. HERBERT BAKER, F.R.I.B.A., ARCHITECT
(*From "The Architectural Review."*)

practice, A. et A. unites, besides the architects, their assistants and professionals of arts akin to architecture.

As a result of their composition, the sphere of activity of the two federations differs. The B.N.A. is the Trade Union which acts in the interests of the architects and determines and maintains the good principles of the profession. The Society A. et A. is, according to its Articles of Association, the federation which takes upon itself the care of architecture. But at the time of its reorganization in 1916, the federation had to admit that a number of its members could not be considered to be in possession of sufficient insight to enable them to take part effectively in that care for architecture, and it decided to institute a separate category of members who, as Representative Members, were especially commissioned with the protection of architectural interests. In the Articles of Association the following clauses were inserted concerning Representative Members :—

1. The following can be admitted as Representative Members of the Society. Ordinary Members who have attained the age of twenty-three whose technical and æsthetic efficiency shall have been approved by the Committee of Investigation mentioned hereinafter and who place themselves at the disposal of the Society for the fulfilment of a function to which the members' meeting may nominate them, such as Committee or Editorial Member, Member of a Jury, or as Committee Member of every Committee whose activities extend to the province of architecture or nearly-related arts.

2. For this, the candidates must address an application in writing to the Managing Committee, in which the necessary particulars with regard to previous life and study must be mentioned and in which reference must be made to work performed, or original designs must be submitted—all accomplished within the last five years.

A COUNTRY HOUSE AT HULSHORST, HOLLAND.
P. VORKINK, ARCHITECT.

(*From "Wendingen."*)

3. These documents will be judged by the Committee of Investigation to be nominated. As a basis for judgment for this Committee, the following shall apply : That sufficient professional knowledge is apparent from the work submitted and that plastic ability is present to such an extent that the designer's intended expression has become apparent in the work as a whole and in detail.

4. Should the Committee recommend the admittance of the candidate, membership can be granted by the member's meeting.

7. Representative members are exclusively eligible to one of the functions mentioned in clause 1 in this article.

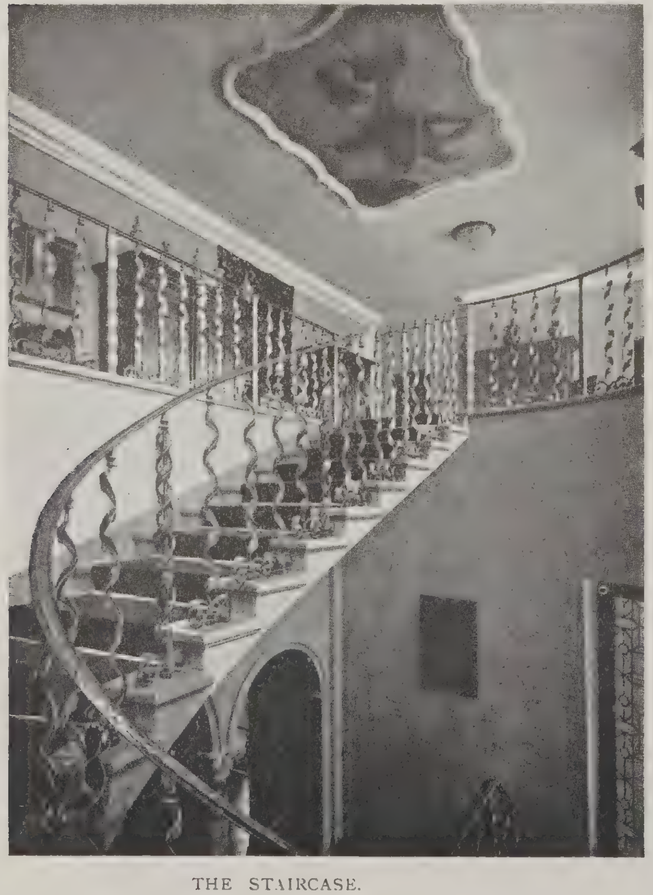
8. A representative member who is found no longer to fulfil the conditions which led to his nomination, can be declared to have been deprived of his membership by the Committee of Management after the Committee of Investigation has been heard. Appeal can be made at the members' meeting.

5. Representative members are bound to exhibit annually and are not subjected to the judgment of a jury for admittance.

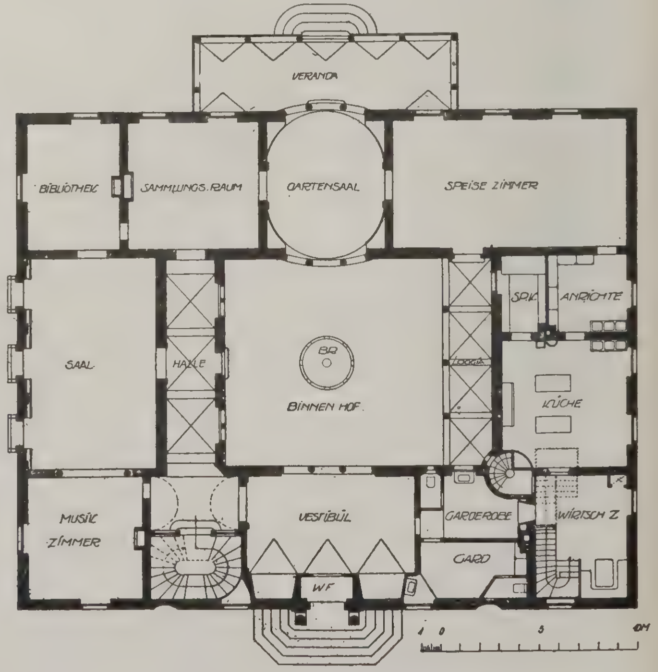
CONSTRUCTION, Toronto, illustrates a series of Branch Banks erected recently in Toronto. The bank shown opposite is in College Street, and is from the designs of John M. Lyle.

MODERNE BAUFORMEN contains an illustrated article upon the Rosenthal house in Berlin-Dahlem, an interior view of which appears here. Professor Breslauer, the architect, has been said to have adapted Spanish motifs to the requirements of the colder climate of Northern Germany. As can be seen on the plan, the house has a cortile, and the general design is strongly reminiscent of many American houses in California, where the Spanish influence is strong. At the same time, however, it has all the coarse and primitive German character.

The June ARCHITECTURAL FORUM of Boston is largely devoted to "Garden Design." It is the quality of life and growth which distinguishes the garden



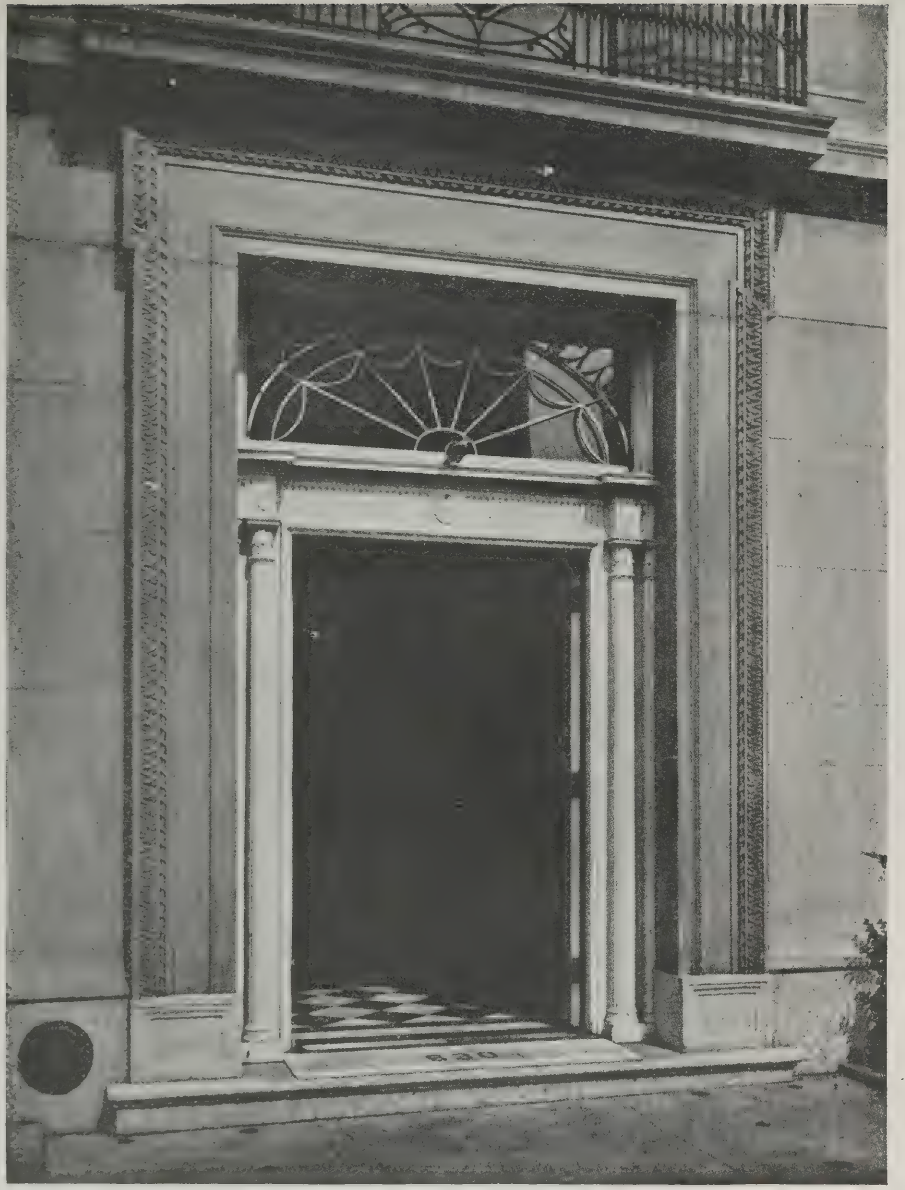
THE STAIRCASE.



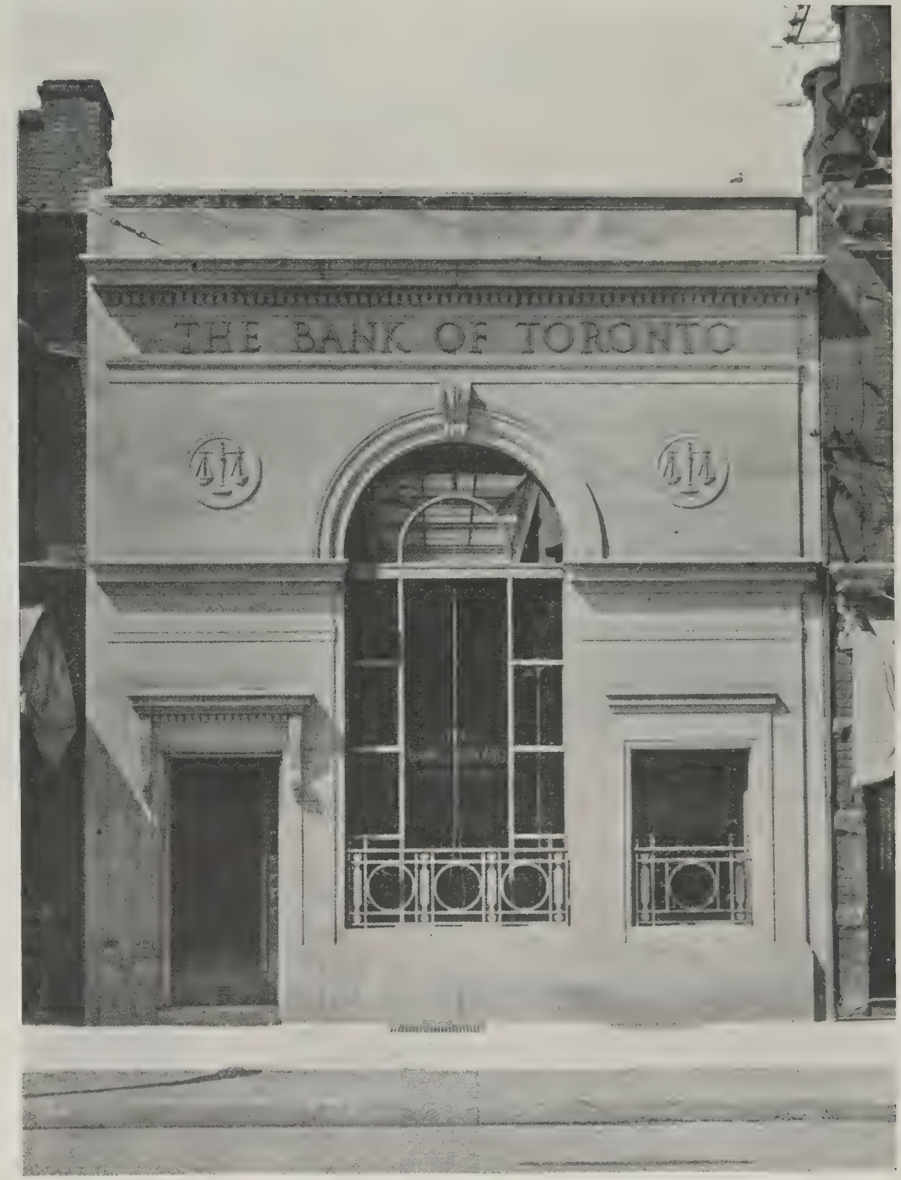
THE PLAN.

A HOUSE IN BERLIN-DAHLEM. A. BRESLAUER, ARCHITECT.

(*From "Moderne Bauformen."*)

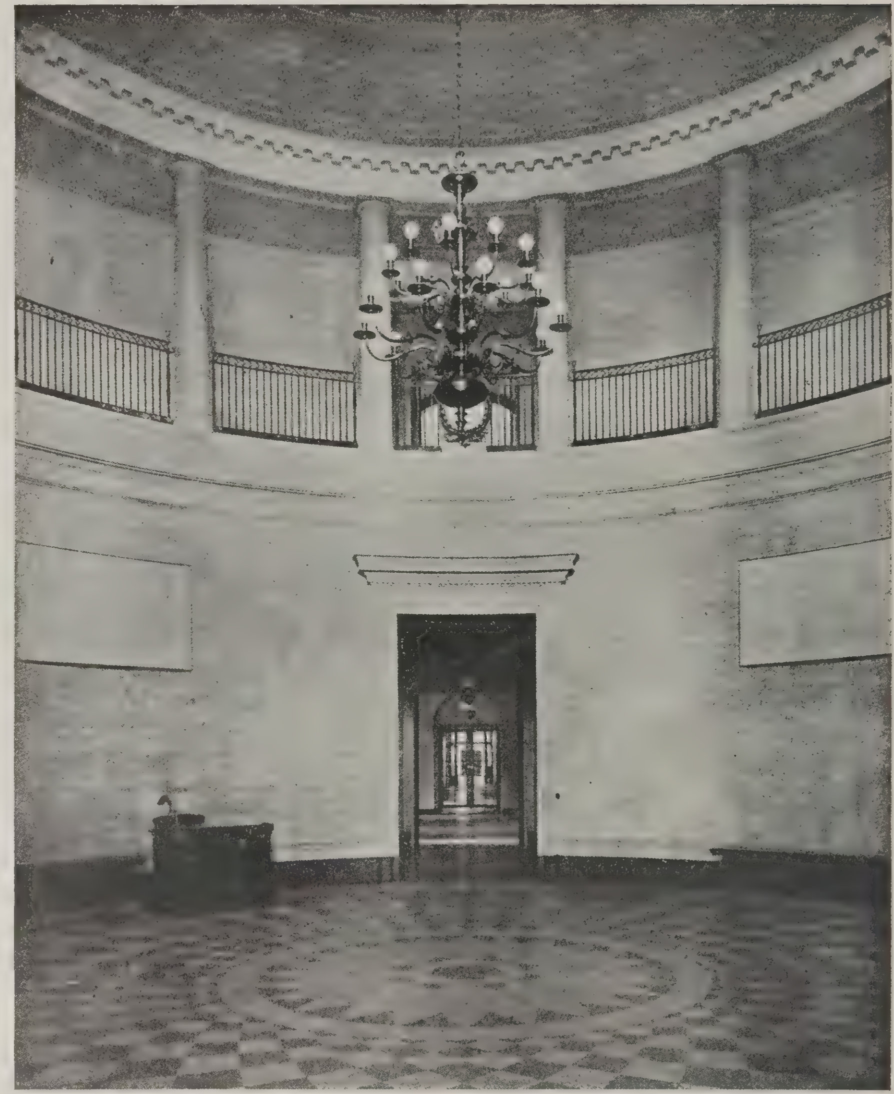


DETAIL OF ENTRANCE OF APARTMENT HOUSE, 630 PARK AVENUE, NEW YORK.
J. E. R. CARPENTER, ARCHITECT.
(*From "The American Architect."*)



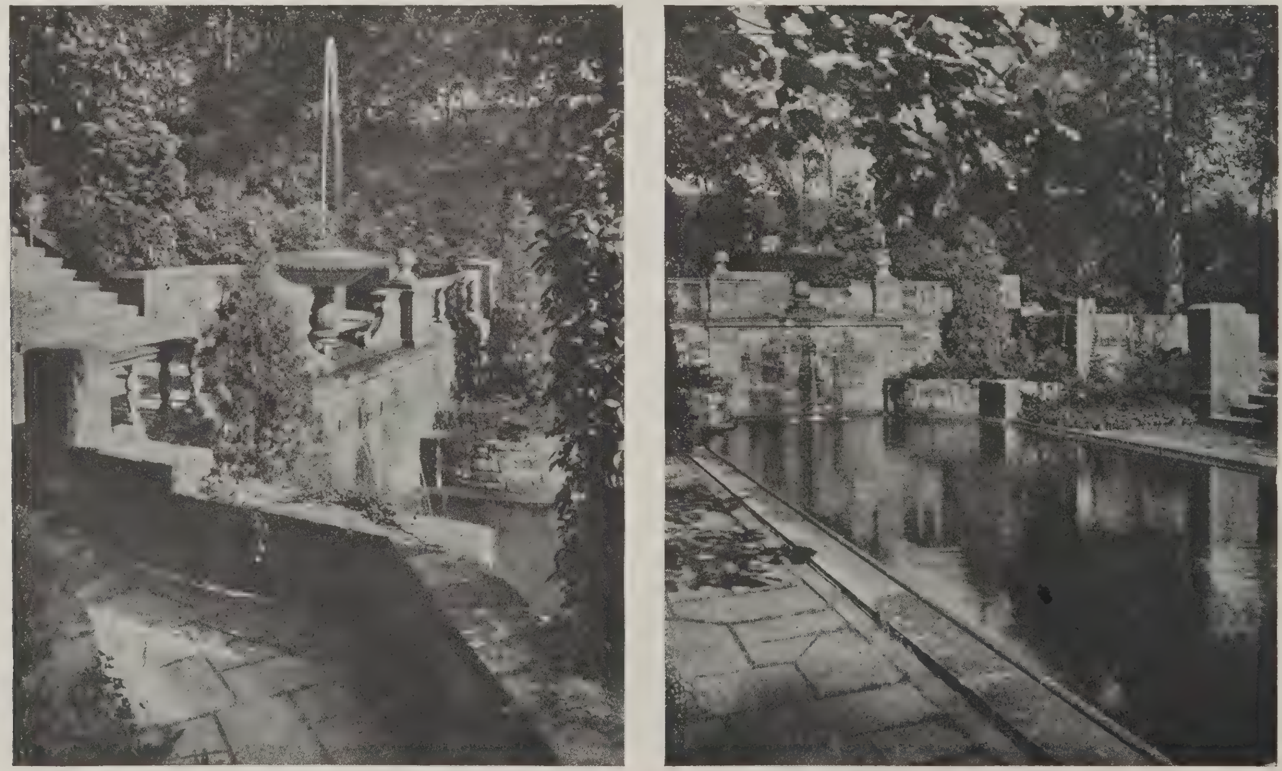
A BRANCH OF THE BANK OF TORONTO.
JOHN M. LYLE, ARCHITECT.
(*From "Construction."*)

from the static work of art, says the writer, E. C. Whiting. "The ultimate forms, the textures, the colours, and the infinite details and subtle harmonies of the garden pictures are made of *living* materials, and it is in the happy balance and pleasing contrasts of these free-growing elements with the rigid elements imposed by man's control that the most satisfying beauty in garden design is attained. . . . Living materials, such as flowers, shrubs, and trees are the chief mediums of the designer's work—and these are changing from hour to hour, from day to day, from year to year. The garden designer must understand these living qualities of his materials, and he must appreciate the influence of those larger and, perhaps, more dominating elements of site and environment over which he has comparatively little control, for it is in both these sorts of conditions that are found the peculiar opportunities of the art." The influence of environment may be divided into two fields—the architectural or stylistic influence, usually established by the house, and the influences emanating from the conditions of the site. "If the garden is close to the house, if it is definitely and organically and visibly related to the house, there should be an evident harmony between the two—a harmony of line, form, material, and colour," but the less pronounced the style of the house, the smaller will be its influence upon the style of the garden. Usually, however, the most dominating influence in garden design is that of the site. The site provides at once a limitation and an opportunity. The garden illustrated here is a ravine garden, and its design is influenced more by the site than by the house. "The site was a narrow gulch in the edge of the woods and extended from the lawn at the upper end to a terraced vegetable garden at the lower. The straightness of the ravine, a distant glimpse it provided across the city, and the fact that it was



ROTUNDA OF THE HARTFORD INSURANCE BUILDING, HARTFORD, CONN. DODGE AND PARKER, THOMAS AND RICE, ARCHITECTS.

(From "The Architectural Forum.")



A GARDEN AT CLEVELAND. OLMSTED BROTHERS, LANDSCAPE ARCHITECTS

(From "The Architectural Forum.")

n a sense a 'way' from one part of the grounds to another, suggested a defined ıxial treatment. The garden is essenially an elaboration of the axis, and needs no other control to give it unity. t melts gradually into the informality of he wooded banks that frame the picture. Vater, sunlight, and the ever-changing hadows from overhanging trees give it ife and atmosphere." It is safe to say, concludes the writer, that the garden vhich shows no recognition of its environnent lacks harmony and fitness.

Other articles in the same issue deal with "Planting for Architectural Effect," "An Italian Garden," and the Hartford Fire Insurance Building, Hartford, Conn., of which a view in the Rotunda is shown opposite. The charm of this building is explained by its simplicity.

The June ARCHITECTURAL RECORD of New York contains the last of a series of articles by C. V. Solon on "Architectural Polychromy," an article on "The Ancient Spanish Granary," some notes upon the early Architecture of Pennsylvania, with some interesting photographs of colonial steeples, and illustrations of the Seaboard National Bank in New York. Its Portfolio of Current Architecture also includes a rather interesting cottage at Broadway, Worcestershire, by E. S. Carpenter.

THE AMERICAN ARCHITECT of June 21 contains an article on Stained Glass, and illustrations of apartment houses in New York, of which the entrance to No. 630 Park Avenue is shown on page 97.

PENCIL POINTS contains articles on "Motion Picture Theatre Data," "The Making of Linoleum Prints," and "Architectural Detail."

Enquiries Answered

Buildings to Measure

Forest Hill.

M. L. writes: "Kindly let me know vhether there are any suitable buildings o measure near Forest Hill."

–Near Dartford there is the church at Stone (*c.* 1251–74), which is an admirable rchitectural subject for study and neasurement. Many drawings have been nade of the wall arcade in the chancel. Another suitable building is the Royal Palace at Eltham, which dates from the fteenth century.

Berwick-on-Tweed.

G.F. writes: "Are there any buildings uitable to measure in or near Berwickn-Tweed? Can you give any facts with egard to the town hall and the parish hurch of Berwick?"

–Very little good work exists in the eighbourhood of Berwick-on-Tweed. The parish church of Holy Trinity, built n a debased Gothic style, was completed y Puritans in the time of the Commonvealth, 1652, when the spire and tower vere deemed unnecessary. It was reored and the chancel added in 1855. There may be a few features in it worth neasuring. In the High Street is the own hall, market-place, and gaol, built y Joseph Dodd, 1754–61. There is the uined castelet of the Carrington family t Cocklan.

Durham.

"Student" writes: "Please give me some nformation about buildings suitable to neasure in the county of Durham."

–The more important buildings are as ollows:—*Early English Work:* Chapel of he Nine Altars in Durham Cathedral; he churches of Sedgefield, St. Andrew's, ukland, and portions of the churches f Ryton, Medomsley, Easington, Chester-Street, Lanchester, and Boldon, and inchale Priory. *Decorated work:* Winows at Brancepeth, Houghton-le-Spring, arlington, and Easington, alterations t Tinchale Priory, the gateway of epyer Hospital, Durham, and windows the nave of Durham Cathedral. *erpendicualr work:* Altar screen and shop's throne at Durham Cathedral, arts of the Palace at Bishop Auckland, nd parts of the churches at Staindrop, hester-le-Street, Darlington, Houghton-Spring, Brancepeth, Sedgefield, Bilngham, Boldon, Easington, Hartlepool, ittington, Lanchester, Heighington, oniscliffe, Medowsley, Dalton-le-Dale, . Edmond's, Gateshead. There is some e Norman work in the cathedral and castle at Durham, and in the churches of Norton, Heighington, Pittington, and Lanchester. Saxon work will be found at the churches of Escombe, Norton, Monkwearmouth (A.D. 674), Jarrow (A.D. 685), and in the crosses to be seen at St. Andrew's, Aukland, Aycliffe, and in Durham Castle.

Great Bookham, Surrey.

Enquirer writes: "Please name buildings near Great Bookham suitable to measure."

—The Church of St. Nicholas, which is partly Norman (piers and arches), is situated at Great Bookham. Built in 1341 by Abbot Rutherwyke, of Chertsey, the church contains many fine monuments and brasses. At Little Bookham there is a small but interesting church, restored in good taste in 1864. Fetcham Church, in the Norman and Transitional Norman style, is also interesting. The church of Effingham is chiefly Early English. East Horsley Church is partly Early English, and was well restored in 1870. At East Horsley Towers, the residence of the Earl of Lovelace, there is much good Gothic work. Some Norman features and a Decorated barge-board, noted by Rickman, and regarded by him as unique, are to be seen at the little church of Merrow.

North Wales.

R.H. writes: "Can you give me a list of Gothic buildings suitable for measuring in North Wales?"

—St. Mary's, Shrewsbury; Abbey Church, Shrewsbury; Old St. Chad's; Wroxeter; Oswestry; Ruabon; Wrexham, tower and apse (Perpendicular); Guesford, tower (Perpendicular); Northop, tower and effigies; Mold; Cilcain, roof; Llanarmon, monuments and chandelier; Llanfwnog, arcades; Ruthin, roof; Llanrhaiadr, window; Efenechtyd, wooden font; Llanrwst, Gwydyr chapel, very fine Perpendicular rood-loft; Whitchurch (Perpendicular); Conway; Beddgelert, old Priory Church (Early English); Clynnog, roof, tower, St. Beuno's chapel; Beaumaris, carving; Llaniestyn, font (Early English); Llanvihangel, pulpit; Llanddyfnan, sculpture; Holyhead, sculpture; Llangadwaladr, windows; Llanaber (Early English); Llanasa, stained glass; Giulsfield, roof (restored); Newton, old screen in modern church; Llanidloes, roof; Pennant Melangell, screen; Llanmer, roof; St. John's, Chester, double row of triforium arches.

South Shields.

H. C. writes: "Is there anything to measure in the district of South Shields?"

—There is Boldon Church (St. Nicholas), crowning a hill midway between Jarrow and Hylton Castle. This was at one time a beautiful Early English church, and the peculiarly designed tower and spire are replete with interest. Although the church has been restored, the principal parts of the original building still remain. Much remains also of the original Church of St. Paul, at Jarrow, dating from the seventh century. At this church good Norman work is to be seen, and the N. and E. windows are of the Decorated style. Two elaborately carved bench-ends of fifteenth-century date are to be seen in the chancel. There is also a chair called "Bede's chair," said to have been used by the Venerable Bede, but it is difficult to imagine how it escaped destruction when the monastery, which once existed at Jarrow, was burnt by the Danes. At Bishopswearmouth some remains of St. Nicholas' Church, founded A.D. 930, still remain, as well as a thirteenth-century sedilia. At Tynemouth Priory some excellent work is also to be seen. At Newcastle-upon-Tyne are the magnificent Cathedral of St. Nicholas, the Keep, and two churches. The Keep contains some fine Norman work. St. John's and St. Andrew's churches contain good work of the Transitional Norman and Decorated periods and fifteenth-century font covers. At Monkwearmouth is the church of St. Peter, which is particularly interesting as being the earliest existing stone church in the country. It contains work of the seventh century.

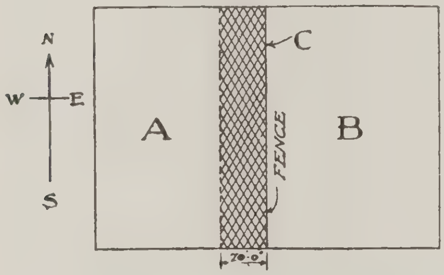
Shrewsbury.

T.C. writes: "What are the best buildings to measure in or about Shrewsbury? Are there any good small examples of half-timber work?"

—There are St. Mary's Church and the Abbey Church in Shrewsbury. Work of all dates from the twelfth to the fifteenth century and good mediæval glass are to be seen at St. Mary's Church. The Abbey Church is Norman, with later Perpendicular and some modern work. In Shrewsbury there are many half-timber houses, such as Ireland's Mansions and the Guildhall. A good detached Renaissance stone building is the market hall, and the old grammar school (now museum) belongs to the early part of the same period. Near Shrewsbury are Wroxeter Church (Transitional Norman and Early English, with later tower); Buildwas Abbey (Transitional Norman work); Much Wenlock Priory (Early English, with Norman chapter-house); Shawbury Church (Norman work and late tower); Haughmond Abbey (Transitional Norman work); and Acton Burnell Church. Buildwas, Much Wenlock, and Haughmond are ruins. In the district there are also many good halls or manor houses, such as Shipton Hall (seventeenth century), and Plaish Hall (*c.* 1533), near Church Stretton; Pitchford Hall (1500–1514), one of the finest half-timber houses in Shropshire; Condover Hall, a Renaissance stone building; Moreton Corbet manor house, Early Renaissance (in ruins), and Pink Hall, a fine half-timber house. There is also Ludlow, with its fine church (thirteenth, fourteenth, and fifteenth century) and castle. In Ludlow there are many good half-timber houses, including the Feathers Hotel and the Reader's House. Stokesay Castle is reached from Craven Arms Station. The gatehouse is a very good small example of half-timber work.

Boundary Fence.

H. S. writes : "A proposes to sell a strip of land shown on the diagram (reproduced below) by a dotted line and cross hatching. B claims the division fence marked C, and also 18 in. on A's land for brushing the fence. Is B right in his claim ? There is no ditch, and never has been. If B claims this right, can the purchaser claim a further 18 in. from A as a set-off against this 18 in. claim made by B ?"



—I am of opinion there is a mistake here, and should expect the boundary to be the "stake root" of the quick fence dividing the properties of A and B. Eighteen inches is neither one thing nor another, and I should imagine is an assumed figure; unless B can show documentary evidence in favour of it I should ignore the claim entirely. Had he claimed 3 ft. or 4 ft. there would be something worth investigating, as that would represent the width of a presumably formerly existing ditch (though the enquiry states this never existed). I can only suggest that A should ask B to show him his evidence—it might possibly be that B himself planted the quick inside his boundary deliberately, and that he is right in his contention. Can anything be deduced from the measurement of the frontage ? If A has contracted to sell a piece of land of so many feet frontage he must certainly deliver it or make good some other way. F. S. I.

"K" System of Drying Damp Walls.

T. A. writes : "Some years ago we had occasion to use what was known as the 'K' system of drying damp walls. It consists of a porous brick, weathered, and has to be inserted at intervals in the damp walls. As far as we recollect, the patent is Belgian or French. Can you give us the address of the British agents ?"

[We are unable to trace this system. If any reader should know of it we should be glad if he would forward information.—Eds. A.J.]

The New Thames Bridge

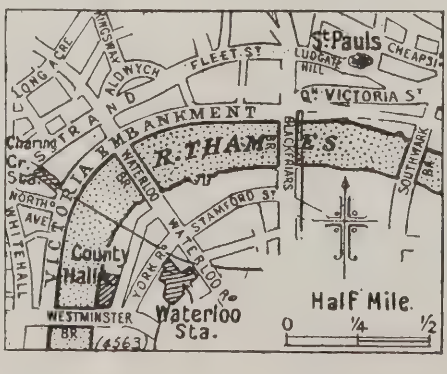
Lord Plymouth, President of the London Society, Sir Aston Webb and Sir Reginald Blomfield, chairman of Council and member of Council respectively of the London Society, have written to "The Times" with regard to the proposal to erect a new bridge, commonly known as St. Paul's bridge, over the Thames, between Blackfriars and Southwark Bridges. On Thursday last the City Corporation were asked to give final instructions to proceed at once with the erection and completion of the bridge.

In the course of their letter the writers observe : We venture to hope that some further time may be given for the consideration of this matter, and that if, as we think, it could be shown that a bridge across the Thames farther west would better meet the requirements of London as a whole, the Corporation would be magnanimous enough to agree to a change of site, even if the site were not within its own boundaries.

Our reasons for urging this are, first, that now London Bridge has been widened and Southwark Bridge rebuilt, a new bridge on the proposed site will not meet any public need commensurate with its cost; secondly, that the area on the south side in this quarter is already sufficiently served by the Southwark and Blackfriars Bridges, which are only a few hundred yards away from the proposed new bridge; and, thirdly, that from the architectural point of view the bridge and its roadway, passing to the east of the Cathedral instead of being axial to it, would be a very serious mistake in civic architecture, the effect of which would never be satisfactory.

The essential point is, we submit, that the proposed St. Paul's Bridge is not really wanted, whereas a great new road bridge crossing the river between Waterloo and Westminster Bridges is very badly wanted.

The congestion of traffic over Waterloo Bridge and its extreme inconvenience to traffic going east and west has been familiar to Londoners for years. The great terminus at Waterloo will increase it, and now, with the opening of the County Hall, the development of the south side of the river with all its possibilities comes within the range of practical politics, with the inevitable corollary of the construction in the near future of a bridge on the largest scale on the Charing Cross site. A glance at the map will show the immense benefit such a bridge would be to the traffic from the south side to the north-west area of London.



The Corporation of the City of London has, on more than one occasion, shown a most generous public spirit in undertaking, for the public good, great enterprises outside the City boundaries, such as Epping Forest, Burnham Beeches, and Shadwell Park. Here is another occasion for civic patriotism, and at the eleventh hour we venture to appeal to the Corporation to reconsider the whole question with a view to substituting a bridge at Charing Cross for the proposed bridge at St. Paul's, and once again to devote, *urbi et orbi*, the great resources at their command.

(At the meeting of the Corporation the St. Paul's Bridge proposal was referred back.)

The British Academy

At the annual general meeting of the British Academy, held under the presidency of the Earl of Balfour, the following were elected Fellows of the Academy : T. W. Allen, A. L. Bowley, O. M. Dalton, W. S. Holdsworth, H. H. Joachim, A. G. Little, R. A. Nicholson, and A. W. Pollard. Lord Phillimore and Mr. Charles M. Doughty were elected as Honorary Fellows; and Signor Remigio Sabbadina as Corresponding Fellow.

On the motion of Lord Balfour it was resolved to send a message of cordial congratulation to the Asiatic Society of Paris, which was celebrating not only its own centenary, but also the centenary of Champollion, the discoverer of the key to the Egyptian hieroglyphs. By a happy coincidence his lordship welcomed Sir Arthur Evans, who had just returned from four months' renewed excavation at the palace site of Knossos, Crete.

Sir Arthur Evans said that amongst the new features brought to light was part of a grand staircase in the west wing of the building, fresh arrangements connected with the State entrance, and a great bastion on the north. The most surprising developments, however, occurred within and about the south-east angle, connected with a great earthquake to be dated about 1600 B.C. Early houses near the palace walls had been overwhelmed by these huge blocks and afterwards filled in, after an expiatory sacrifice of bulls, of which traces remained. A mass of interesting relics was found in the filling and beneath, including some of the finest polychrome vases yet brought to light, and a terra-cotta figurine of a youth of great artistic value. Beneath the palace angle itself, which had fallen in owing to the catastrophe, appeared an earlier rock-cut vault, and leading from it an artificial cave, with a kind of lair as if of some great beast.

The Architecture Club

We learn that a new club has been or is being formed, called "The Architecture Club," composed chiefly of architects and writers. Its activities will consist in arranging exhibitions of architecture, in inspecting and discussing modern works of architecture, and in fostering interest in and criticism of architecture in the Press. The prime mover of the scheme is the secretary, Mr. J. C. Squire, the editor of "The London Mercury."

Contemporary Art : Exhibitions at the Leicester and Goupil Galleries

With the summer months, art galleries —as distinct from museum galleries— re admittedly going through their annual ean period, because, modern town life eing what we know it to be, the leisurely nd moneyed classes are too busy winding p the season with Ascot, Ranelagh, ord's, and Goodwood, before the general catter to Cowes and the North. West nd galleries, therefore, choose this eriod to avail themselves of their less ensational material. You may have bserved that fashionable artists, those ery much in the public eye, seldom, if ver, exhibit in July or August. What he art critic of "The New Age" or of 'The Manchester Guardian" might say atters little, so long as Mayfair, Ken-ington, and St. John's Wood (the more enteel part of it, of course) know, nod, nd buy—and that never takes place ust now. But, somehow, these galleries ave to keep open with something or ther, and they do. The wonder is that hey still manage to show interesting ork; yet three excellent exhibitions are eing held now, for instance. That of 'Drawings, Old and New," at the eicester Galleries, is of much value, and ncludes examples by great artists. The election is varied, and covers some of the ost fruitful periods of Renaissance and odern Art: Peter Breughel, Guardi, embrandt, Gainsborough, Morland, iepolo (do not miss his "Death of leopatra" (31), or his "Design for a eiling Decoration" (39)), Cotman, and e Wint. And then, more modern artists ress on : Holman Hunt, Burne-Jones, ossetti, Ingres, Daumier, Alfred Stevens, nd Beardsley. But perhaps you dis-ke the Victorian period ? Well, you an then give your attention to Forain, alter Sickert, and Degas, and Strang, nd Augustus John. Really, here are ictures to satisfy all tastes. When I trolled in at a quiet hour of the day, an x-Prime Minister, looking *molto ricco*, as having such fun. Catalogue in and and pince-nez strongly poised, he eemed to relish the very-modern-but-ne: James McBey, Prof. H. Tonks, . Y. Cameron, and Weatley. Sir illiam Orpen's clever portrait of William icholson, 1909, also attracted him, but grieve to report that Messrs. Roberts, omberg, Wyndham Lewis, and Stanley pencer's work did not come in for much ttention. The Right Hon. gentleman referred to wait and see the old masters, r those modern ones whose reputation is ecurely entrenched.

The far room in the same galleries con-ains paintings of Tunisia by Baron odolphe d'Erlanger. Obviously an mateur, Baron d'Erlanger wields the rush with a good deal of ability. His rger canvases are, to my mind, a mis-ake. Much nicer, much more valuable, re his small oil annotations. "Street in airo" (2), the "Door of a Zaonia" (31), r "Cairo, Twilight" (35) are charming ttle sketches. The picturesque "bit" ttracts him, and it is in the treatment of ese that he shows to greatest advantage.

The Goupil Gallery holds three exhibi-ons. The "Summer Exhibition" con-ains some good examples of modern works. For those "who know what they like" I commend Elizabeth Drury's "In the Luxembourg Gardens" (4), a well-balanced study of an underwood, of exceedingly fresh greens. This gifted lady surely enjoyed doing it. Rather similar in technique and manner is William Nicholson's "Aux Champs Elysées." It is what is known as able and accomplished. Wilson Steer dominates the room with his "Harbour Entrance" (18), an oil of tremendous vigour. A direct and simple "Cottage Girl" (19), by George Clausen, R.A., and a fine study of "Fruit" (20), by Mark Gertler, are alone worth a visit. Upstairs one comes up against an illuminating contrast between old-fashioned paintings and sketches on the one hand, and modern fashionable sculpture on the other. Never excessively thrilled by stodgy and laboured canvases, I yet much prefer those of Johann and Oswald Sickert to the contemporary bronzes and marbles of Eleuterio Riccardi. In connection with this, a little honest aside will not be amiss. Now, Signor Riccardi is an able modeller, but his artistry is wretched, and were it not for the two bronzes of "Lord Buckmaster" and "Frederick Delius, Esq.," which are rather nice and straightforward, such a show should be ignored. To worry out, as commissions, portraits of Eminent Statesmen and Society and Elegant Ladies is one thing; to do so with a total disregard of artistic honesty and then foist them upon an unsuspecting public quite another. Such things as the gilded terra-cotta bust of "Countess Raben," or the kiss-mummy called "Maternity," are amazing essays in vapidity. If those insipid, facile, and mawkish little statues called "Bacchante," "Tête d'Ange," and "Nymphe," are made such a fuss of by our Fashionable Public, then it is time that the kind of sarcasm which, perchance, might sting them should be dealt out, because to encourage stuff of this calibre is well-nigh disastrous. Painstaking as they are, it is a relief almost to fall back on the sketches of the Sickerts, because we face, at any rate, honesty. These two artists, father and grandfather of Walter Sickert, our Post-Impressionist painter, are dull on a whole, but theirs is sincere and ably painted work. The water-colours and pastels of Oswald (1828–1885) are most likely to appeal to a modern public on account of their resiliency and freshness, but the oils should not be dismissed too quickly. "Mr. Robert Sickert as a Child" (26) has great merit; in it strong influences of Rubens are clearly discernible, and the "Early Portrait of the Artist" (17) is also very good; painted when hardly sixteen, it speaks well for the thorough training which those quiet Danish painters underwent with such will and sincerity.

G. HOLT.

The Rio Pavilion : A Correction

We regret to say that owing to a misunderstanding the dome for the Rio Pavilion was attributed, in last week's issue of the JOURNAL, to Mr. Anning Bell, A.R.A., whereas the whole of the stained-glass dome is, in fact, the work of Mr. Reginald Bell, of Messrs. Clayton and Bell. Some of Mr. Reginald Bell's brilliant cartoons will be illustrated in next week's issue.

Victoria University of Manchester

Following are the awards for the session 1920–21 of the Victoria University of Manchester School of Architecture :—

B.A. DEGREE HONOURS ARCHITECTURE. FINAL EXAMINATION.

First Class.

R. A. Cordingly. Elsie Rogers.
J. P. Nunn.

Second Class, First Division.

W. R. Briggs. W. H. Norbury.
P. G. Fairhurst. R. J. Willis.

Second Class, Second Division.

G. H. Gatley.

The Manchester Institute of Builders Travelling Scholarships of £120 and £60 were awarded to Mr. R. A. Cordingly and Miss Elsie Rogers respectively, and a graduate prize of £5 was awarded to each of these students.

The Jarvis Travelling Scholarship of £50 was awarded to Mr. J. P. Nunn.

The A.S.A.P.U. and Overcrowding

Following are the results, (which were announced at a meeting of the new Council), of the elections of the officers and Executive Council of the Architects' and Surveyors' Assistants' Professional Union for the ensuing year : President, A. J. Penty, Lic.R.I.B.A.; Vice-President, J. M. D. Henderson, M.S.A., A.R.I.B.A. (Ayr); Hon. General Treasurer, R. G. Strachan, P.A.S.I.; Director of Employment, T. Bilbow, M.S.A.; Executive Council : Chas. MacLachlan, A.R.I.B.A. (Chairman), H. D. Funnell, F.S.I. (Vice-Chairman), T. Braddock, D. Cameron, C. R. Cathrow, R. F. Curling, L.R.I.B.A., W. S. Dalton, H. J. Davies, M.S.A., G. F. Fox, J. A. Gould, G. N. Hannam, P.A.S.I., W. H. Jackson, A. M. Laurie, A. Mather, M.S.A.; Advisory Member of Council, P. W. Farmer.

In accordance with the instruction from the National Convention of Delegates, 1922, the following resolution was passed for communication to the press, and for presentation to the Headmasters' Association, to serve as a warning to all interested in the recruitment and training of persons entering the professions :—

"The Executive Council of the A.S.A.P.U. desires to draw attention to the severely overcrowded state of the architectural and surveying professions at the present time, and warns students, parents, guardians, and schoolmasters, also such students who contemplate leaving at the end of the present school year to take up architecture or surveying as a profession.

"Owing to the scarcity of money for capital work, which must continue for a long time yet, the amount of building work in hand and under consideration is very small. Well-known practitioners have very little work in their offices; many small offices have none at all; Government and municipal staffs are being drastically reduced; and hundreds of assistants, most of whom are fully qualified men, are without employment.

"Those who enter the professions can only come in to share the present distress, and the Executive feels that this should be very plainly put before them."

News Items

Woking Hospital.

£7,733 has been obtained towards Woking's hospital extension scheme.

Rebuilding at Harrogate.

Harrogate proposes to rebuild the Spa Rooms attached to the Royal Hall, at an estimated cost of £29,000.

Reconstruction of Buxton Natural Baths.

A beginning is to be made with the reconstruction of the Buxton Natural Baths at an estimated cost of £20,000.

The International Theatre Exhibition.

The International Theatre Exhibition at the Victoria and Albert Museum will remain open till July 31.

Promenade, etc., for South Shields.

With a view to providing work for the unemployed during the coming winter, the South Shields Town Council have adopted an extensive scheme of improvements at the seaside.

Exhibition of "Problems in Design."

The Problems in Design submitted by candidates for the R.I.B.A. Final and Special War Examinations are on exhibition in the Galleries of the R.I.B.A. until Friday, July 21, between the hours of 10 a.m. and 5 p.m.

Proposed Bridge Reconstruction at Shrewsbury.

It is proposed to reconstruct and double the width of the fine eighteenth-century English bridge that crosses the Severn—one of the most beautiful bridges in the country, and the subject of a painting by Turner.

Bridge Built in Twenty-six Hours.

Sixty men, working at top speed, have dismantled a seventy-five ton bridge and erected a new one in the short space of twenty-six hours. The bridge spans the Midland and Great Northern joint line near Counter Drain Station, Lincolnshire.

Brighton Aquarium.

Although Brighton Town Council has definitely adopted a scheme to convert the Aquarium into a motor-coach station, strong efforts are being made to reverse that decision. A rival scheme to transform the buildings into a pleasure centre is said to have influential backing.

Bathing Pool at Hartlepool.

The open-air bathing pool, the plans of which the Hartlepool Town Council have just approved, is to be constructed at the South Cliff, and will be semicircular in shape, having a length on the land side of 250 ft. A concrete wall will enclose the pool on the seaward side; the depth will range from 2½ ft. at the shallow end to 6 ft. at the deep end.

Architects' Fees for Abandoned State-aided Housing.

For the guidance of members, the R.I.B.A. have worked out, in conjunction with the Ministry of Health, examples of the application of the revised scales of professional charges which have now been established for abandoned housing schemes. Copies of these examples, showing the manner in which the fees are calculated, also the average cost of houses in the months subsequent to July 1921, will be supplied on application to the R.I.B.A.

Exhibition of American Architecture.

An exhibition of American Architecture is being held under the auspices of the Liverpool Architectural Society (Incorporated) at the Walker Art Gallery, Liverpool, until July 22. The exhibition was opened by Mr. Gilbert W. Fraser, F.R.I.B.A., President of the Liverpool Society, and an address was delivered by Professor C. H. Reilly, O.B.E., F.R.I.B.A.

Famous House Burnt Down.

One of the most famous houses in England, at Redruth, Cornwall, has been burnt down. A granite tablet on the house reads as follows: "William Murdock lived in this house, 1782 to 1798; made the first locomotive here, and tested it, 1784; invented gas lighting, and used it in this house in 1782. Erected by Tangye Brothers, Birmingham."

International Meeting of Builders.

Members of the Superior Council of the International Federation of Building and Public Works are visiting London from July 17 to 21. Their headquarters are at the Hotel Victoria. There are delegates from France, Belgium, Holland, Italy, Switzerland, Poland, Szecho-Slovakia, and Great Britain. As the guests of the National Federation of Building Trades Employers of Great Britain and Ireland (an affiliated body), H.M. Office of Works, the Port of London Authority, and other bodies, the delegates will pay official visits to Westminster Hall, to inspect the roof, the London Docks, and the housing schemes being developed by the London County Council at Dagenham, the Borough of St. Pancras at Highgate, the Borough of Hampstead at South End Close, and the Government at Woolwich. There will also be visits to the Tower, Windsor Castle, and Hampton Court Palace, and various other social functions.

Royal Sanitary Institute Congress.

Up to the present some five hundred delegates have been appointed from British Dominion and foreign government departments and municipalities to attend the thirty-third Congress and Health Exhibition of the Royal Sanitary Institute, which opens at Bournemouth on July 24. In addition many members of the Institute, which total over five thousand, will attend. The Congress, to take place under the presidency of Major-General the Rt. Hon. J. E. B. Seely, P.C., C.B., C.M.G., D.S.O., M.P., will be divided into five sections. There will also be conferences of representatives of various professions, an exhibition of apparatus and appliances relating to health and domestic use, a number of popular lectures, and the social side has been well developed by the provision of facilities for interesting boat and motor trips, golf, etc. The president of the section devoted to engineering and architecture is Sir Henry Tanner, C.B., I.S.O., F.R.I.B.A., the recording secretary is Mr. A. Saxon Snell, F.R.I.B.A., and the local secretaries are Messrs. F. P. Dolamore, F.S.I., and Samuel J. Newman, F.R.I.B.A. Full particulars of the congress, which closes on July 29, may be obtained from Mr. E. White Wallis, F.S.S., secretary to the Institute, 90 Buckingham Palace Road, London, S.W.1.

R.I.B.A. Visit to Greenwich Hospital and the Royal Naval College, Greenwich.

With the permission of the Director of Greenwich Hospital the Art Standing Committee of the R.I.B.A. have arranged a visit to the hospital on Saturday, July 22, 1922. Members and their friends who intend to take part should arrange to be at the tram stop, King William Street, Greenwich, at 3 p.m. on the date mentioned, where they will be met by Mr. T. C. Agutter, F.R.I.B.A., on behalf of the hospital authorities.

Those intending to take part should notify the Secretary, R.I.B.A., as soon as possible.

List of Competitions Open

Date of Delivery.	COMPETITION.
Aug. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Apply, by Aug. 1, to "Chicago Tribune," 5 Rue Lamartine, Paris.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8,000 francs.
Nov. 1	New Town Hall and Municipal Offices in Victoria Park, Colombo. Cost not to exceed Rs. 1,000,000. Premiums Rs. 5,000, Rs. 3,500 and Rs. 2,000. A F.R.I.B.A. will act as assessor. Apply Secretary, Municipal Council, Colombo. Deposit Rs. 25.
No Date	Lay-out of Land at West Cliff, fronting the sea, in Promenades, Recreation Ground, Roads, and Building Plots. Premiums £300, £200, and £100. Apply Mr. A. Blasdale Clarke, Town Clerk, Albion House, Ramsgate.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
	Southend Proposed Secondary School. At the request of the Competitions Committee of the R.I.B.A., the drawings required in this Competition will be to a scale of 16 feet to the inch.

Competition News

Ipswich War Memorial.

The assessor's award in the above competition will be announced this week. An exhibition of designs, of which more than 180 have been sent in, will be opened on August 9.

Colombo Town Hall and Municipal Offices.

The secretary of the R.I.B.A. has cabled the promoters of the above competition pointing out the inadequacy of the time allowed to competitors in this country and urging that an extension of time should be granted.

"Chicago Tribune" Building.

Architects desiring complete information and applications for entry in this competition should write at once to Colonel R. R. McCormick and Captain Patterson, editors and publishers of "The Chicago Tribune," at the office of "The Chicago Tribune's European Edition," 5 rue Lamartine, Paris, France. Applications for entry must be filed before August 1. Drawings must be submitted between then and November 1, 1922.

Law Reports

Alleged Defective Drain: A Fine Point

Higgs v. The Corporation of Croydon.

King's Bench Division.
Before the Lord Chief Justice and Justices Lush and Bailhache

This was an appeal by the plaintiff, the owner of a house at Beulah Hill, Upper Norwood, against a decision of the Croydon justices, who had imposed penalties upon him for failing to obey a notice served upon him by the Croydon Corporation to repair a drain that ran from his house and other adjacent houses and which was out of repair. The proceedings were taken under the Croydon Corporation Act of 1905 and the Public Health Act, 1875 (section 41).

Mr. Schofield, K.C., for the appellant, explained that his client was called upon to repair a defective "single private drain" that ran from appellant's house and was connected with other houses in the street. He did not obey the notice, and was fined. The preliminary objection was made that no penalty was recoverable under the Act, while also it was argued that the line of pipes was a sewer because it was laid under the Public Health Act to the satisfaction of the Corporation. The main point was that the notice was bad because it called upon the appellant to repair a drain that ran through other people's property, which property he would have to disturb if he carried out the work.

Mr. Colam, K.C., for the Corporation, said the case was a test one to decide the question whether the Corporation should do the work as upon a sewer, or whether the house owners should do it as upon a drain.

Allowing the appeal with costs, the Lord Chief Justice said the preliminary objection to the notice should have succeeded before the justices. Although it was obviously reasonable that a man should be ordered to pay penalties if he refused to remedy a nuisance arising from his own drain upon his own property, it was unreasonable to call upon a man to repair a drain which he could not wholly repair because, if he carried out the work, he would have to trespass upon other people's property.

The Justices agreed.

Dilapidation Claim: Interesting Issue

Executors of J. C. Lovell v. Sexton.

King's Bench Division.
Before Mr. Justice Sankey.

In this case the plaintiffs sought to recover possession of 150-152 Church Street, Kensington, under a proviso for re-entry in the tenancy agreement granted to the defendant.

Mr. H. G. Robertson appeared for the plaintiffs, and Mr. S. A. Kyffin for the defendant.

Mr. Robertson said the breaches of contract complained of were dilapidations and underletting without consent. The tenancy agreement was made upon September 28, 1900, between the defendant and the predecessor in title of Mr. Lovell. No question arose about the title of the plaintiffs, and the yearly rent was £65. The agreement contained a repairing covenant and a proviso that the tenant would not assign or underlet. Then there was the proviso for re-entry. After Mr. Lovell's death in 1919, his executors instructed their surveyor, Mr. Joseph Hill, to inspect the premises, and he found them in a very dilapidated state, chiefly owing to no repairs having been done. Upon September 1, the usual notice was given under the Conveyancing Act, stating what was required to be done. Nothing was, however, done by October 18, and on October 20 the action was commenced.

The defendant, said counsel, denied the breaches alleged, and denied that a reasonable time for carrying out the plaintiffs' requirements had elapsed before the action was commenced. Defendant also denied that the sum of £156, which was a builder's estimate for the work, was a proper amount. With regard to the underletting, that appeared to be admitted, but the defendant pleaded it was done with the acquiescence of Mr. Lovell during his life. Defendant counterclaimed for relief under the Conveyancing Act. Of course, there was no relief obtainable in respect of the underletting. Mr. Thomas Sexton, husband of defendant, said they had spent £300 in repairing the property since 1900.

His Lordship said he proposed to say that the dilapidations should stand at £100, mesne profits at £65, and other sums amounting to £10 13s., or £175 13s. altogether. If by September 16 the defendant paid the sum and would allow the plaintiffs to go on the premises and repair them at reasonable times, then she would stay on. If she did not pay upon that date, she must go out upon September 29, and the plaintiffs would then have to do the best they could to get damages by such means as the law allowed. That meant judgment for the plaintiffs for £175 13s., upon the terms he had stated.

Question of Deduction for Repairs from Income Tax

The King v. Tax Inspector Parish of Kingsland, ex parte Pearson, Kingsland Estate.

King's Bench Division.
Before the Lord Chief Justice and Justices Lush and Bailhache.

This case raised an important point in regard to the question of deduction for repairs from income tax return.

The Attorney-General, Sir E. Pollock, K.C. (with him Mr. R. P. Hills), appeared to show cause against three rules for prohibition, certiorari, and mandamus obtained by the trustees of the Kingsland Estate in Kingsland and Shoreditch (London) directing the Commissioners of Inland Revenue and the local inspector of taxes to show cause why an additional assessment for income tax for the year 1920–21 under Schedule A should not be quashed. In addition it was sought to prohibit any further additional assessment, and the Court was asked for an order that such additional assessment by the inspector was null and void, being made without jurisdiction. He argued that the property owners had mistaken their remedy. They had the proper course of appeal laid down by the rules, with the result that the application to the Divisional Court was out of order. There was no question of law to be raised which could not be dealt with by the Income Tax Commissioners.

Mr. Montgomery, K.C. (for the Trustees of the Kingsland Estate), said the figures about which the appeal to the commissioners could be made had been agreed, and the point of law only remained. They came to the High Court straight away to avoid trouble and expense, and to save, perhaps, years of litigation. The trustees had entered an appeal to the proper tribunal which they were keeping alive pending the decision of their Lordships.

The Court discharged the rules with costs.

The Lord Chief Justice, in giving judgment, said Section 125 of the Act said that if the surveyor of taxes discovered that the person assessed has had any deduction not authorized by law, then he could make an additional first assessment, and that had been done in this case. That was subject to appeal, the procedure for which was definitely laid down. It had been conceded that the question whether the deduction could or could not properly be made came within the jurisdiction of the surveyor of taxes to decide. After that there was a clear right of appeal, and that appeal was at present lodged. He could not agree that the Legislature intended to enact anything so grotesque as that the surveyor was bound to allow deductions for every repair that the owner claimed to have made and to give a certificate for all such deductions. Again, against such a refusal by the surveyor there was a right of appeal in the proper channels. In the circumstances the Court was of opinion that the proper appeal was not to that Court by way of writs of prohibition, certiorari, or mandamus, but through the channels provided by the Act.

Mr. Justice Lush was of opinion that there was ample jurisdiction in the surveyor of taxes to amend the assessment if there had been an error, and his jurisdiction could not be challenged if he honestly made the assessment, even though it was erroneous.

Justice Bailhache concurred.

An Architect's Claim

At Newcastle Assizes, in the Civil Court, an action has been heard in which John Blackwell, architect, of West Hartlepool, sought to recover £340 5s. 6d. in connection with a housing scheme adopted by the Hartlepool Rural District Council in the latter part of 1919, for which the plaintiff had acted as architect. The plaintiff's charges were £402 8s. 3d., in respect of which the defendants had paid £62 2s. 9d. up to the commencement of the action and £140 since. Mr. Mundahl, for the plaintiff, said the action was due to the abandonment of the scheme by the Council. An agreement was arrived at between the parties, by which the plaintiff was to receive £212 17s. 3d. in addition to the £62. Judgment was entered for that amount.

A New Asbestos-Cement Tile

THE æsthetic shortcomings of ordinary asbestos-cement roofing tiles are due to three causes: their thinness, their colour, and the diagonal direction of their tail lines. And it is precisely on these accounts that their adoption by architects for buildings other than of the factory and inexpensive bungalow types has not become very general.

Regarding the first of these objections, it is at least arguable that because the necessity for a clay tile to be thick has established a tradition in our minds, it does not follow that we may not eventually accept as a standard a thinner tile made of a far denser and tougher material.

With respect to colour it must be admitted that the attempt hitherto to produce a satisfactory shade of red has not led to very happy results, while as to the diagonal lines presented by the tiles when laid, these are certainly far from pleasant to the artistic eye.

A frank recognition of these drawbacks has led Messrs. Bell's United Asbestos Co., Ltd., to devise a new tile capable of satisfying the artistic requirements of the architectural profession, while retaining the economical advantages which the material itself undoubtedly possesses.

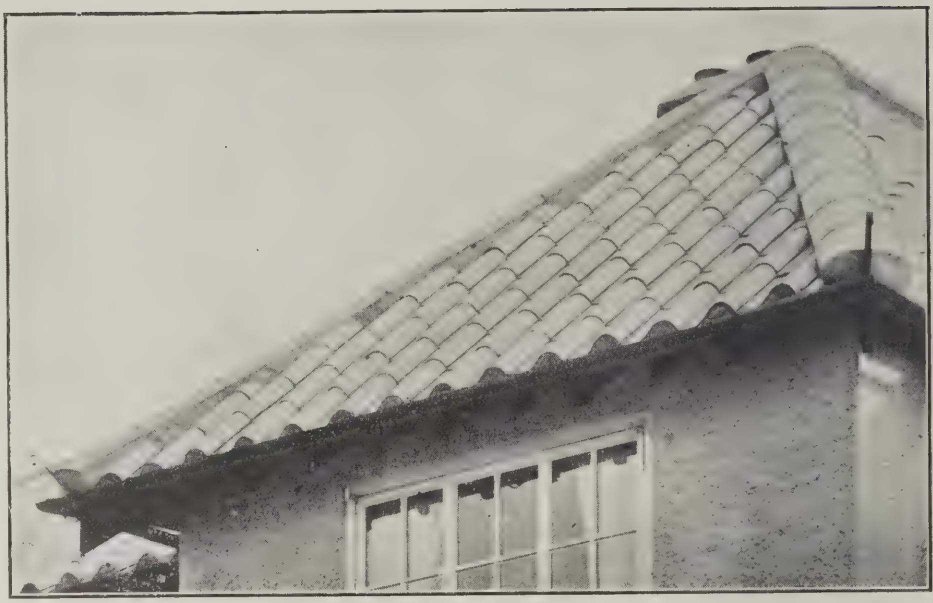
The result has been the production, after much experiment and scientific investigation, of the Poilite pantile, which is laid in horizontal lines like its clay prototype, and has the additional merit of closely resembling it in colour. This is of a deep russet brown shade, which not only varies as between one tile and another, but in different parts of the same tile. The colour, which is produced by a secret process, and has a tendency to deepen with age, is singularly pleasing, and marks an advance of a noteworthy character.

Poilite pantiles are manufactured in equal proportions of rough and smooth surfaces (which produce an improved texture effect), are holed to receive two nails, and are laid with a four-inch lap.

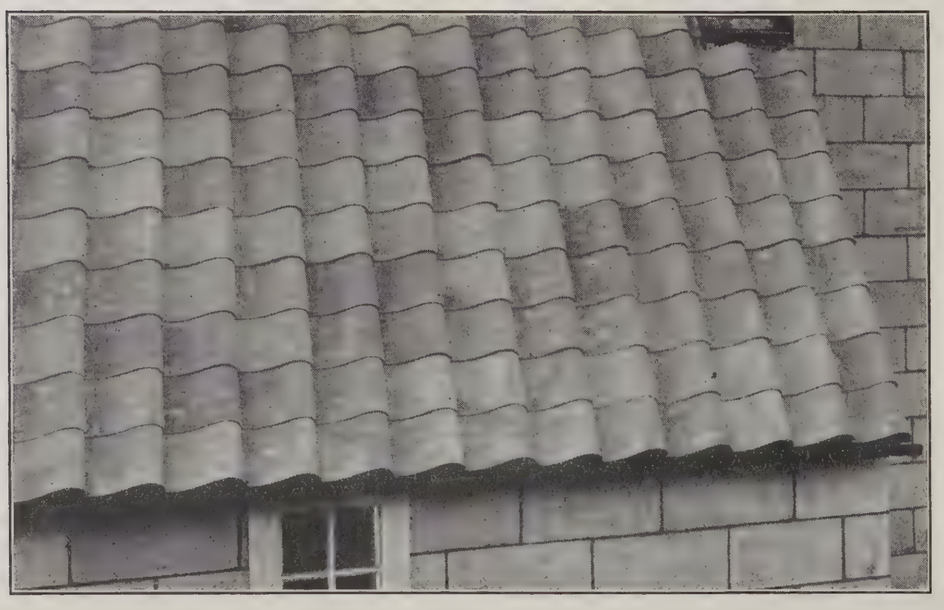
Although somewhat larger than earthenware pantiles, the fact that they weigh nearly 40 per cent. less results in an appreciable reduction in the scantling of the roof timbers, in addition to which these may be spaced farther apart.

The following table of relative sizes, weights, and numbers per square of Poilite pantiles and ordinary pantiles shows at a glance the essential differences between the two :—

——	Size.	Weight per 1000.	Weight per tile.	Weight per square.	Number per sqre.
	Inches.				
Poilite pantiles	15¾ × 13¼	29 cwts.	3¼ lbs.	3¼ cwts.	113
Ordinary pantiles	13½ × 9½	47 cwts.	5¼ lbs.	8 cwts.	180



ASBESTOS-CEMENT PANTILE ROOFING AS EMPLOYED FOR THE HAREFIELD HOUSING SCHEME.



ASBESTOS-CEMENT PANTILE ROOFING.

Housing and the Slums

Sir Alfred Mond, speaking at the dinner of the 1920 Club, said that the shortage of houses was a world-wide problem, and was more acute in other countries than this. No other Government, so far as he was aware, had endeavoured to tackle it at all. At the end of this year and the beginning of next 220,000 houses would have been provided. The capital outlay was enormous, and involved an annual cost to the taxpayer of over £9,500,000. Some of that money might have been saved earlier. Houses were erected at a cost of £1,300 each which to-day were costing something in the neighbourhood of £450. He did not pretend the housing problem was solved, and he did not know it was solved before the war. They had built a house of too elaborate a type, and he was prepared to go back to a simpler, cheaper type of building, that the working man could afford to pay for, and which would meet his requirements. It was a pity so much had been done at Whitehall, and that the local authorities had not been allowed to do more. He was a great supporter of garden cities, but when the problem was the rapid provision of houses at a cheap rate it was scarcely the time for trying new experiments in that direction. It was a counsel of perfection, and had resulted in the finances breaking down. The result was that, whereas they might have had 300,000 or 400,000 houses for their money, they had only about half that number.

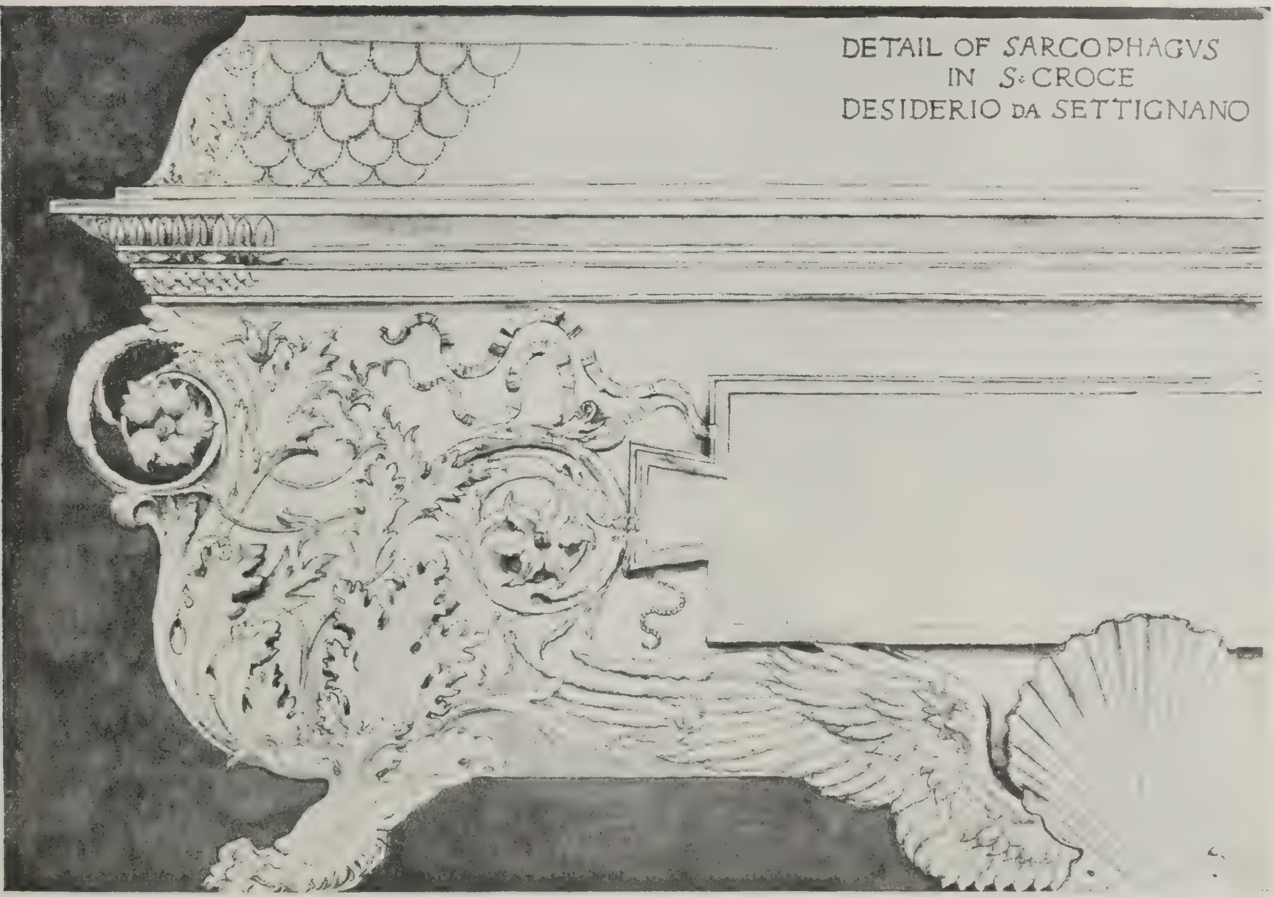
Sir Alfred said the provision of new houses was in itself no cure for slums or overcrowding. So long as there were slums people would live in them, and not always those earning the smallest wages. The only way to deal with slums was to tackle the problem as a separate one, apart from other questions.

Wednesday, July 26, 1922.

Vol. LVI. No. 1438

THE ARCHITECTS' JOURNAL & Architectural Engineer

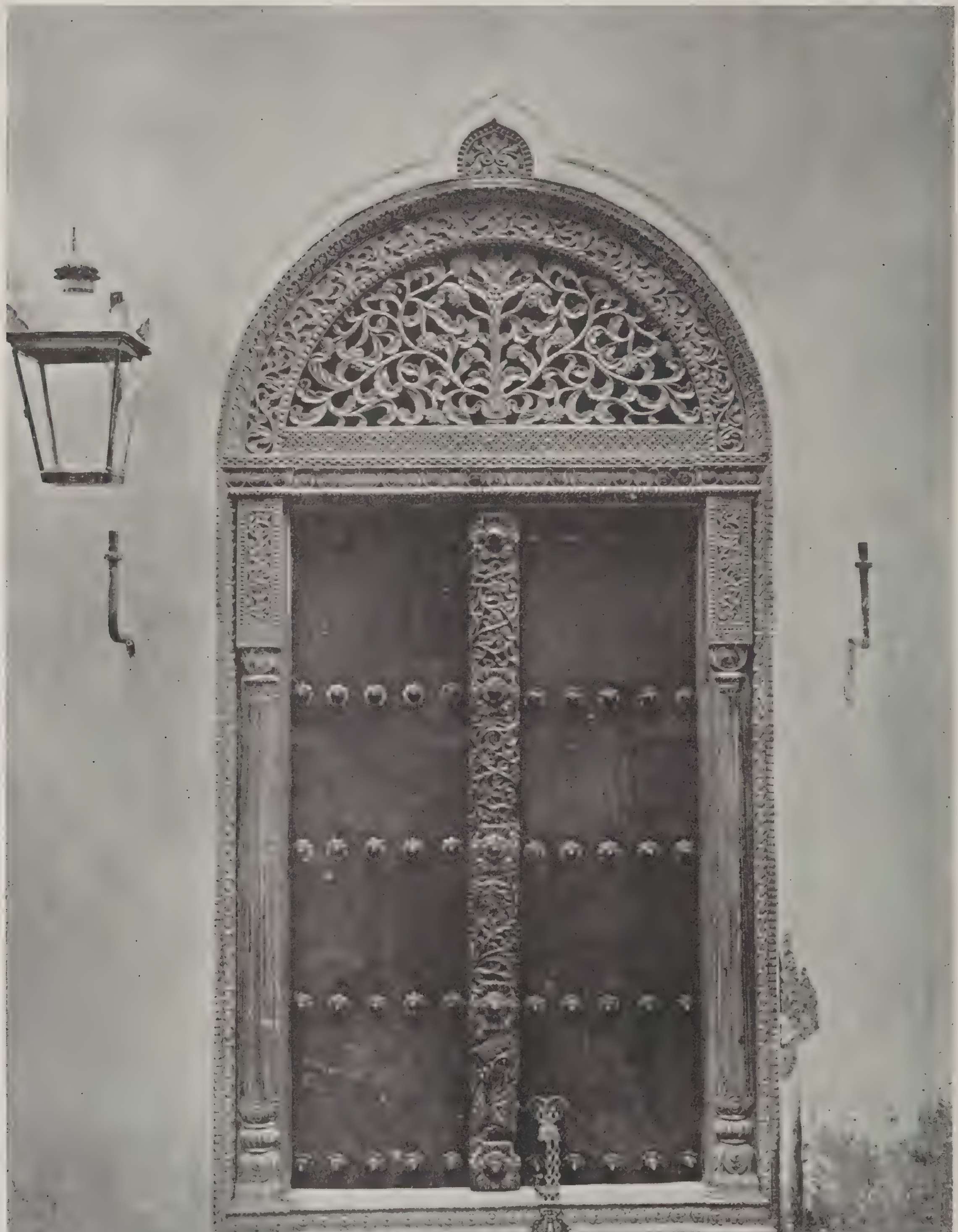
With which is incorporated "The Builders' Journal"



FROM A DRAWING BY GILBERT LEDWARD

27-29 Tothill Street, Westminster, S.W.1.

Architectural Details. 29.—An Arab Door, Zanzibar



A rich example of Arab craftsmanship in carved teak, showing European influence.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, July 26, 1922 Volume LVI. No. 1438

The Poor Policy of Poor Building

THE King's speech at the opening of the London County Hall could not possibly have been happier in theme or expression. It went straight to the heart of things, and was most emphatically a word in season, as every utterance of the King's is invariably. His Majesty summed up in a single pregnant sentence the full significance of the municipal building, and most dexterously implied the essential intimacy that exists between well-building and well-being: "It is necessary to appeal to the imagination—a public authority meanly housed may be meanly esteemed"; and, further, "this noble Hall, the seat of the government of the County of London, will be typical of the importance of their duties and responsibilities, and should stimulate the development of that sense of citizenship, so difficult and yet so imperative to cultivate."

Further, His Majesty was pleased to recognize the Hall as a proof of the energy of the citizens, and thought it a good augury of their success in the arts of peace.

There followed, further, a hint, as tactful as opportune, of the improvements of which the erection of the County Hall on the south side of the Thames must inevitably be the forerunner. It is an even greater portent of the replanning of South London than is the recently opened Waterloo Station, and between them these two buildings, with their argument for dignified development strongly reinforced by the grave dignity of the St. Thomas's Hospital blocks, will succeed, sooner or later, in persuading the Surrey side to lift up its head and look more like a part of London than a disreputable appendage to it, an outcast, poverty-stricken object, but not irreclaimable.

Pity it is that the London County Hall is not yet completely built, and that as yet, therefore, it does not stand out conspicuously as a finished exemplar of scale and dignity, an example to which a Londoner may point in proof that his civic patriotism is not dead, but only sleeping. If, however, "John Citizen" allows his County Hall to remain very long in its present unfinished state, it will rather come to be regarded as a monument to his meanness and vacillation than to his nobility of conception.

He should build courageously if he build at all, and it is his civic duty to build. It would be truly humiliating, not only to London, but to the Empire of which it is the capital, if the County Hall were to be left long in its present lopsided and undecorated condition.

London's County Hall should be always "a building to make Britons proud of London's civic dignity"—a phrase used by a leader-writer in a recent issue of "The Daily Mail." It will fall short of winning that tribute for as long as it lacks its north wing, and even for as long as it lacks the environment that all architects desire for it. Surely there is no rashness in suggesting a small adjacent park—perhaps no bigger than the pleasant patch of green adjoining the Houses of Parliament, that in which the Rodin replica finds place; but any hint of the kind made at the present moment of inflated rates and taxes is scouted as a symptom of megalomania; while advice to "carry on" with the south-side embankment would be regarded as sheer lunacy.

In "The Daily Mail" leader from which the above-quoted passage was taken, there is a clear indication of the nervous debility, not to say prostration, to which the community has been reduced by excessive taxation, undue interference by Government with the normal course of business enterprise, and by several other discouraging features of the times, including a general very serious misconception of the meaning of "Economy."

Against wise economy there is, of course, never a word to be said. Economy, the prudent conduct of affairs, is not for an age, but for all time. It is not a nauseating dose of physic to be taken in spasmodic gulps and with a wry face when the body politic happens to have got below par. It is a tonic beverage to be used constantly, regularly, naturally, and with a cheerful countenance, for the preservation of health—to be taken, not to cure a malady, but to keep fit. True, the malady is upon us, but it must on no account be allowed to get on our nerves. Our contemporary has unwittingly said a word that is only too likely to increase the civic timidity that should by all means be resolutely shaken off.

Let it be cordially acknowledged that on many occasions "The Daily Mail" has brought its vast influence to bear effectually and beneficially on much national wastefulness and on much wanton and reckless public extravagance. These are abuses which it does well to discourage; but in its able and interesting article, to which we have already referred, it offers quite reactionary counsel. The title of the article—"Architecture and Citizenship"—covers some excellent moral sentiments—followed by some very mischievous and impolitic advice. "Fine architecture," it acknowledges, "has its own powerful influence," and "such a building as the new Council Hall should make Britons proud of London's civic dignity, of which it is an outstanding symbol. It should, as the King said, 'stimulate the development of that [sense of] citizenship [that is] so difficult and yet so imperative to cultivate.'"

Our contemporary then goes entirely astray, by adding the unfortunate remark that "The erection of such buildings [as the new County Hall], valuable as they are, must be the task of prosperous times, and this age cannot expect to see others of this description taken in hand. The country is too poor to afford them at present." Surely a "most lame and impotent conclusion!" to the excellent moral sentiments it immediately follows. It misapprehends the nature of true Economy.

That our contemporary has lifted up its powerful voice to deprecate building by public authorities is bad enough. Public opinion needs no prompting to build meanly, or, rather, to restrain its representatives from building otherwise or at all, and our contemporary's advice is entirely out of harmony with what it quotes with loyal approval from the speech by the King, who, as we have seen, showed a firm grasp of the psychology of the matter in noting that "a public authority meanly housed may be meanly esteemed."

So, indeed, may a nation, and it is such truths as these that should be kept constantly before the public mind. They are truths that it is difficult to apprehend, and we should have welcomed the powerful support of so influential a journal as "The Daily Mail" in the task of helping the public to the larger vision of which building bravely, and with civic patriotism, is the logical outcome. A town is judged by its buildings, and a nation is judged by its towns. Our contemporary, in urging that "the country is too poor to afford" noble buildings at present, provokes the swift and just retort that the country is too poor to do otherwise. Poor as it is, it must strive to keep up appearances before the world. Mean building implies bad trade, and bad trade brings worse trade.

The average trader knows all this very well, and it is a great pity that his faith in good building, in its power and influence for the promotion of prosperity, should be shaken by the discouragement implicit in the advice in "The Daily Mail" on the country's being too poor to build courageously. We repeat, it is too poor to do otherwise.

Notes and Comments

The Ordnance Survey

It is pleasant to note that the Ordnance Survey still survives. That, at least, is a fair inference from the announcement that although Colonel Sir Charles Close, K.B.E., etc., who has occupied the post of Director-General of the Ordnance Survey since 1911, will retire from the Service on August 11 next, he is to have a successor. Colonel E. M. Jack, C.M.G., is to take his place, the Minister of Agriculture and Fisheries having made the appointment with the approval of the Army Council. "Ordnance" connotes the titles of army officers, and it was a general—General Roy—who in 1783 began the Survey of England, which was continued by Colonel Colby and completed by Colonel Sir Henry James in 1856. It was another colonel—Colonel Mudge—who began, in 1819, the publication of the famous maps, without which the architect and surveyor would find it much less easy "to make sure of his ground," even with the aid of "Ordnance Datum" to give the levels.

Premature "Tearing Down"

That indefatigable writer of letters to the newspapers, Mr. J. Landfear Lucas, has not failed to provide them with an opportune note on property law. He suggests that "the Government authorities chiefly responsible for the management of London property should grant a temporary extension of leases for ten or twenty years, at the option of the lessee, rather than tear down existing property with no guarantee of its replacement." Mr. Lucas doubtless has in mind such notorious precedents as the London County Council's "island site" at Kingsway, which was so long left derelict that prolific crops of interesting flora sprang up there, and the sites of buildings since put up were the haunts of fauna not often seen in London. To all but the botanist and the naturalist it was pitiful to see such large tracts of valuable building land thus running to waste, and such uneconomic precedents should not now be followed. Yet what is the alternative? In such cases the authority often makes haste to clear the site—whether in the interests of the botanist or with the object of making a little ready-money from the sale of old materials or from letting the hoardings to enterprising advertisement contractors, who shall say?—and then becomes as torpid as the seven sleepers. As the building and the lease seldom fall in quite simultaneously, Mr. Lucas's idea is quite practicable. It is difficult to see why Government, or the L.C.C., or other authority, should ever be in a hurry to "tear down" buildings of which the lease has expired. Could they not allow the leaseholders to remain as tenants on sufferance, provided they would allow notice-boards to be shown announcing that the site would be cleared when required? Occupancy need not postpone re-letting or other means of disposal, and would not delay rebuilding for longer than it takes to clear the site. But besides the practical aspect of the matter, there is the architectural point of view. Can nothing be done to prevent the "tearing down," premature or otherwise, of buildings of great architectural value?

The Penalty of Procrastination

When the terms of contract include penalties for delay, the builder knows exactly what will be the pecuniary consequences to himself of avoidable failure to complete within a specified time. The penalties incurred by the public when their elected representatives, municipal or imperial, are negligent and dilatory in the matter of public building may be enormous, and are seldom easy to ascertain quite definitely. That trenchant *causeur* "Alpha of the Plough," who writes so engagingly in "The Star," permits himself to grow very indignant about the heavy penalty for delay—or, rather, for procrastination—that the ratepayer has had to pay in the case of the new County Hall. Here is a part of his indictment of the false economists. When the site for the Hall was purchased, "What, a Palace for London? said the Little Londoners. Down with the Wastrels! Down with the spendthrifts! It is *your* money they want. . . They left the site idle for five years. Then they began the building grudgingly and sluggishly. With every year's delay the cost of the enterprise increased, and when . . . more than fifteen years after [the site was bought], the building was opened, it had cost four millions sterling instead of the million and three-quarters it would have cost" if the work had been started promptly. Two millions and a quarter," "Alpha" contends, has been wasted through procrastination.

London University Site Again.

The ghost of London University (for that institution can hardly be said to have corporeal existence as yet, despite "the Bartlett" and one or two other adjuncts to the University proper—e.g., the Institute of Historical Research)—the ghost, then, still haunts us. There is still indecision about the site, to which the London County Council seems disposed to apply the same tactics of procrastination that it employed so profitably (?) in the notorious instance of the site for its own County Hall. Its Education Committee "asks for further consideration of the choice of a site for the University of London." The reason for all this dalliance is undisguised. "The Government is now forced towards rigid economy"; and "the London County Council is unwilling to spend the ratepayers' money on a scheme which it thinks unsatisfactory." It would think unsatisfactory any scheme on which money is to be spent, and this uncourageous attitude suggests the suspicion that its Holland Park proposal is merely tactical.

On Going Forward

A Conversation on Architectural Education

By JAMES BURFORD

"'All men,' says Cicero, 'have a sort of tacit sense of what is right or wrong in arts and sciences, even without the help of arts.' This surely it is in the power of art very greatly to improve. That most men, therefore, proceed no farther . . . is owing either to the want of any, or (which is perhaps yet worse) to an improper education."—FIELDING.

"WE have to separate the permanent from the transient features of education, to discover which is the suggestive idea and which is not." These thoughts and others of the kind have been running through my head as a legacy of a visit I made, a while back, to an old friend in the Provinces. He and I had entered on our articles to the late Mr. ——, the architect, in the year 189–. Though my friend holds lightly his gain by that adventure, I must record it to the honour of our old master that he made it a matter of conscience to put apart some time in every working day for the instruction of his pupils. It was his aim to give us his enthusiasm for the works of Ancient Rome and of the Renaissance, and his pleasure to lend us the use of his copious and venerable library. He set before us a severely classical ideal, was strict on the five orders, and if his outlook on matters architectural was not liberal, as I have since thought, he possessed, in a limited sense, and as it was understood at that day, the sovereign blessing of good taste. My fellow pupil's novitiate was big with the promise of success—my own work was of the slow and plodding order—but I had noticed that his progress was marked by a growing dissatisfaction with his acquirements, and I was not much taken aback—about the second year of our studies—when he abruptly gave his decision to go from us. For a time I maintained with my young friend a correspondence which gradually became desultory, then intermittent, and finally ceased altogether. Of his subsequent history I knew no more than what I gathered from reports or notices of him, in this or that regard, and of late years in connection with a new school of architecture—that is, an education establishment, of growing reputation, near one of our larger provincial towns. A chance meeting, a few months ago, gave me an opportunity to renew the friendship so early formed; the usual civilities passed between us, and the upshot of our talk was an invitation to visit his school when a fitting occasion should occur. It was on the 27th of May last that I landed at the town of ——, with a free day before me, and a speculative interest in what it would bring forth. My friend met me at the station and, thinking perhaps that there is no time like the present, began at once to unburden himself of his architectural ideals and his educational ideas.

"The fault of much of our so-called modernism (he said) is that it is no more than a definite attempt to be different for the sake of being so. Architecture must make its contribution to progress, it must hold an expression of our civilization, must be something more than an imitation—and an imitation never has the vitality of the original, and if we would achieve these ideals we have to discover the extent of our resources, to determine the conditions which control their use, and to decide in what way a knowledge of the past will best profit us to-day." I agreed. Something of this sort I had heard before; indeed, it has been the cry for many years. "I admit," he went on, "that it all sounds simple enough, and it is (he added), when you know how to do it. The problem before us is how to train the students of to-day—our architects of to-morrow—in such a way that they will not only work with some such ideal as I have described to you, but that they will be backed up by the power and knowledge to carry it through in reality. We have to separate the permanent from the transient features of education, to discover which is the suggestive idea and which is not. We have to train men to their most useful pitch of energy, to search out the extent of their power, and the method of unlocking it. But we must not forget that the student has his own problems to work out; it is not the business of the educator to impose ideas, the most we can do is to guide his energies in the right direction—to say to him, in the words of Bunyan's book, 'I will go with thee a little way, and set thee in the right path, that thou mayest continue in it without guidance.' It has often been a matter of concern to me, in what I may claim as a fairly wide experience, that so many students come to our schools like empty bottles—if I may use the simile—expecting the good wine of architecture to be poured in by an obliging staff, to be filled without effort on their part at all. Education, as the word implies, can do no more than draw out whatever latent possibilities exist, and with architecture, as with all forms of art, education is not so much a matter of imparting information as of developing appreciation." "These ideas, no doubt, are excellent," said I, "but have you (I asked) sufficient time to put them into practice?" "As for time," he replied, "we have no difficulty on that score. It has always seemed to me a weakness, in so many of our schools, that they compress their curriculum into short terms divided by long vacations, while at the same time their terms are too long for the normal growth and relaxation of the mind—you remember my remark on the development of appreciation. Here we have only two official 'terms' in the year, but we contrive to have six breaks in all—their length varying with the season. I believe we are not the only school working on some such line as this. The old system of long continuous work results in what I might term 'mental indigestion' for the student and vitiation of energy for the staff." "And so I suppose you encourage outdoor games," I said. "By all means," he returned, "so long as the game is the servant of some worthier purpose. I have always been suprised that some young men are so foolish that they think their work an excuse for their existence and games the object of it. I am never happy myself unless I see my students working hard, but hard work is not overwork, and education has no place for tests of mere endurance." He paused. "But I think you will understand my ideas better when you see them in use," he continued. "I might go on talking of education from now to the crack of doom and perhaps you would be no further with me in the end—but here is the school." We turned in between two stone gate-piers, crossed the lawn, and entered the building. I need say no more of it than that it seemed eminently fitted for its purpose.

We rested for a while in the entrance hall, and my friend took the opportunity to outline the method of education he used in his school. "I think you will agree with me," he said, "that before we can go far in any form of art, and if we are to obtain a broad view of it, we must understand the general principles to which all art conforms. When we have once laid a sure foundation in this way, we are in a position to study that particular manifestation of art for which our capacities have best fitted us. My method of training architectural students here is to begin with a study of these general æsthetic principles, and when these are appreciated to present architecture to them, at first in its simplest elements, and then, by combining these elements, to go on to more complex problems, gradually increasing the details until they are in a position to handle the problems of to-day. And if we must not forget that the student is the heir of all the ages, we must also remember that he is a factor in determining the future." I told him that I had nothing to say against his theories, that he certainly aroused my interest, but that I could better form an opinion of his methods when I had seen them in operation. Our tour of inspection began at once, I eager to learn, he anxious to explain.

"By beginning at the beginning and ending at the end I think you will form an idea of the continuity and progressiveness of my programme," said my guide as we entered the studio given over to the first part of his course. Being a Saturday, the room, to my regret, was almost empty of students. "I have long been convinced," my friend continued, "of the futility of proceeding from the definite to the indefinite in architectural training. To expect the student to appreciate complete and perfected forms, to understand the refinement of a result which was only arrived at after centuries of experiment, before the simplest elements of art have been grasped, is one of the worst cases I have met of putting the cart before the horse—it is surprising that we have worn the harness that way for so long." "And so what is your way of setting out?" I asked. "Why," said he, "I simply reverse the process. I go from the indefinite to the definite. It can be confidently stated that composition is the basis of all art. The first thing, then, that my students study here is composition, not in direct connection with architecture, but in the simplest problems of cutting or filling spaces in the most satisfying and harmonious way. We begin with the composition of a few lines and the easiest relation of masses, and by building one thing on another the student gradually develops an appreciation of what composition and proportion really mean. Here," he said, taking a sheet from a portfolio, "you see the earliest exercise done in this class." To me it seemed a series of designs for textiles—for plaids, perhaps. My friend must have caught my questioning look, for he smiled and said, "The extreme indefiniteness of these early efforts need be no cause for concern or reason for ignoring them; the question is not whether the student is producing good drawings, but whether he is developing his faculties. Here is another study, which shows a simple arrangement of dark and light masses in a given area. Quite a number of sketches are made for the design; the best is selected and compared with what has been done, on similar lines, by masters of the art. Constant selection of the best and rejection of the rest is necessary for the forming of a critical judgment. After these preliminary exercises have been mastered some natural object can be selected and treated in the same way. Composition, harmonious arrangement, is the constant aim. I make it a rule that all imitative drawings shall be used as material for composition. Of course, sheer representation has its use and place, but for an art training, for beginners, it has little value when compared with composition as a factor in developing appreciation. Nature will not teach composition; a study of nature will give us material to work with, but not the power—the art—to use it. The composition of a few lines, or the artistic arrangement of a few masses of light and dark, may seem a simple enough matter to you; but it is not difficult to go astray, and in the mastery of these elementary problems the beauty of such buildings as the Parthenon or the Pandolfini Palace has its origin." He showed me many drawings, taking them in the order in which they had been made, and I could see how the solution of a problem, once grasped, inevitably led on to the next step. "We take each element in composition in turn," my friend continued, "symmetry, repetition, and so forth, treating them first as line arrangements, then as harmonies in mass, and when sufficient skill in their handling has been achieved we use them in combination, two, three, or more principles being involved. Finally we have line, dark and light and colour combined in designs which call for a skilful use of all the principles and means of composition." No materials seemed to come amiss. There were designs for textiles, pottery, tiles, patterns geometric and patterns of leaves or flowers, in line, in black and white, in gradation of tone or gradation of colour, birds and fishes, rugs or shawls, no matter what, if it formed the subject of composition. I could see from the drawings before me that there was a definite and organized series of exercises, each calling for a more cultivated judgment, a finer appreciation of the relation of parts to the whole. The increase of power seemed to be called up by the very solving of the problem in hand, and, as my friend remarked, by proceeding gradually from the mastery of one difficulty to the tackling of another, by making each triumph a stepping stone to the next, the student was in the line of a normal development. There appeared to be no end to the variation of the work, until it seemed to me that there could be no problem in composition which the student was not qualified to solve. "For what length of time (I inquired) do your students hold by this part of your course?" "On an average, about eighteen months," he replied. "It is, perhaps, a misfortune that any scheme of education which includes the advantage of emulative and co-operative effort implies some form of class or grade. Students can join us here with equal facilities at the beginning of either of our half-yearly terms, and we try to mitigate the disadvantages of a class by making their progress from this grade to the next not a question of time, but a matter of development." "And could you obtain these results with any students?" I asked. "That is rather a broad question," he replied, "I am not working here with selected students, I take them much as they come to me, but I must, of course, have some basis to start on, and most men are not devoid of some little taste. Given that, and by beginning in the simplest way, original and progressive effort, and the stimulus of good examples, will do the rest. I am inclined to think that poor taste, a lack of discernment in fine relations, is largely due to the thoughtless imitation of works done when original effort had ceased, works which are themselves no more than imitations of the products of vitality."

I had formed a premature opinion, on examining the earliest drawings, that my friend's method of education was too elementary, indeed I had thought it more suited to the Kindergarten; but now that I had seen the results of his system and realized the broad power and discrimination which his method gave, I held back my criticism and congratulated him on the success of his work. He thanked me, "But you have seen little of it yet," he said. "I can take but small credit to myself for my manner of teaching composition; I owe much to the American artist, Mr. A. W. Dow. Of course, I have adapted his methods for my own purposes, but in general I can do little to improve on them. Although I regard composition, in its broad sense, as by far the most important of the first steps in architectural education, there must be time for some other matters which have their use and purposes. A study of lettering is a useful exercise in composition, the principles of shadow projection can be brought in as part of it, and these things become an added interest and incentive by giving a fresh application of the powers already gained. A stepping stone to architecture proper is found in simple mechanics and solid geometry, applied in a way that calls for no definite architectural knowledge. You see my method is one of advancing step by step, there are no missing rungs in my ladder of progress. . . . But I must not press such continuity on your inspection of the studios; with your leave I would suggest an adjournment for lunch." I held with him there, and we passed downstairs.

(*To be concluded.*)

A House at West Horsley, Surrey

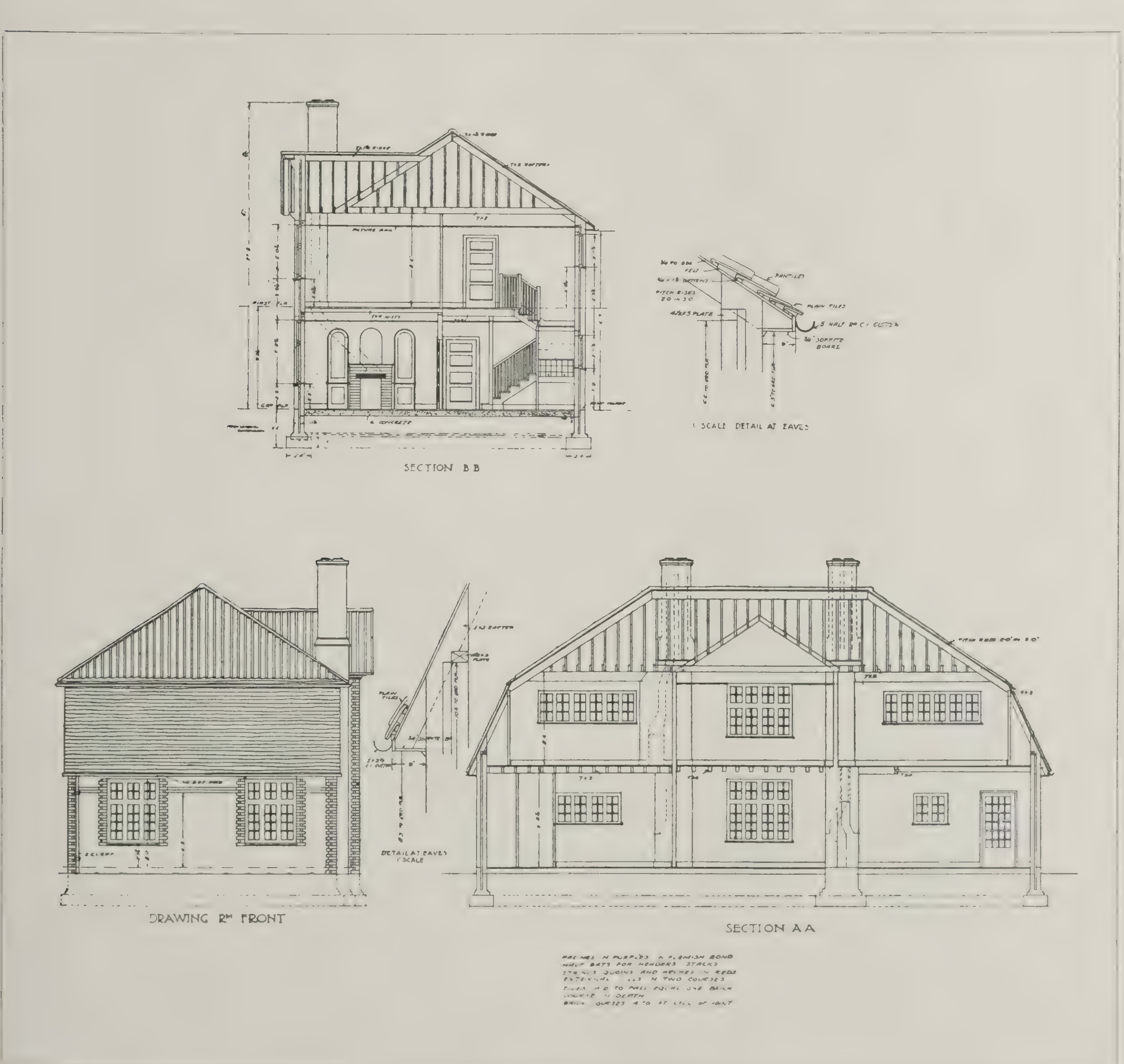
By H. S. GOODHART-RENDEL

THIS little house is to be the first of a number of similar houses built upon a newly developed estate in Surrey. Its chief characteristic is its simplicity. Everything has been done for the sake of economy, and though the house has not yet been finished it is believed that the final cost will be rather astonishing. Inside there is practically no decoration of any sort. The joists of the ceilings are left exposed, and no extra expense is incurred by any kind of ornamental detail.

The plan and section are intended to contain the least possible amount of waste space. The accommodation, it will be observed, differs from that in most houses of the kind in that a servants' sitting room has been provided in place of a scullery. All the washing up is done in the sink in the kitchen, and what would otherwise have been a scullery is turned into a very comfortable sitting-room. Mr. Goodhart-Rendel considers this servants' sitting-room a feature that should not be left out of any modern house. It means that the servants are comfortable and that they will wish to remain. It is the one way to keep them.

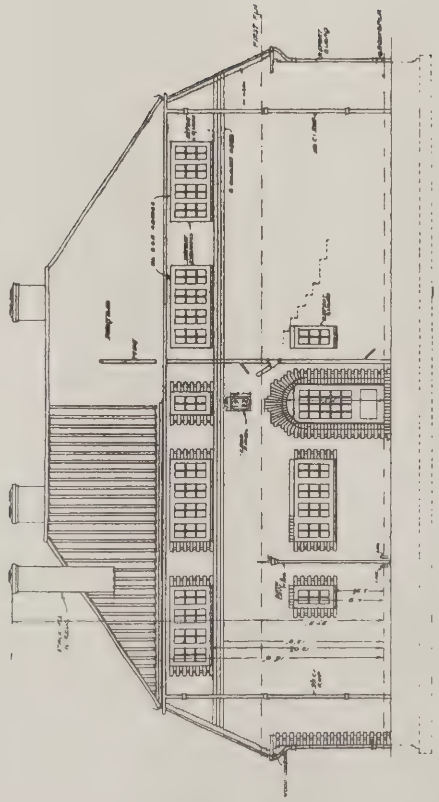
The very sympathetic drawing by F. L. Griggs on page 113 shows the garden front, and the windows of the drawing-room, dining-room, servants' sitting-room, and of three bedrooms. The greatest possible space has been allowed for the drawing-room, in order that there shall be one really large room in the house. There are five bedrooms.

The walls of the house are faced with purple-grey stocks dressed with red bricks, and the roof is covered with red pantiles.

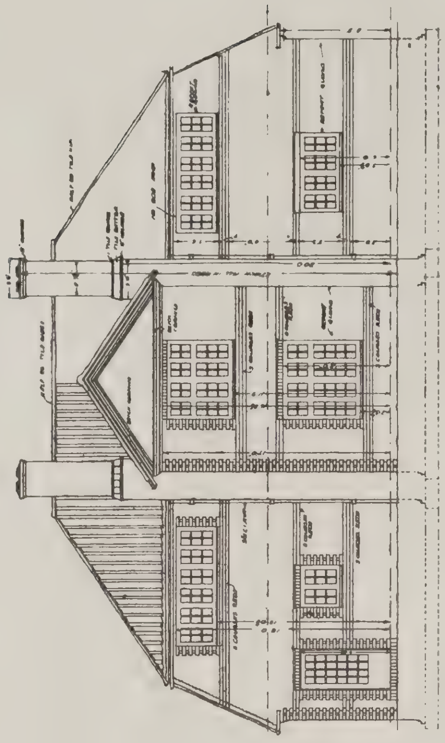


A HOUSE AT WEST HORSLEY, SURREY: SECTIONS AND ELEVATION

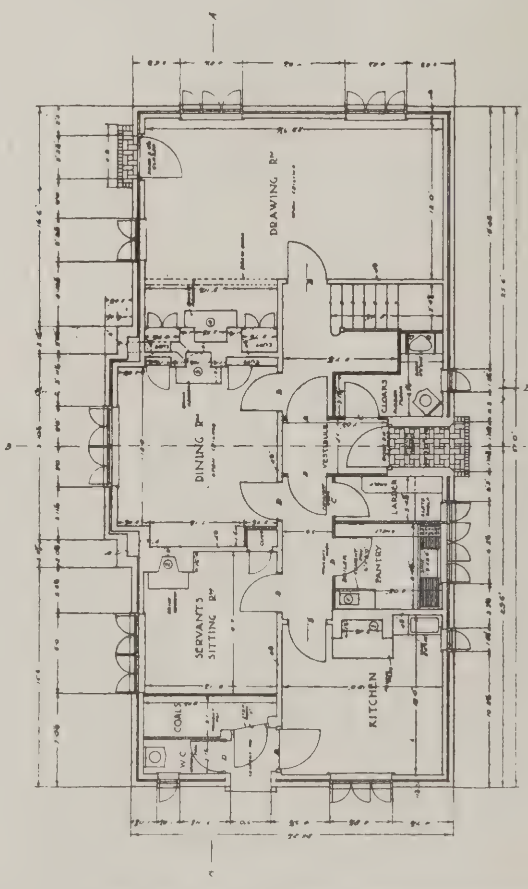
H. S. GOODHART-RENDEL, ARCHITECT.



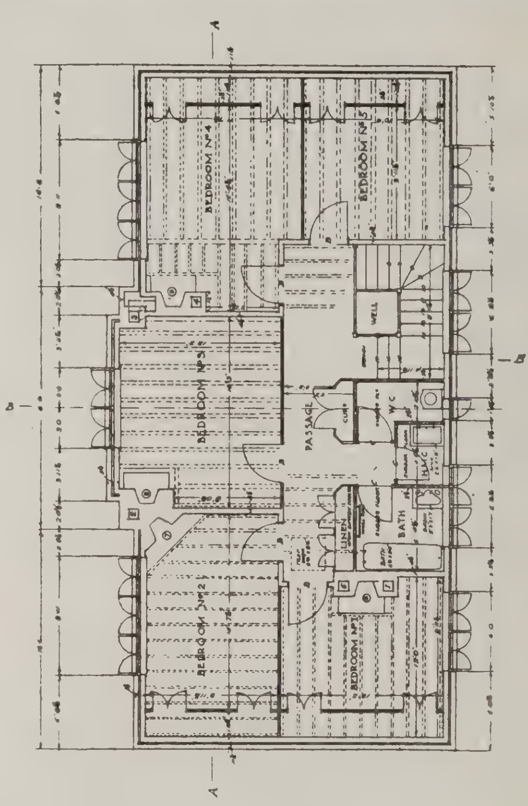
ENTRANCE FRONT



GARDEN FRONT



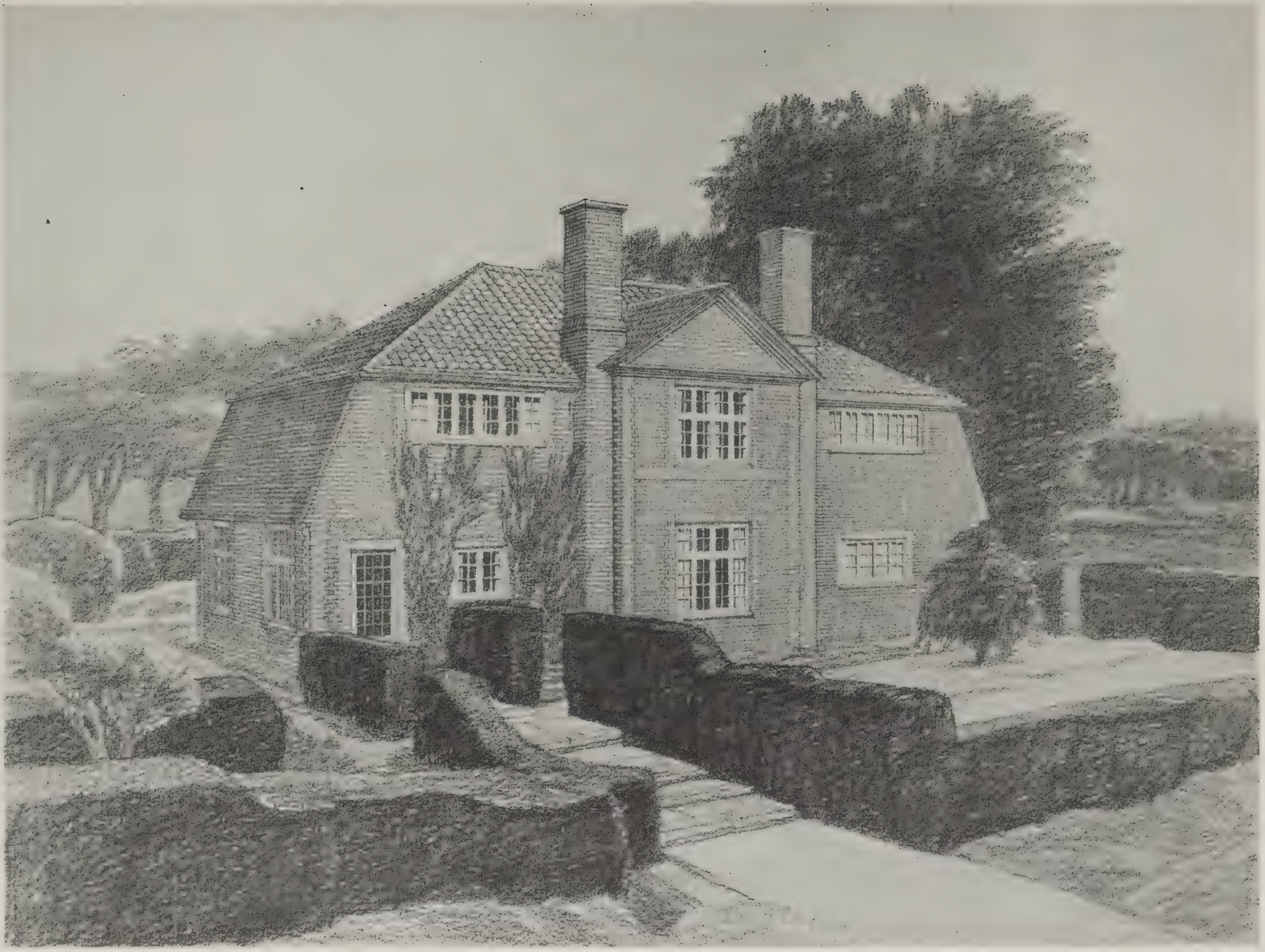
GROUND FLOOR PLAN



FIRST FLOOR PLAN

A HOUSE AT WEST HORSLEY, SURREY: ELEVATIONS AND PLANS.

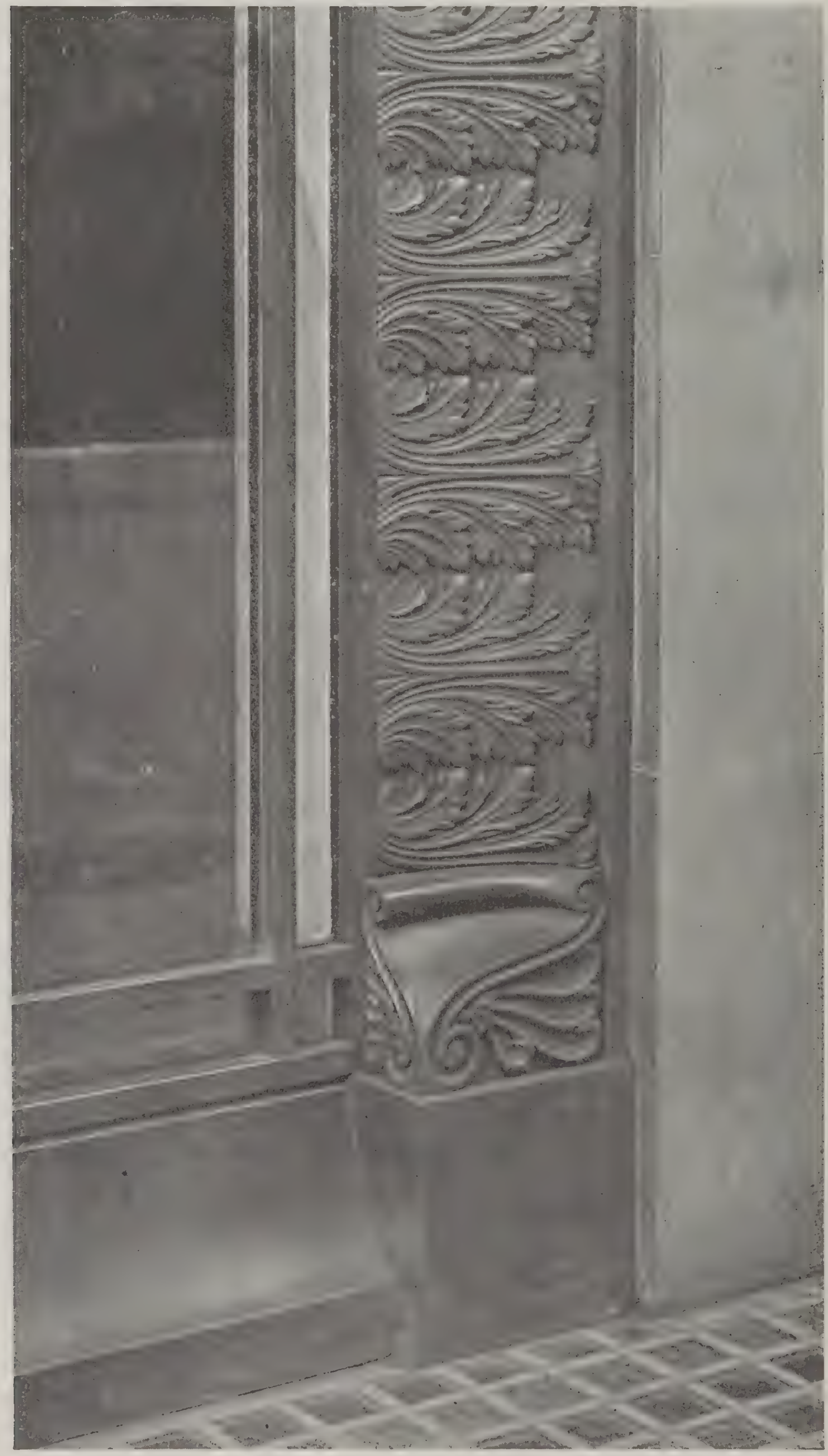
H. S. GOODHART-RENDEL, ARCHITECT.



A HOUSE AT WEST HORSLEY, SURREY: FROM A DRAWING BY F. L. GRIGGS.
H. S. GOODHART-RENDEL, ARCHITECT.

The Fiat Showroom, 43-44 Albemarle Street, London

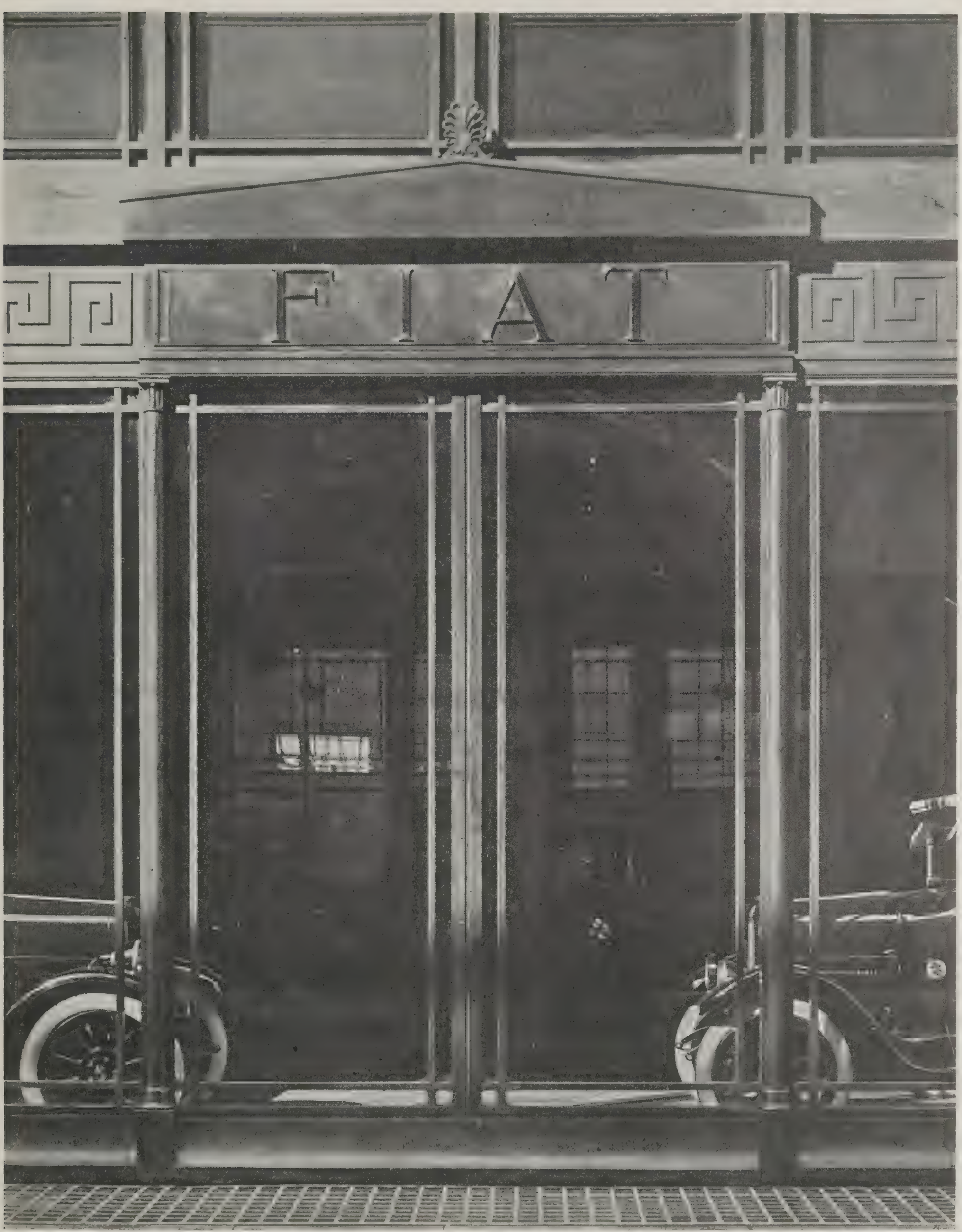
Walter J. Fryer, C.B.E., Architect



A Detail of the Frame, showing the architrave of carved acanthus leaves.

Shop Fronts. 7.—The Fiat Showroom, 43-44 Albemarle Street, London

Walter J. Fryer, C.B.E., Architect



The architect's chief problem in designing this shop front was the presence at first-floor level of heavy steel joists. These have been effectively masked by the intermediate frieze with the Greek Fret shown in the above illustration. The doorway is the essence of simplicity.

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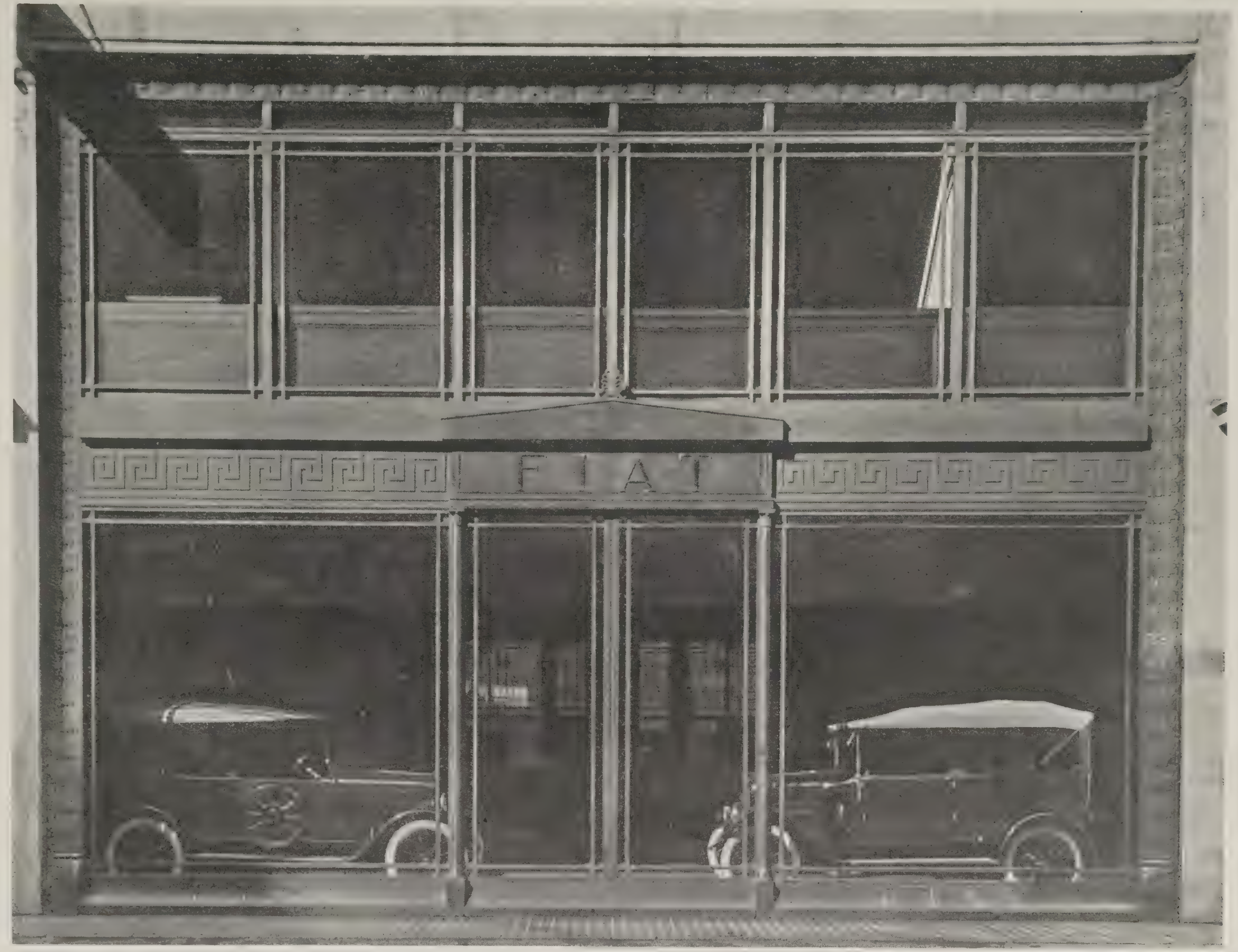
Shop Fronts. 8.—The Fiat Showroom, 43–44 Albemarle Street, London

Walter J. Fryer, C.B.E., Architect



The fine architrave of acanthus leaves surrounding the shop performs the double function of binding the whole design together, and of acting as frame for the picture of the cars displayed in the window. Without this architrave there would be some danger of the heavy Greek fret and frieze splitting the two stories into two designs. As it is, the result is extremely satisfactory. This front is probably one of the best show-cases in London from both a business and an architectural point of view. The metalwork is of bronze, and has been carried out by Messrs. Haskins of Walthamstow.

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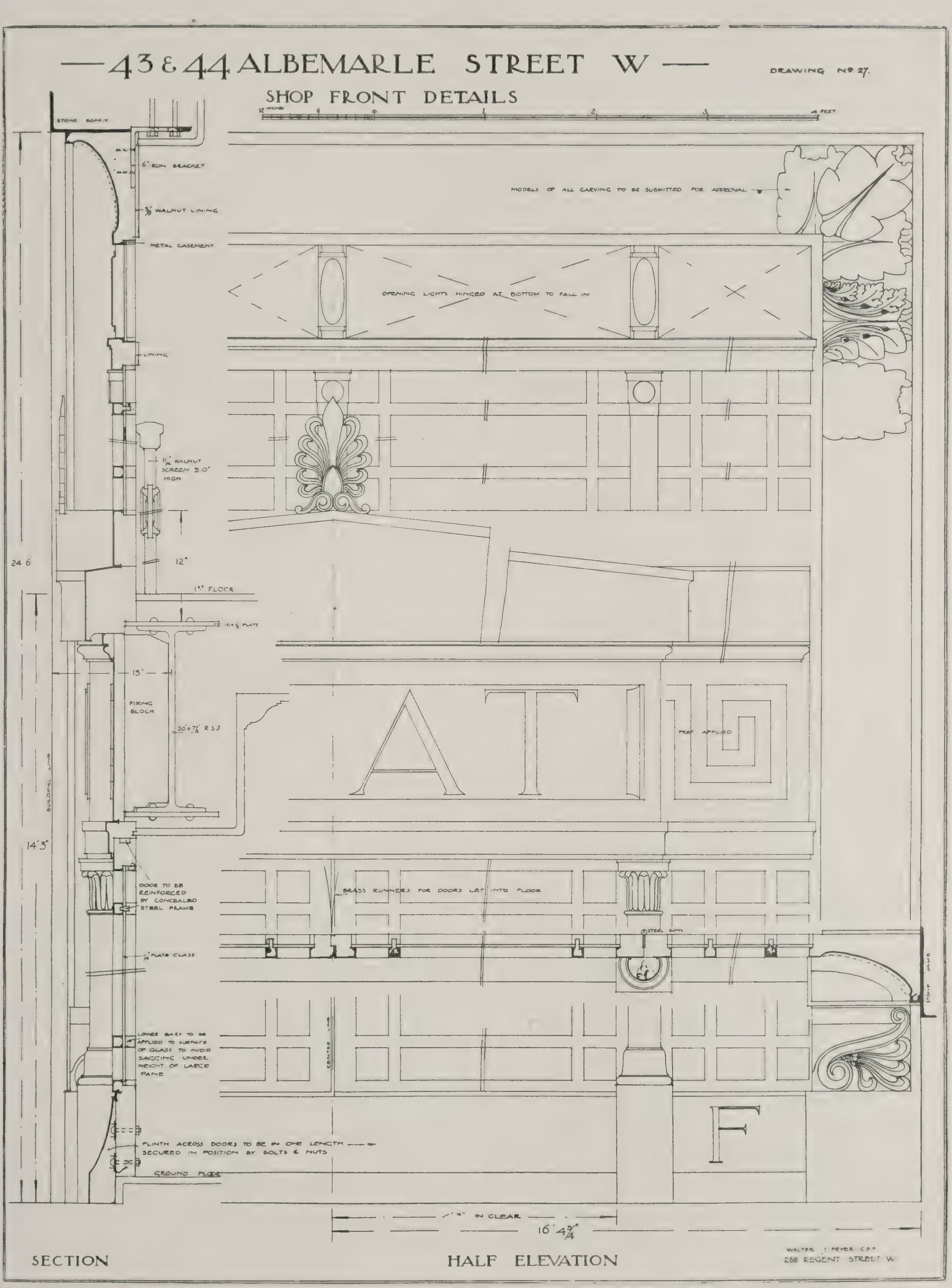

—43 & 44 ALBEMARLE STREET W—
DRAWING Nº 27.
SHOP FRONT DETAILS
12 INCHES 6 0 1 2 3 4 FEET
STONE SOFFIT
6" RSJ BRACKET
⅜" WALNUT LINING
METAL CASEMENT
MODELS OF ALL CARVING TO BE SUBMITTED FOR APPROVAL
OPENING LIGHTS HINGED AT BOTTOM TO FALL IN
LINING
1¼" WALNUT SCREEN 3'0" HIGH
24 6
12"
1ST FLOOR
10 x ½ PLATE
15"
FIXING BLOCK
20 x 7½ RSJ
FRET APPLIED
BUILDING LINE
14'3"
DOOR TO BE REINFORCED BY CONCEALED STEEL FRAME
BRASS RUNNERS FOR DOORS LET INTO FLOOR
STEEL DUTS
¼" PLATE GLASS
STONE JAMB
CENTRE LINE
LOWER BARS TO BE APPLIED TO SURFACE OF GLASS TO AVOID SAGGING UNDER WEIGHT OF LARGE PANE
PLINTH ACROSS DOORS TO BE IN ONE LENGTH SECURED IN POSITION BY BOLTS & NUTS
GROUND FLOOR
ATI
F
IN CLEAR
16' 4¾"
SECTION
HALF ELEVATION
WALTER J. FRYER C.B.E.
288 REGENT STREET W.

THE FIAT SHOWROOM: WORKING DRAWING SHOWING THE CONSTRUCTION OF THE SHOP FRONT.
WALTER J. FRYER, C.B.E., ARCHITECT.

The Architecture Club

THE formal alliance of Architecture with the Press was celebrated at the inaugural dinner of the Architecture Club at the Hotel Cecil last Thursday. The president, Mr. Thomas Hardy, was unable to attend, and Mr. J. C. Squire, the Editor of "The London Mercury," was in the chair. Amongst the literary people present were Mr. G. K. Chesterton, Mr. J. St. Loe Strachey, and Mr. E. V. Lucas.

Mr. Squire sketched the origin of the Club. It began, he said, like the human race, in a garden, where he and an eminent architect had a conversation. He had accused modern architects of lack of contact with other artists and with the intelligent public. There were plenty of good young architects about, but nobody knew their names. Sir Edwin Lutyens was the only living architect whose name came fluently to a journalist's pen, and that was only on the strength of the Cenotaph; and even then the public would probably soon forget Sir Edwin Lutyens. The Club, in which every precaution had been taken to prevent architects from getting a majority, was determined to rectify that, to promote the intelligent criticism of architects and architecture, and to stimulate both architects and other artists by bringing them in personal relation with each other.

It must be obvious to everybody that the Club is going to serve an important purpose, and that its inauguration is what would be called in press circles an "epoch-making event." What influence it will have upon the profession and upon modern architecture is at present hypothetical, but we believe the future will show that the profession in general owes a debt of gratitude to Mr. Squire and to the anonymous "eminent architect," which might be gracefully acknowledged by the erection in the fateful garden where the idea was first conceived of an imposing memorial structure from the designs—possibly—of Sir Edwin Lutyens.

The first rule of the Club is that its purpose "is to enlarge public appreciation of good architecture and the allied arts, and especially of the best work of to-day"; and the second rule is that members shall be either (*a*) architects or (*b*) writers, or (*c*) persons interested in furthering good building; and membership shall be divided as near as may be equally among these three classes. The Club is to consist of not more than 150 members during the year 1922, but may be increased as from January 1923 by not more than twelve members every month until a total of 300 shall be reached; thereafter new members may be added only in the place of those who have ceased to be members.

The affairs of the Club are to be conducted by an Executive Committee consisting of ten members, five of whom are to be practising architects. The members of the Committee for 1922 are Oswald Barron, F.S.A.; James Bone; A. Clutton-Brock; E. Vincent Harris, F.R.I.B.A.; Ralph Knott, F.R.I.B.A.; Oswald P. Milne, F.R.I.B.A.; Giles Gilbert Scott, R.A., F.R.I.B.A.; J. C. Squire; and Sir Lawrence Weaver, K.B.E., F.S.A. The Hon. Treasurer for the year is H. Austen Hall, F.R.I.B.A.; and the joint Hon. Secretaries J. C. Squire and Miss Grace Chapman.

Rule XI states that the Executive Committee may further the purpose of the Club in such ways as—

(*a*) by arranging or aiding in the arrangement of exhibitions of architecture and the allied arts.

(*b*) By holding four dinners a year, at which members will each be entitled to bring one guest, and each member shall pay his shot.

(*c*) By arranging meetings and excursions for the inspection and discussion of modern works of architecture.

(*d*) By promoting the description and criticism of architecture in the press.

All communications on the subject of the Club should be sent to Mr. J. C. Squire, "London Mercury," Castle Court, Poppins Court, E.C.

Queen Mary's Maternity Hospital, Hampstead

IN the entrance hall of this Home is a tablet on which the following record is inscribed :—

"This Maternity Home was founded in October 1919 by Her Majesty Queen Mary out of surplus moneys placed at Her Majesty's disposal by the Governing Bodies of 'Queen Mary's Needlework Guild,' 'H.M. the Queen's Gift Fund for Troops at the Front,' and 'H.R.H. the Princess Mary's Sailors' and Soldiers' Christmas Fund,' associations inaugurated for the purpose of sending comforts and gifts to our combatants in the Great War 1914–1919. The existing building was, with Her Majesty's approval, erected under the advice and superintendence of the Ministry of Health in order that it might serve as a Model Maternity Home, the site having been presented to Her Majesty by the Lord Leverhulme."

The result is a quiet brick building of Queen Anne character, designed to bear as homely an atmosphere as is consistent with the most modern ideas of hospital construction and sanitation.

Situated, thanks to the generosity of Lord Leverhulme, in an open and sunny position on the highest part of Hampstead, it commands extensive views over London.

The building has been designed to meet the requirements of the Ministry of Health.

All the wards and patients' rooms face south, as well as the sitting-rooms for the staff, which open on to a broad paved terrace.

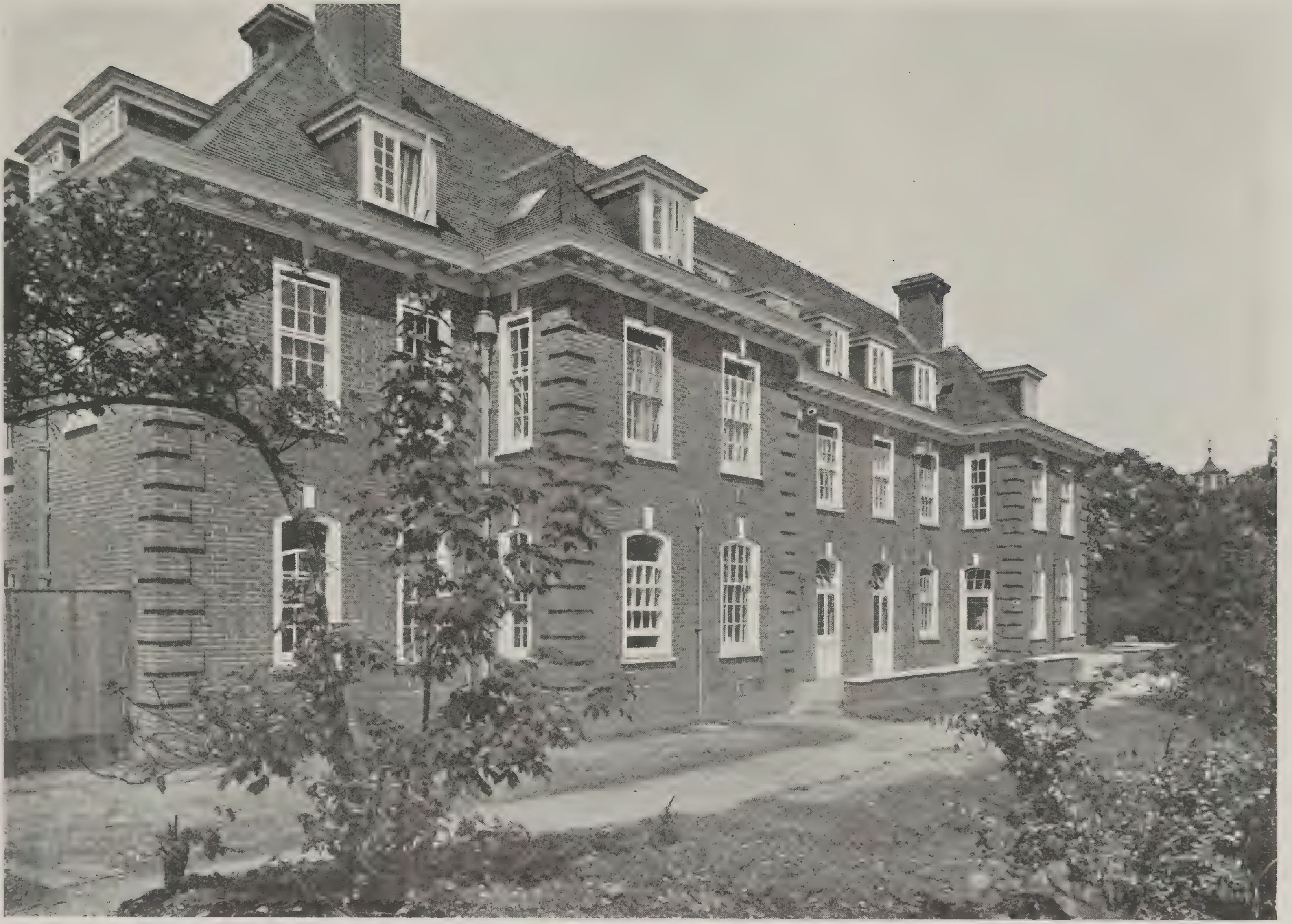
The building will accommodate fifteen patients in wards containing beds for four, three, and one patient, and in addition to this there are nurseries for eight older infants of mothers who are in the Home. The staff accommodation is for twelve nurses and probationers and six maids, with accommodation for three laundry-maids in the laundry block.

The principal aim has been to secure lightness and cheerfulness and as much quiet as possible, which is effected by the use of linoleum throughout wards and corridors, laid direct on concrete. One feature of the Home is the flush hospital doors specially designed for the purpose and made by Messrs. Ripper, stained grey and polished.

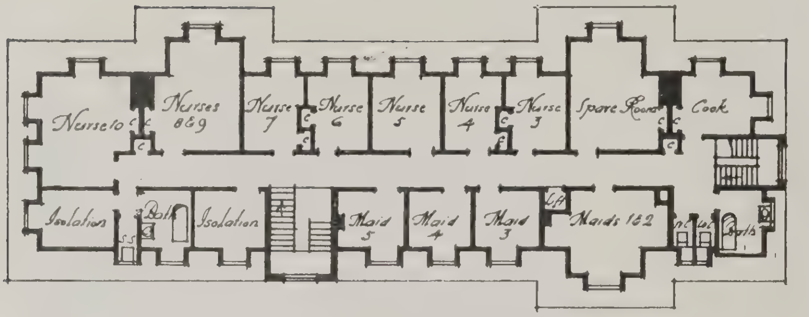
The whole Home is entirely self-contained, and includes a modern detached laundry, built on the site of the old stable, and fitted with electrically driven machinery.

The work was carried out under the supervision of Mr. Danby Smith, F.R.I.B.A., from sketch plans prepared by the Ministry of Health under the superintendence of Mr. Brook Kitchin, F.R.I.B.A., the Ministry's chief architect.

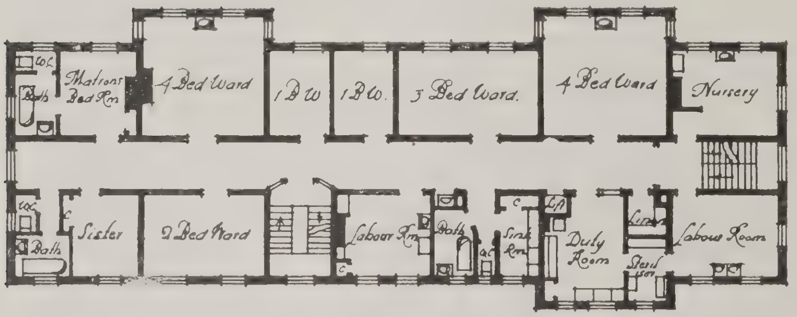
The marblework round the sanitary fittings was carried out in "Marbliola" by Messrs. W. G. Crotch and Son. Messrs. George Parker and Sons, Ltd., were the general contractors, sub-contractors including: William Morris & Co. (metal and lead glazing); Kleine Patent Flooring Syndicate (fireproof floors); Edward Evans and Son (Terralith floors and asphalt); Rippers, Ltd. (hospital doors); Redpath, Brown & Co. (steelwork); Comyn, Ching & Co. (electric lighting); W. G. Crotch and Son (marblework); Morrison, Ingram & Co. (sanitary fittings); Z. D. Berry and Sons (heating and hot water); Yannedis & Co. (door furniture); Thos. Lawrence and Sons (tiles and bricks).

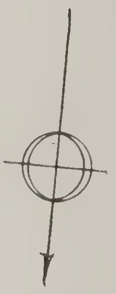


QUEEN MARY'S MATERNITY HOSPITAL, HAMPSTEAD : REAR ELEVATION.
CARRIED OUT UNDER THE SUPERVISION OF DANBY SMITH, F.R.I.B.A., FROM SKETCH PLANS BY BROOK KITCHIN, F.R.I.B.A., CHIEF ARCHITECT TO THE MINISTRY OF HEALTH.

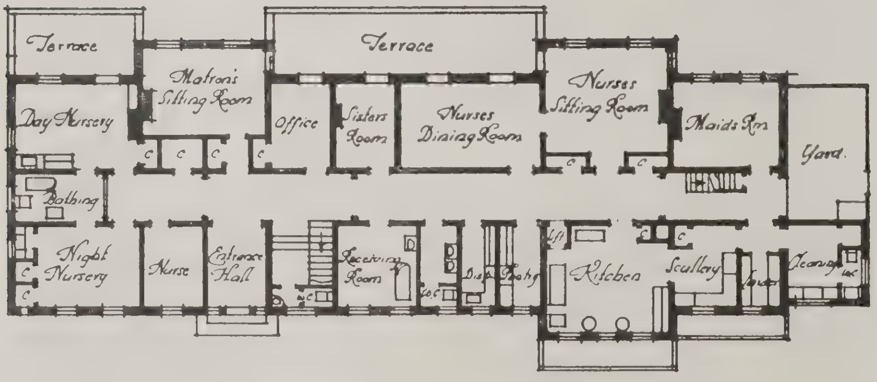


Second Floor Plan



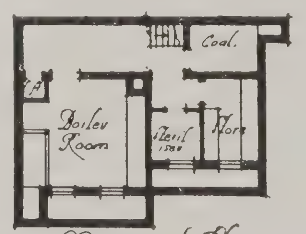


First Floor Plan



Ground Floor Plan.

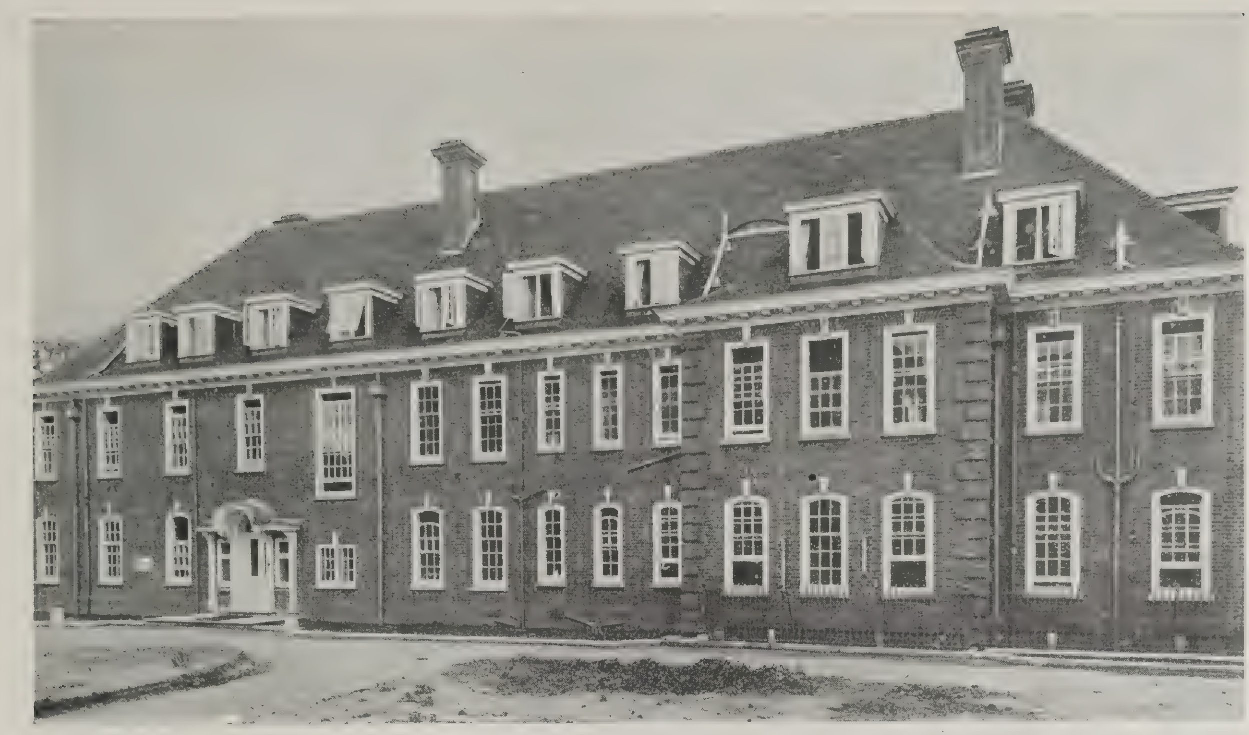
Scale of feet.



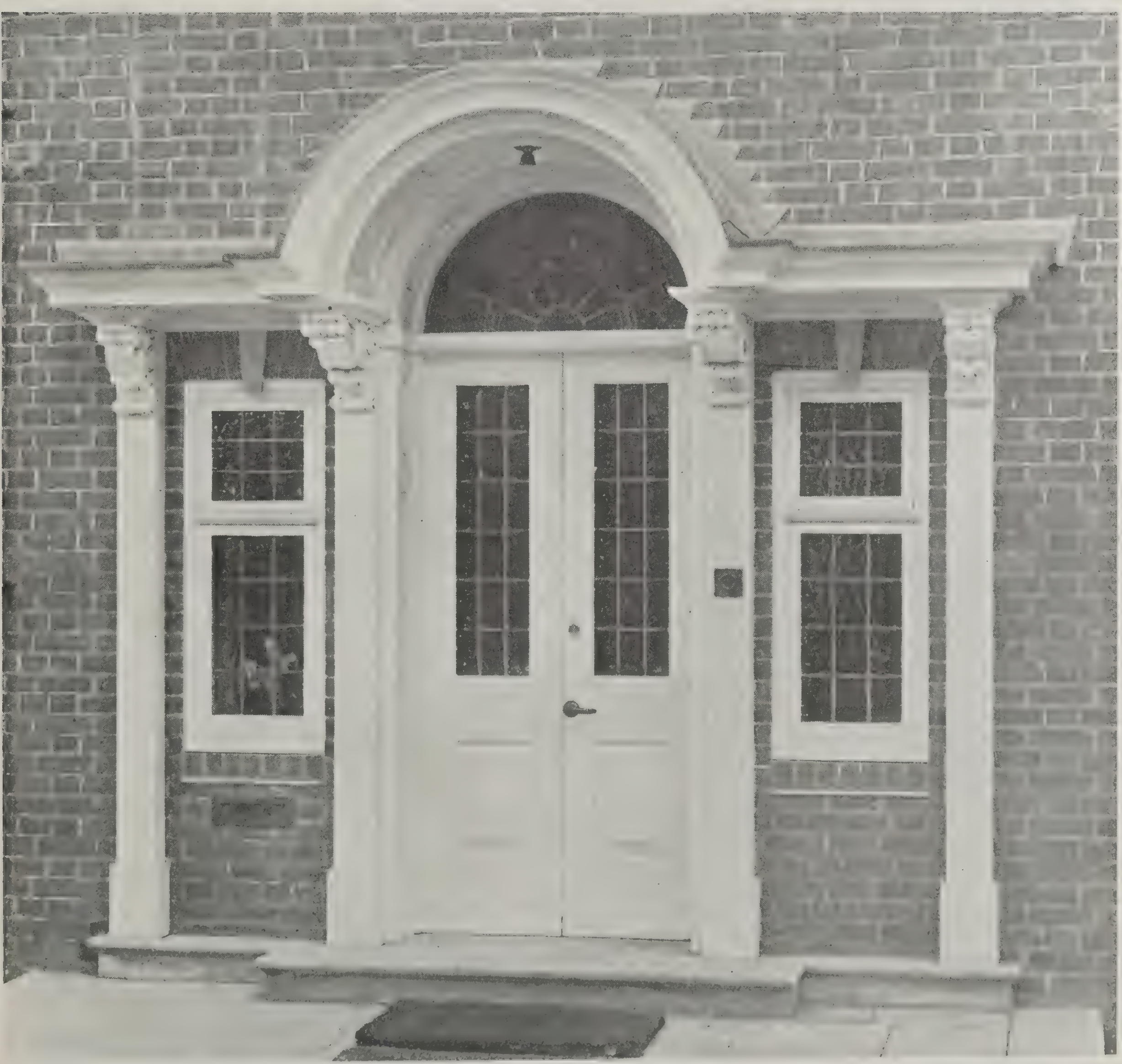
Basement Plan.

PLANS OF QUEEN MARY'S MATERNITY HOSPITAL, HAMPSTEAD.

CARRIED OUT UNDER THE SUPERVISION OF DANBY SMITH, F.R.I.B.A., FROM SKETCH PLANS BY BROOK KITCHIN, F.R.I.B.A., CHIEF ARCHITECT TO THE MINISTRY OF HEALTH.



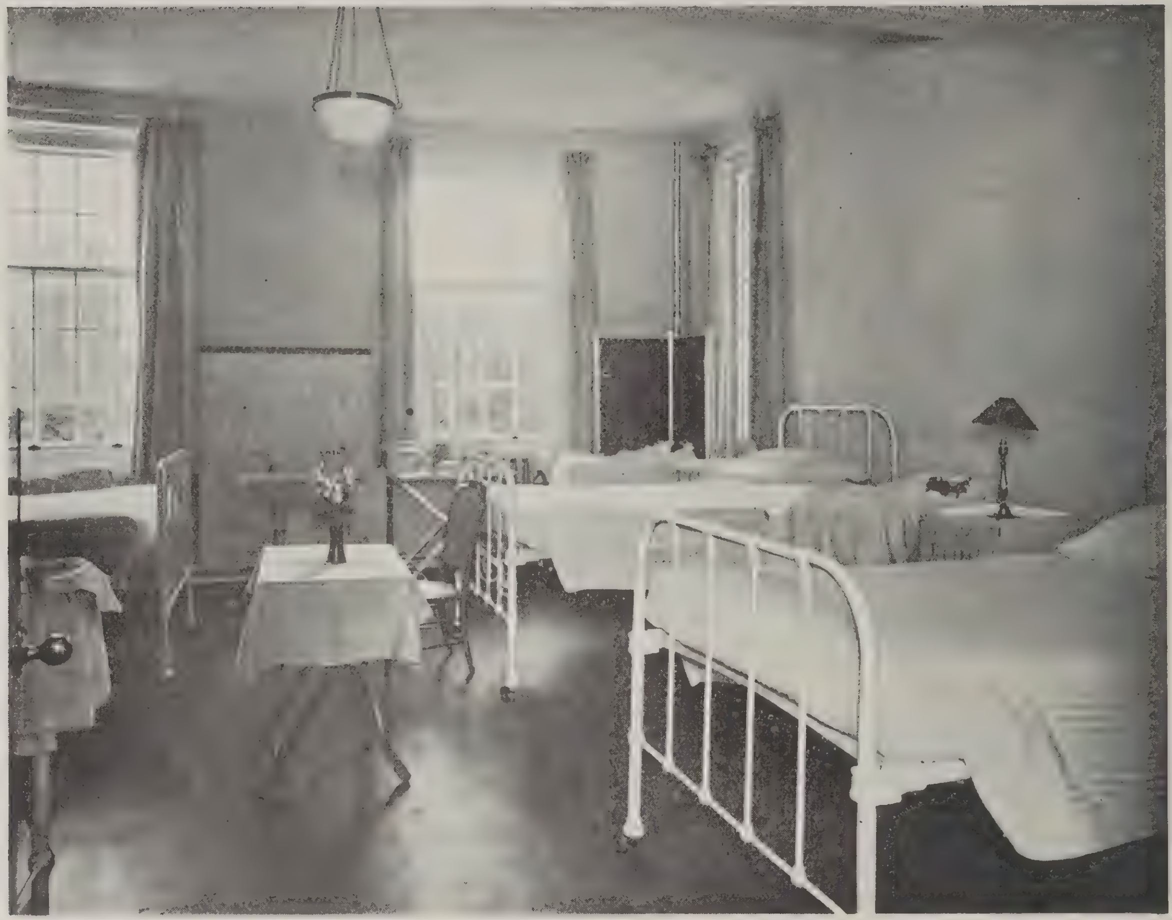
FRONT ELEVATION.

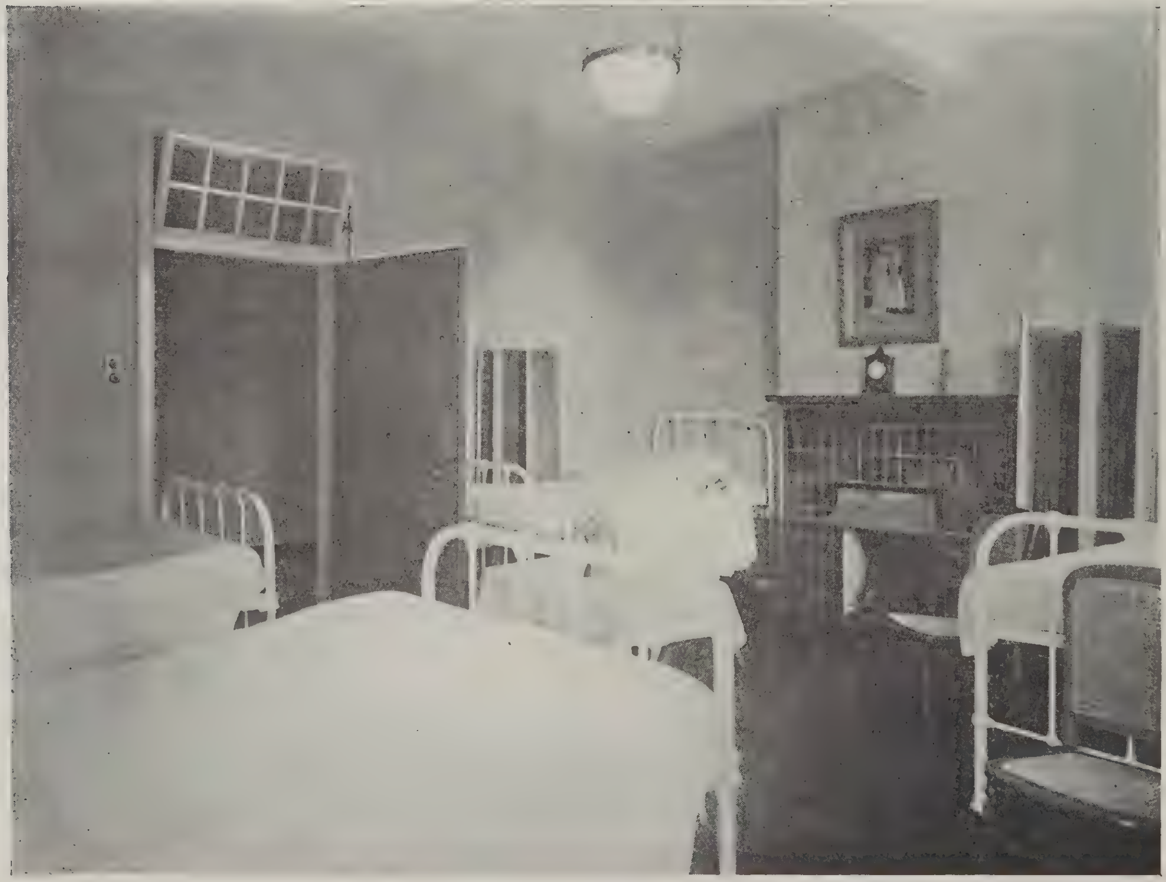


DETAIL OF DOORWAY.

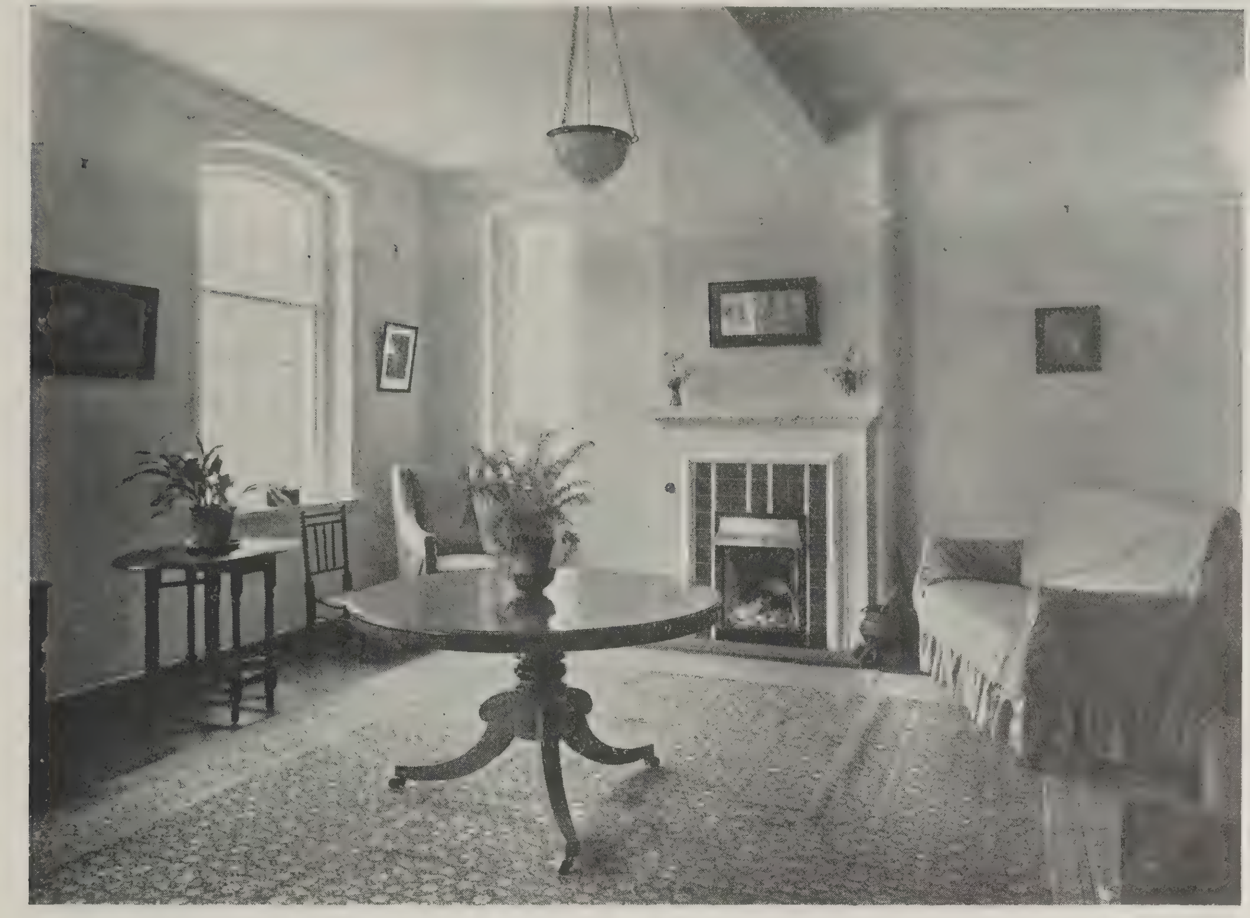
QUEEN MARY'S MATERNITY HOSPITAL, HAMPSTEAD.

ARRIED OUT UNDER THE SUPERVISION OF DANBY SMITH, F.R.I.B.A., FROM SKETCH PLANS BY BROOK KITCHIN, F.R.I.B.A.
CHIEF ARCHITECT TO THE MINISTRY OF HEALTH.

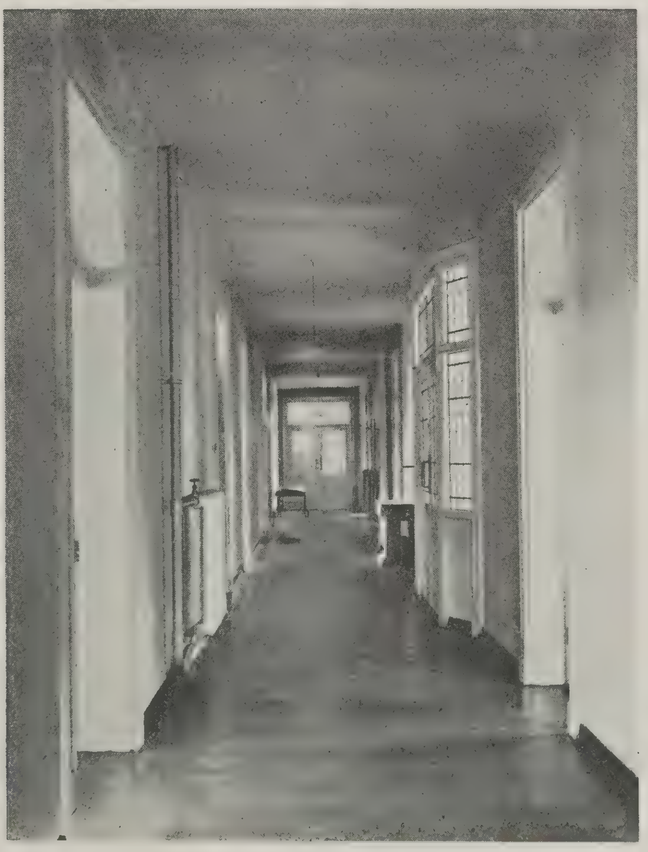




QUEEN MARY'S MATERNITY HOSPITAL, HAMPSTEAD VIEWS IN A FOUR-BED WARD.

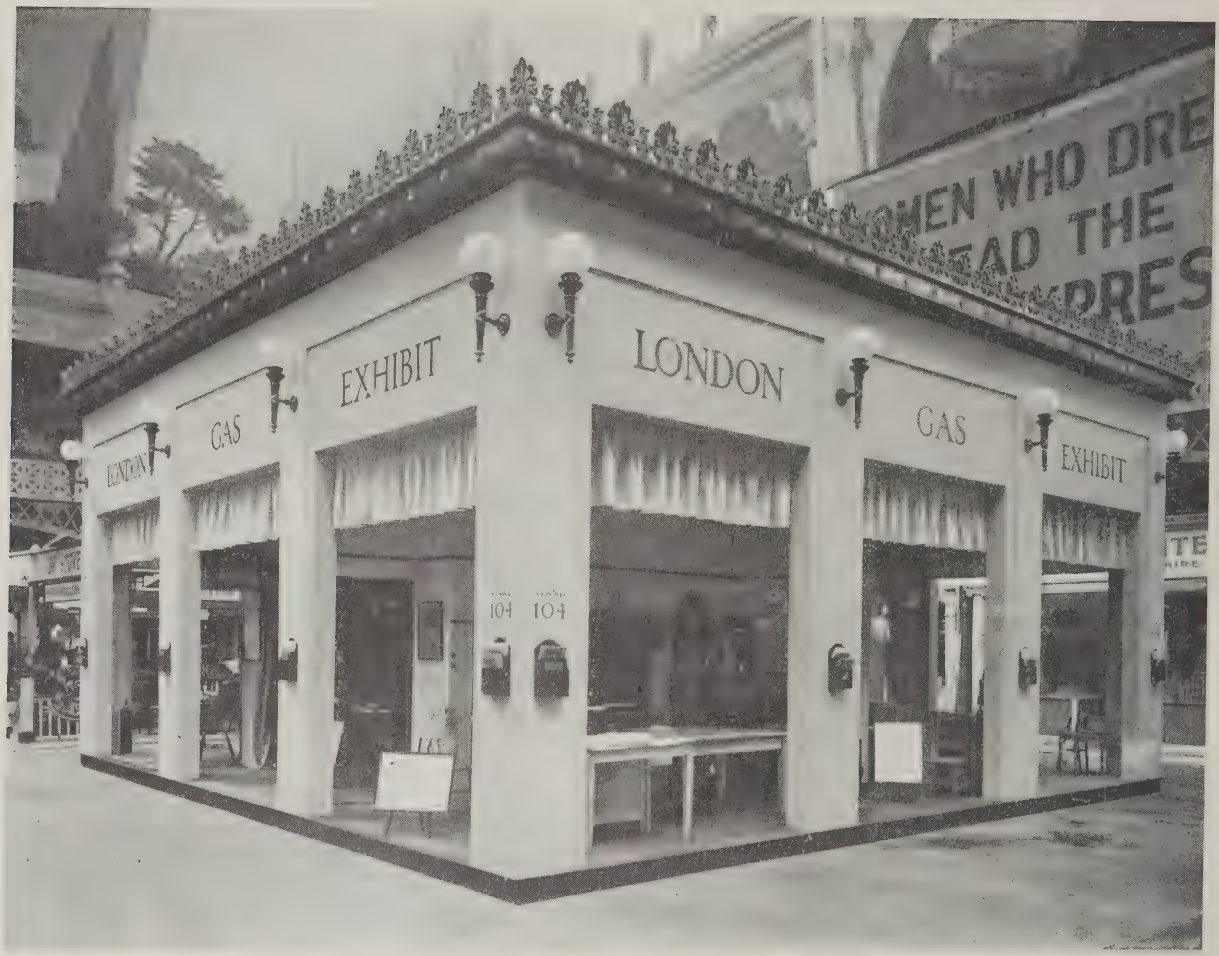


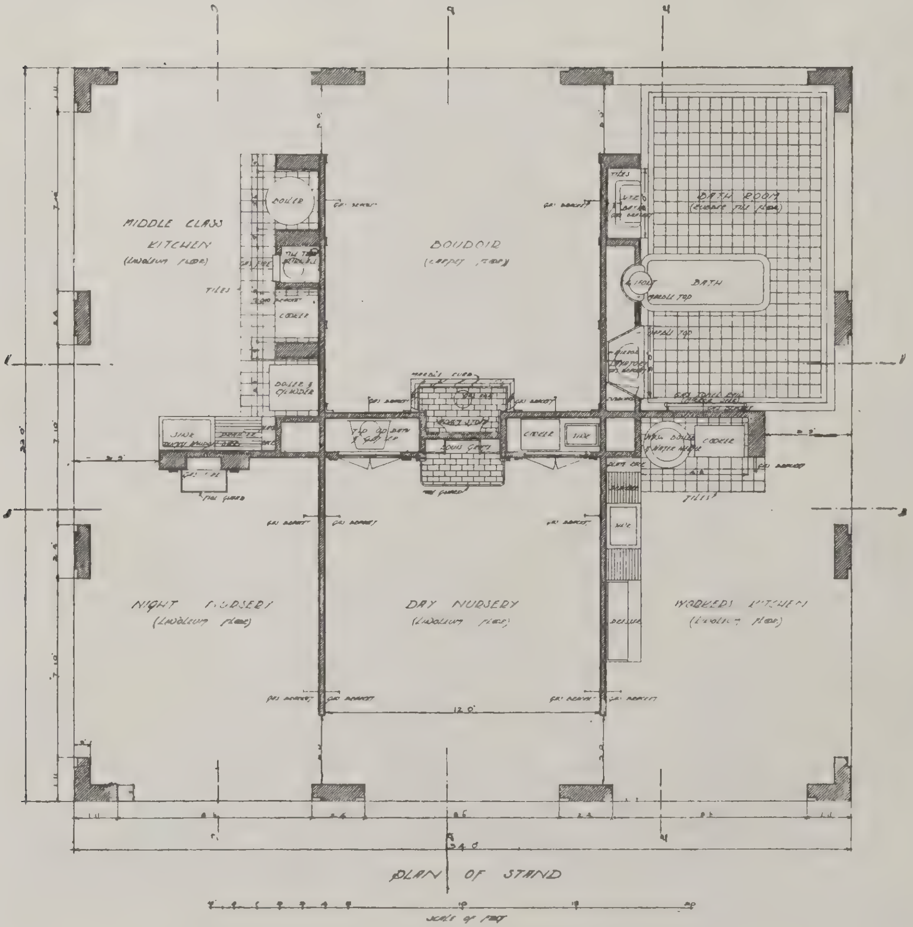
NURSES' SITTING ROOM.



CORRIDOR ON FIRST FLOOR.

QUEEN MARY'S MATERNITY HOSPITAL, HAMPSTEAD





THE LONDON GAS EXHIBIT AT THE WOMAN'S EXHIBITION, OLYMPIA
DESIGNED BY H. AUSTEN HALL, F.R.I.B.A.

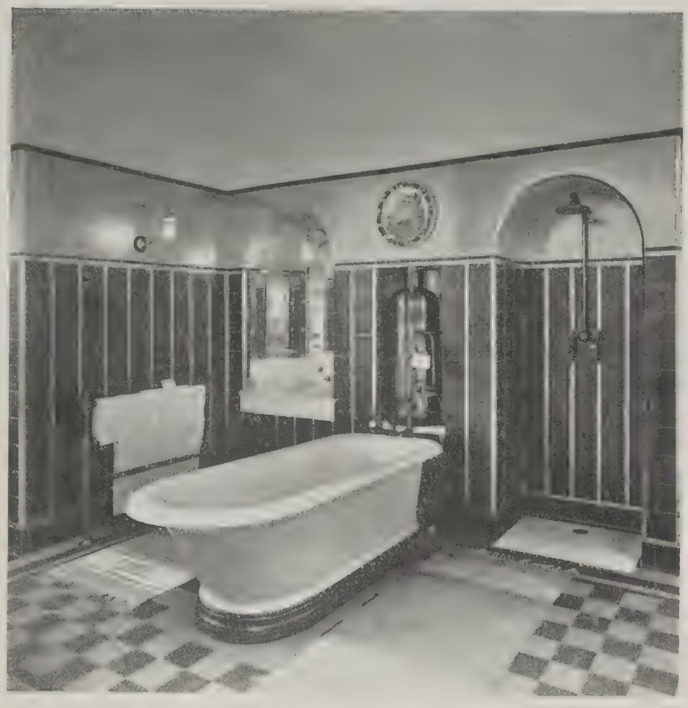
The Exhibition Stand: An Architectural Treatment

EXHIBITION stands are so seldom of architectural interest that the discovery of one so attractive as that of the London Gas Companies at the Woman's Exhibition, Olympia, comes as a distinctly pleasant surprise. The companies concerned are to be congratulated on their wisdom in engaging the services of a distinguished architect to design the setting of their exhibit. The example is one that we hope will be widely followed in the future.

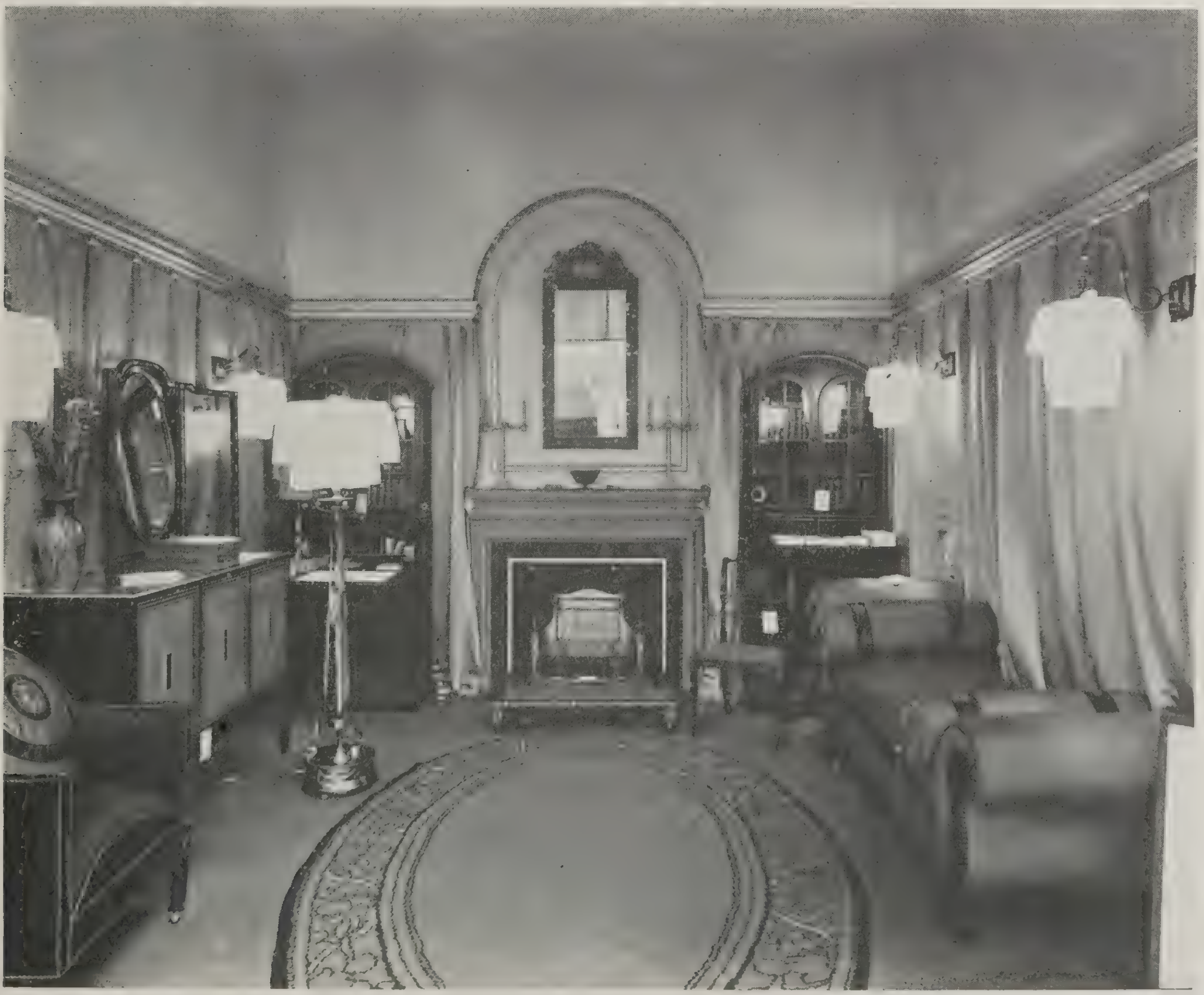
Designed and planned by Mr. H. Austen Hall, F.R.I.B.A., the exhibit comprises sections of a day nursery, a night nursery, a bathroom, two different types of kitchen, and a boudoir.

A specially interesting feature of the stand is the arrangement, in the day nursery, of a tip-up bath and a cooker and sink behind cupboard doors. With these doors closed, no one would dream of the utilitarian contrivances that stand behind ready for service.

The various rooms are delightfully furnished and decorated by Messrs. Heal and Son, and are fitted with every imaginable gas convenience down to a heated towel-rail in the magnificent black and gold bathroom fitted up by Messrs. Davis, Bennett & Co. The lighting is noticeably soft, and the excellent heating, cooking, hot-water supply, washing, ironing, bread-making, and jam-making appliances were selected and installed by a committee representing the eight principal London gas companies.

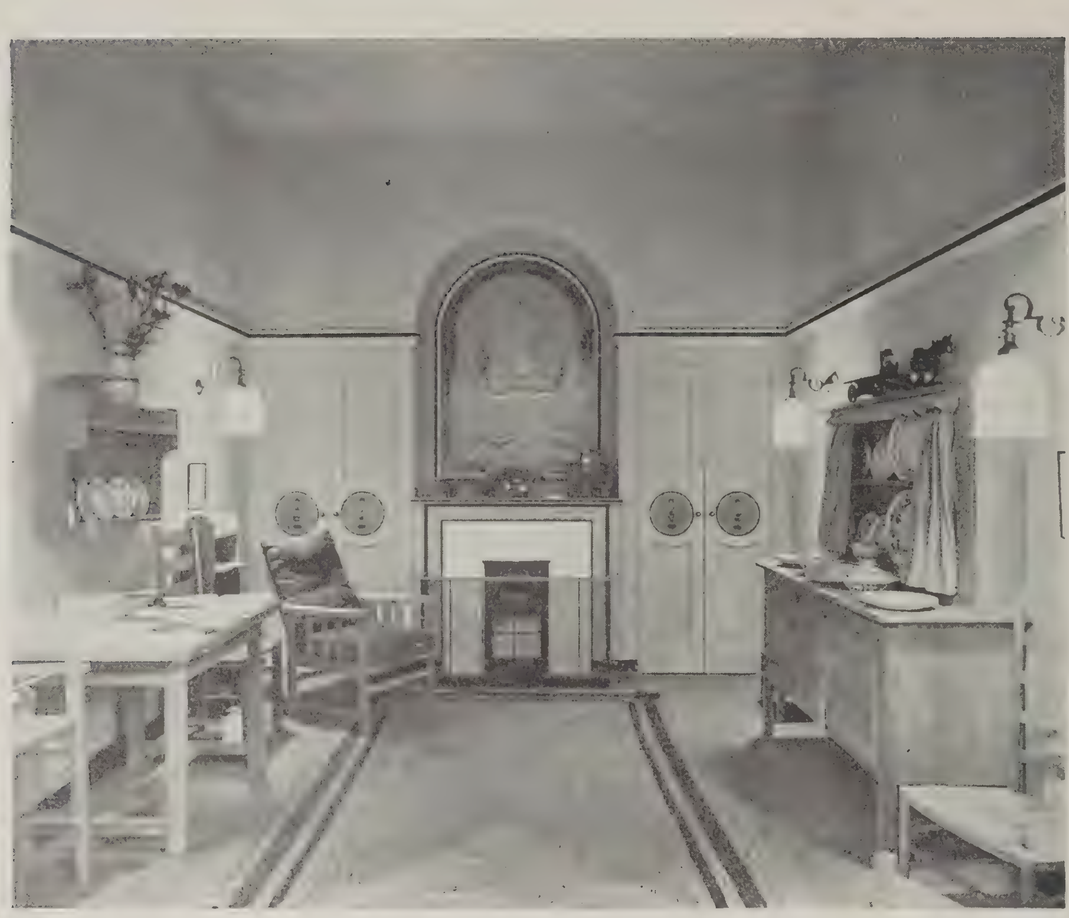


THE BATHROOM.

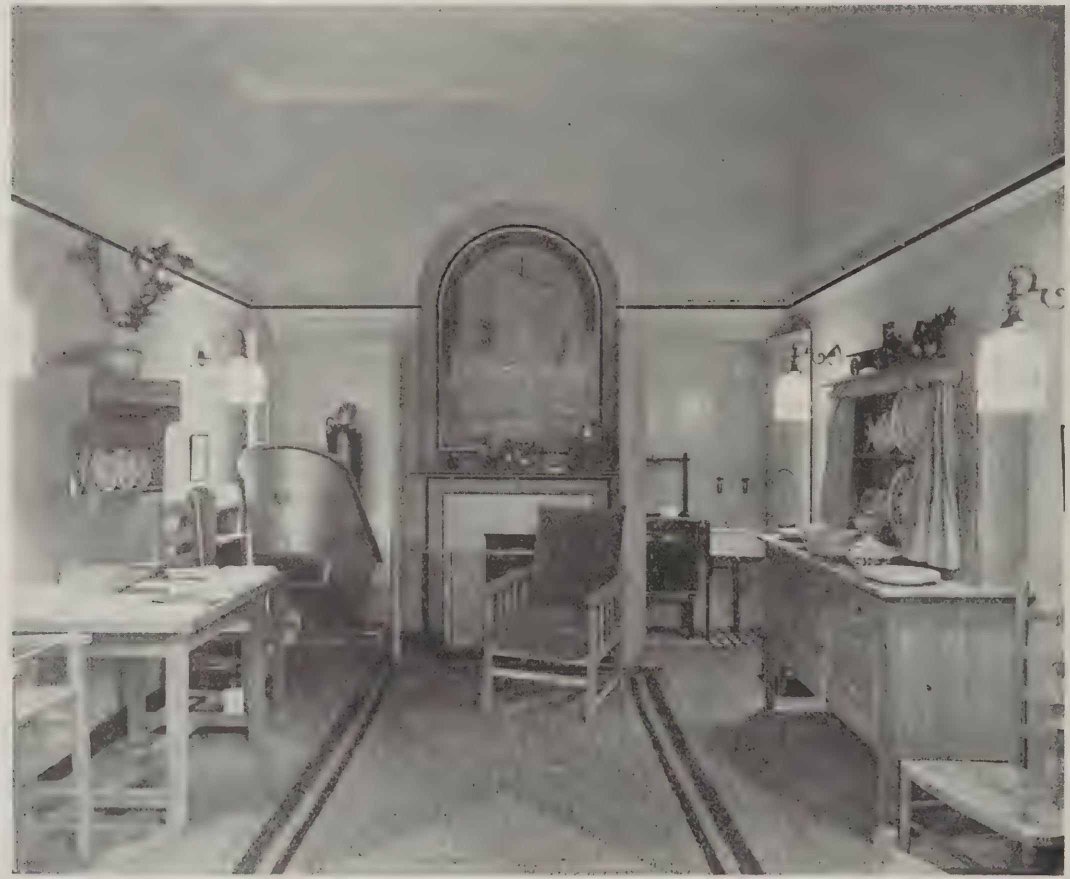


THE BOUDOIR.

THE LONDON GAS EXHIBIT AT THE WOMAN'S EXHIBITION, OLYMPIA
DESIGNED BY H. AUSTEN HALL, F.R.I.B.A.



THE DAY NURSERY.



TIP-UP BATH AND COOKER AND SINK REVEALED.

THE LONDON GAS EXHIBIT AT THE WOMAN'S EXHIBITION, OLYMPIA
DESIGNED BY H. AUSTEN HALL, F.R.I.B.A.

Correspondence

University Degrees in Architecture

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Your leading article headed "University Degrees in Architecture" in your issue of July 12 seems to infer that the foundation at Cambridge of a B.A. in which architectural studies play a leading part is a new departure in British universities. We are all glad to welcome the late arrival of a School of Architecture at Cambridge, and to hear that that university is now brave enough to make architectural studies a part of a B.A. course, though it has not yet promoted them to the status of a tripos or honours degree. As a Cambridge graduate I can rejoice at this awakening of my old university to the value to our civilization of the academic study of architecture, even if Cambridge has only discovered architecture as a liberal study some thirty years after she has swallowed mechanical engineering, or, as some would say, with a third of the university devoted to that subject, has been swallowed by it.

Your article seems to forget what has happened in other universities, such as London, Manchester, and Liverpool. All these, at one time or other, have gone, or are going, through the stage of giving a B.A. after a three years' course in which architecture plays the leading part. Liverpool, however, determined some years before the war that this was not enough, and felt the time had come for the study of architecture to be placed on the same basis as that of law, medicine, and engineering—that is to say, with its own special degrees and forms of training. These latter included office work, corresponding to the work done in office, hospital, and workshop in the other schools.

The degree given was a Bachelor of Architecture, B.Arch., after a five years' course, in which the latter two years were spent mostly in office work. At the end of the war, however, the university determined to strengthen still further its course for the B.Arch., and to do so required that in the fourth and fifth years the students should return to the School of Architecture for six months' solid work, the remainder of those two years still being spent in offices. This is the scheme under which we are now working; a scheme recognized by the R.I.B.A. by its grant of its Final Examination to those who complete it. Of course this was a very safe thing for the Institute to do, for a B.Arch. degree at Liverpool, even without honours in either design or construction, means that the candidate has not only taken a five years' course, but has been through at least two tests, his fourth and fifth years' examinations, at a considerably higher level than the Institute Final. That is quite as it should be, for all connected with the Liverpool School want the Liverpool Degree, or its corresponding Diploma to those who have not matriculated, to be a real and lasting distinction. This year nine students have just passed out of the University with the B.Arch. degree, five of whom were in the final of the Prix de Rome, and one of whom obtained the Rome Scholarship and another the Jarvis. I admit that this year has been an *annus mirabilis* in the history of the school; but we do not mean to lower the standard of our degree in other years, rather the reverse. Only the best students will ever get it. For the rest there are certificates and lesser distinctions.

Although the B.Arch Degree has been established at Liverpool for so long a time, it is not till now that we have considered the establishment of any higher degrees in architecture. Having, however, now made sure of the standard of the B.Arch., a proposal is before the university for a Master's Degree, or M.Arch. This proposal is of a very interesting kind, and, I think, indicates more than anything else the practical ideas underlying the Liverpool degrees in architecture. We have frankly gone out for technical degrees showing technical ability in a practical art. No other sort of ability is recognized. You cannot get a B.Arch. at Liverpool from written papers or memory tests or anything of that sort. You have to prove your practical ability in design and working drawings. So it is to be in the M.Arch., if it is established. In this case, however, the ability has to be shown in actual building. The proposal before the University is that candidates may present themselves for an M.Arch. not earlier than ten years after taking their B.Arch., and must then submit to the University photographs of a building of distinguished merit erected under their own names. This is the proposal. I should much like the views of the profession upon before it becomes law. It means that only the best educated men can ever attain it, because to get it they will have to have passed through the portal of the B.Arch., but it means more than that. It means that only those who have justified their training in after life in a very special way will be eligible. My ambition is that the M.Arch. of Liverpool should be a very real distinction to be held only by proved artists.

From all this it is evident that Liverpool University long ago found no dilemma or difficulty in giving degrees in a practical art, and is now proposing to continue the process still further.

C. H. REILLY.

School of Architecture,
Liverpool.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The ancient Universities are themselves unconscious witnesses to the influence of architecture upon culture. The recognition of this influence and its cultivation have now attracted attention.

Architecture has so many connections with the schools of classical, historical, and scientific studies that the specialisation of departments of these studies, by schedules and examinations, for the purpose of professional architectural students became the first step at Cambridge.

The second step was that of establishing courses of study in drawing and design together with lectures upon architecture. The further step has now been attained by the recognition of a complete course of three years study, with annual examinations for the B.A. degree.

It will be apparent that the advent of the University in the sphere of architectural education is certain to exercise an important influence. The attainment of a merely professional qualification cannot be its ideal; the possibilities of study and practice will be explored, stimulus to a wider education will be provided, and the reflex influence upon university life of the presence of architectural students among its members may be counted upon as a valuable ally.

The Board of Architectural Studies may be congratulated upon having secured, as the Master of the Architecture School, the distinguished student and architect, Mr. Theodore Fyfe, who will take up his duties at the commencement of the Michaelmas Term. The staff of the school includes Prof. E. S. Prior, the Slade Professor of Fine Art, Mr. T. H. Lyon, of Corpus Christi College as Director of Design, and Mr. H. C. Hughes, of Peterhouse, as Instructor and Librarian.

BERESFORD PITE.

Royal College of Art,
South Kensington.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Your leading article on University Degrees raises points of great interest to architects.

University Degrees have an obvious and material value to the holders, giving as they do a sort of hall-mark which is fairly widely understood. In this connection it may be said, as I do not think the fact is realized to an adequate extent, that the award of degrees in architecture is the most practical step towards Registration which has yet been taken.

As is usually the case, however, the less obvious and more subtle advantages are the more important.

Architectural education gains from its association with the universities mainly because, broadly speaking, the latter possess what Kipling would call "the essential guts" of higher education.

The objection that the introduction of architecture may tend in any way to degrade a university is really comic. The result must surely be the reverse; the introduction of this living art into any higher seat of learning should have a beneficial effect.

The most striking defect in the various types of general education in this country is surely to be found in the partial or complete ignoring of the great arts of Painting, Sculpture, and Architecture, which have played and are still playing such a great part in life. Of these arts it may well be urged that architecture—in addition to its strong claim to be "the Mistress Art"—is the most suitable for presentation in courses of study forming part of a general education.

With a School of Architecture in a higher seat of learning, it becomes possible to provide for non-architect students a short course of study forming part of, say, the Arts Degree Course, dealing with architecture in a manner which will add considerably to the value of other studies in classics and history. It would also seem clear that students of geography and economics would gain by contact with a department dealing with regional surveys, town planning, housing, and the like.

It should also be said that the large amount of creative work done in the Schools of Architecture may well influence for good other schools in a university which in some cases do not err on the side of excess in this direction. Lectures on architecture have for a long time played an important part in university extension work, but normally such lectures have dealt mainly with the archæological side. With the linking up of Schools of Architecture with Universities, this defect should be remedied and architecture be increasingly put before the public as an art which is influencing life for good here and now.

The award of degrees in architecture should thus lead not only to direct advantages to architects and to university education, but also to increased appreciation of our art among our futures public men, teachers, and the general public.

May I throw out for further discussion a suggested Art Faculty for a university, which with a "unified command" would deal with town planning, architecture, sculpture, painting, furniture design, and other kindred subjects—in fact, with all those various requirements of a community which, with the help of the artist, can be made more fitting and pleasing ?

W. S. PURCHON.
Head of the Department of Architecture and Civic Design, Cardiff.

Some Pricing Puzzles

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The tenders mentioned by "F. S. I." in your issue for July 5 were separate ones for a number of different schools. The tender of £119 was accepted for the painting of the exterior of Spon Street Council School, and that of £639 17s. was accepted for painting the interior of Broad Street Council School.

Although the actual tenders received for the different works did show great variation, I do not think it was much greater than has been usually the case before the war.

FREDK. HORNER.
Secretary to the Coventry Education Committee.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With regard to the discrepancies in the prices of tenders for redecoration of Guildhall, I am entirely unable to account for these, as very carefully prepared specifications and detailed quantities were supplied.

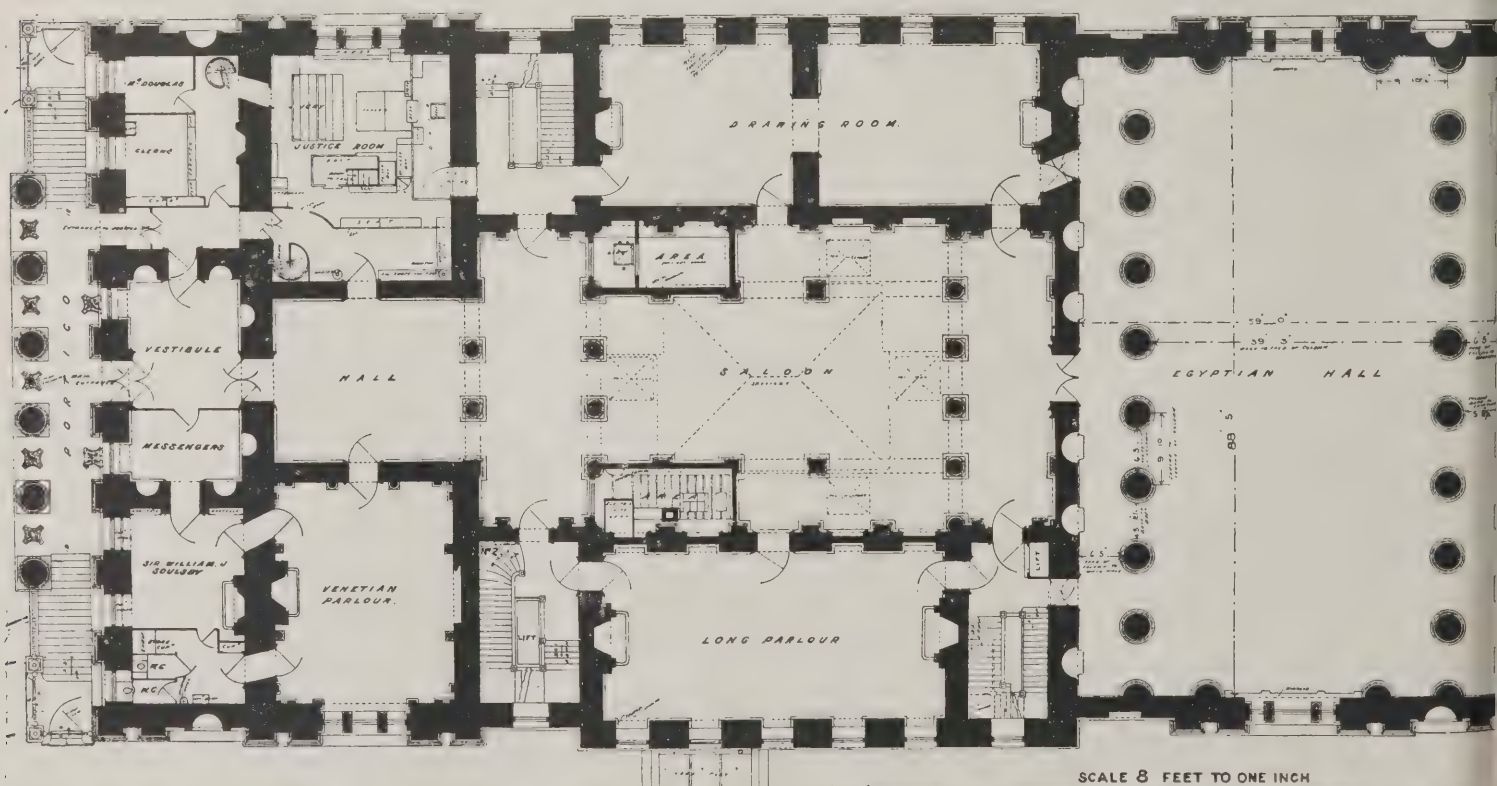
E. W. A. CARTER.
City Surveyor and Waterworks Engineer.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With regard to the disparity in the tenders which I received for the erection of a block of thirty-six flats at Walker, I am unable to offer any better explanation than that suggested by your correspondent, "F.S.I.," viz., that pricing is not as closely studied by builders as the subject warrants.

I may say that in this case, whilst my own preliminary estimate was based on a price of 9½d. per foot cube, which gave a total of £10,360, the lowest tender gives a foot cube price of 8¼d. No quantities were issued to builders, but each builder was supplied with a carefully written specification and a blue print of the working drawings. The builders tendering, almost without exception, were well accustomed to housing work.

R. G. ROBERTS,
Housing Architect
of Newcastle-upon-Tyne.



FIRST FLOOR PLAN

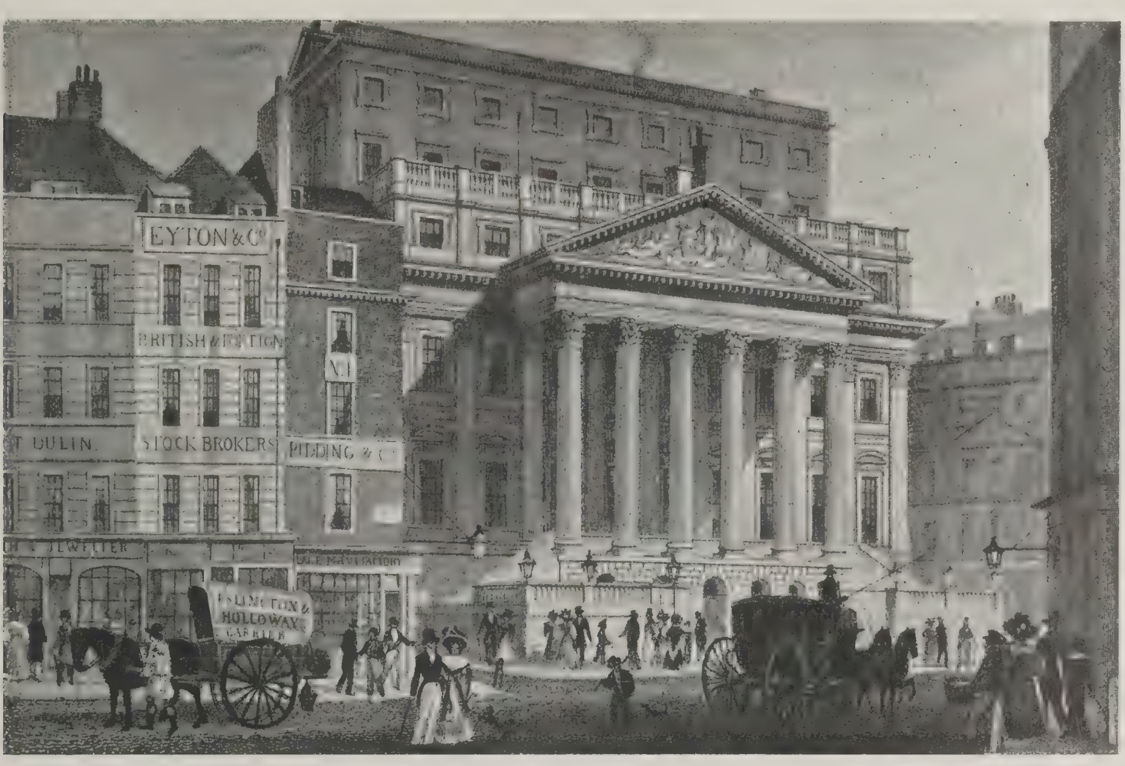
FIRST FLOOR PLAN OF THE MANSION HOUSE AS IT IS TO-DAY.

From "The History of the Mansion House" by Sydney Perks, F.S.A., F.S.I., F.R.I.B.A.

Book Reviews

A Monograph on the Mansion House

Mr. Sydney Perks was predestined to ecome the historian of the Mansion Iouse. He has all the qualifications and very facility for the task. The idea of ome day taking it up had been simmering n his mind for many years when the reat War broke out, robbing him of is customary holiday in France and taly, but giving him the opportunity o prosecute, in London, Oxford, and lsewhere, research work relevant to his bject, and thus bringing the matter to definite issue.



THE MANSION HOUSE FROM THE BANK, 1830, SHOWING THE "MAYOR'S NEST."
DRAWN BY T. H. SHEPHERD, ENGRAVED BY W. WALLIS

Those who are acquainted with Mr. ydney Perks—and what architect is ot ?—need not be told that he has performed the work with the greatest possible care and thoroughness; inasmuch s architects will probably think that he s too meticulously historical, while the verage citizen will probably grudge the mount of attention he has given to natters that are "merely architectural." His justification is that in both respects is book assumes rank as a final authority, nd that he has given his book a double nterest rather than a half-and-half interest, and that in either aspect the monograph will amply repay intensive reading.

In a sense, the book is, of course, ntirely historical; but much of what it hronicles belongs to the environment of he building, to the happenings in and bout it, to the civic and social atmophere surrounding it, and from which it nay be said to have materialized, rather han to that more limited, more physical istory that relates directly to the fabric itself, to its immediate projectors, its architect, its builders, its authors and finishers inside and out, the materials of which it is constructed, whence they came, what they measure, and what they cost. To get these matters into proper perspective, and even to provide a firm evolutionary basis for them, it was desirable to delve down some considerable depth into ancient annals. The pavement level of Roman London is mentioned; and the author very wisely refrains from dogmatizing as to why the Roman causeway mentioned in Wren's "Parentalia" as being used in the foundation for Bow Church in Cheapside was 18 ft. below the modern surface, or why the fine mosaic pavement uncovered at the north-east end of Queen Victoria Street, and preserved in the Guildhall Museum, was found at a depth of 19 ft., or why the remains of a macadamized road in Bucklersbury should have reached a depth of about 25 ft.

Much that is curious and interesting is recorded in the account of the Stocks Market; Mr. Perks's account of it beginning with the period between 675 and 685, and carrying on with glimpses of the laws of Ina, of Athelstan, Edgar, Canute, William the Conqueror. Letters patent of Edward I licensing the mayor to build are quoted as sanctioning the building of the Stocks Market, which may be said to have stood, in 1283, on or near the site now occupied by the Mansion House; in coming to which we have overleapt, but by no means overlooked, many quaint annals which the author has brought together as the result of diligent research and judicious selection. Then follow chapters on St. Mary Woolchurch Haw, and St. Stephen's, Walbrook, the surveys after the fire, and other matters, until at length we come to "Chapter X: The Plans for the Mansion House."

Of interest to the antiquary, but of very little value to the architect, is the reproduction from an old MS. book in the Guildhall Library of a list of all the mayors of London from 1343 onward; their chief point of relevancy being that these mayors had their mansions in the City, and, their addresses being given, it is easy to see where, at any given date, any forerunner of the Mansion House happened to be situated. For where the Mayor lived, there was the Mansion House. As the mayoral functions grew steadily more complicated, it became necessary to provide him with a fixed municipal abode, and Mr. Perks finds that as early as November 15, 1670, a Mansion House was contemplated. Grocers' Hall was first suggested, but in 1728 it was decided to choose a site and procure plans for a new building; yet it was not until 1734–5 that a Mansion House Committee was appointed. That committee chose the Stocks Market site, and Mr. Gibbs, Mr. James, and Mr. Leoni were invited to take part in a limited competition. Their ideas, and those of Mr. Batty Langley, and of Dance, on how the Mansion Houses hould be designed, are given in detail by Mr. Perks. Both Batty Langley and Dance were invited to compete, the invitation being extended to the latter on July 17, 1735, at a committee meeting at which Langley had presented a plan. A plan volunteered by Captain de Berlain was summarily rejected. It was not until the five architects chosen had sent in plans for the Leadenhall Market site as well as for the Stocks Market site that the committee finally adopted the latter; this decision being made on March 28, 1736. Dance's estimate coincided with that of Leoni, at £26,000, Gibbs's with that of James at £30,000, and the committee recommended Dance's design.

Mr. Perks smashes the apocryphal story that a design by Palladio was rejected *nem. con.* "because he was a Papist." "How could Palladio, who died in 1580, have prepared a plan with prophetic instinct to comply with these conditions?" Besides, both Gibbs and Leoni were Roman Catholics, and their designs were not challenged on that account. Isaac Ware also volunteered (and published) a design, which Mr. Perks reproduces, as well as schemes by John James, James Gibbs, Batty Langley, and, of course, the drawings prepared by Dance. Leoni's plans cannot be found; plans of three floors by Gibbs the author had the good fortune to find in the Radcliffe Library. The Court of Common Council confirmed in May 1738 the selection of Dance's plans; and tenders having been obtained, the foundation stone of the Mansion House was laid on October 25, 1739. The position of that foundation-stone cannot now be traced! In September 1757 "all the work was finished except painting the Great Hall." Mr. Perks gives very full particulars of the procedure from start to finish; and he glances at wire-pulling by interested contractors, at spiteful attacks on the architect, at extravagant overcharges for work, and vexatious delays in it, as well as some deplorably shoddy workmanship that must have given Dance many anxious hours.

Mr. Perks considers that "a comparison of Dance's design with the others submitted will show that the Corporation were wise in their choice," and few who avail themselves of the means of making that comparison now put before us will venture to disagree with the opinion. In any case, every architect will feel grateful to Mr. Perks for his detailed analysis of an important building that, both historically and architecturally, amply repays the minute and scholarly investigation that the author has devoted to it. Such masterly monographs as this on the Mansion House are rare; and by quietly demonstrating rather than noisily proclaiming the architectural, historical, and archæological interests of that building Mr. Perks has invested it with distinctly higher claims to attention than it was previously thought to possess. Incidentally he will have increased the average citizen's esteem for architecture as a subject of interest. The many valuable illustrations with which the book is enriched include a hitherto unpublished portrait of George Dance the Elder, which Mr. Perks has been able to give by the kind permission of Miss Dance, of Bath.

"The History of the Mansion House." By Sydney Perks, F.S.A., F.S.I., F.R.I.B.A., City Surveyor to the Corporation of the City of London. With 33 Plates and 67 Plans. Cambridge: At the University Press. Price 35s. net.

French Cathedral Churches in the War

A summary has just been issued of the war collection of Barr Ferree, of America, of information with regard to "the Cathedral Churches of France in the War of 1914–18." The collection consists of books, scrap-books, newspapers, illustrations, prints and engravings, cartoons, posters and maps, etc.

The origin of the Barr Ferree collection far antedates the war of 1914–1918, as for many years the owner has been gathering books, papers, photographs, illustrations, and other material relating to the cathedral churches of France, aggregating more than 150 buildings. By 1914 it had reached several thousand titles, and was probably the largest single collection on this subject in America.

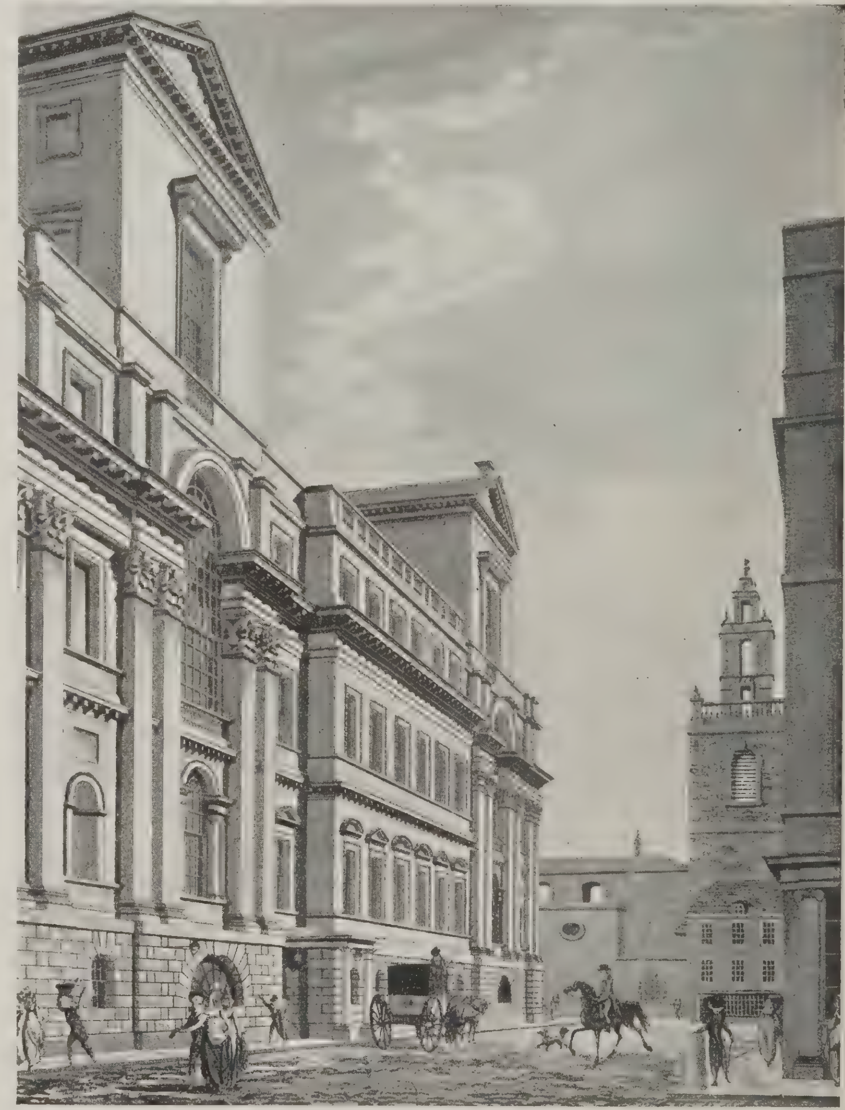
With the outbreak of the war it was greatly expanded. It was obviously no longer sufficient to collect strictly architectural material relating to the cathedrals, but everything concerning the cities and immediately surrounding area assumed new value. It did not suffice to keep a record of injuries to the cathedrals alone, but it became necessary to include everything possible on the military events connected with these cities, as explaining the origin of injuries to the churches and the circumstances under which they were damaged. Thus the collection became no longer strictly architectural, but somewhat general, and now includes many military books and papers. The cathedral cities directly affected by the war—that is, subjected to bombardment, or centres of military events—were Reims, Verdun, Laon, Arras, Senlis, Soissons, Cambrai, Nancy, Amiens, Noyon, Paris, Lille, St. Dié. Strasbourg and Metz are also in this group.

"The Cathedral Churches of France in the War of 1914–18." Summary of the War Collection of Barr Ferree. New York: 249 West 13th Street.

An Architect in Fiction

To the novel reader who is also a member of the architectural profession this is a book with a particular attraction. The principal character is an architect, and anyone who is tired of the astonishing eccentricities of the traditional architects of fiction should, for that reason alone, be interested in James Wedmore, who is portrayed as a normal human being. There are no villains in this story!

James Wedmore may perhaps be con-



THE WEST FRONT OF THE MANSION HOUSE, SHOWING PORTICO AT THE WEST DOOR, BUILT 1775 AND AFTERWARDS REMOVED.

(Published 1798 by T. Malton.)

idered somewhat fortunate in building ıp such a very prosperous practice during he short and extremely unsettled period hat has elapsed since the war, but a feat f this sort is, of course, more easily chieved in fiction than in fact. He is ortunate, too, in encountering such a harming young lady as Miss Woodruff n the environment of a fifteenth-century nanor-house. He is extraordinarily ortunate in ultimately obtaining both he hand of the lady and vacant possession f the house.

Nevertheless it would be niggardly on he part of anyone to begrudge success o James Wedmore, for he is the latest cquisition to that very small group of rchitects in fiction whose prototypes are t all likely to be encountered in real life.

It is, however, permissible to doubt hether the erection of a technical institute in a provincial city would prove a sufficient recommendation for the election of its architect to an Associateship of the Royal Academy. It is even more unlikely that any such recommendation would receive additional consideration when advanced by a vulgarian of the type of Sir John Pumphrey. In allowing his prospective father-in-law to engineer a surreptitious agitation in such a direction on his behalf, James Wedmore's attitude appears to be somewhat inconsistent with his ideals.

The book deals with the city and neighbourhood of Bristol under the thin disguise of Barstow, and contains a number of meditations on the effect of different types of building on the temperament of its chief character.

In travelling by rail through the outskirts of Barstow, for instance, James Wedmore is irritated by "the irrelevant inventions of brick and bargeboarding in a land where stone is plentiful," and retreats to the middle of the compartment in order to avoid the spectacle of these incongruities. Railway passengers, hardened by constant exposure to sights of like nature, may feel inclined to scoff at such sensitiveness. The fact remains that, in passing through certain modern residential districts, even the season-ticket holder is at times tempted to draw the blinds and crawl under the seat.

In any case, it is a whimsical thought of Wedmore's that railway trains jolt (even as high-spirited horses have been known to shy) on passing some particularly aggressive perpetration of the jerry-builder. This theory may explain the series of bumps which combine to form the methods of transit known as Suburban Railway Services.

F. R. JELLEY, A.R.I.B.A.

"An Order to View" By Charles Marriott. (Hutchinson & Co.)

The L.C.C. Theatre Regulations

We have received the following from a orrespondent :—

These regulations which supersede the gulations made in 1901 deal principally ith the protection of places of public ıtertainment from the risk from fire. is a matter for regret that the London ounty Council in revising their regulaons have not followed the practice of merican and French authorities and ealt with the various types of buildings classes. But for a clause towards e end there is nothing in the regulations indicate that except for theatres and usic halls they are not rigorously apied. It would be obviously unfair to pply the same standard to a hall atched to a suburban church as would be esirable for a West-end theatre. The ouncil in practice discriminates, and hen the regulations were under revision would have been an easy matter to dicate that the regulation, for instance, th regard to site is not enforced. This rticular regulation has been amplified d on the whole is an improvement. ackland sites will not in future be aporved. Waiting spaces are made comılsory in the case of cinematograph halls, d small ground-floor theatres will be cused a brick proscenium wall and fire rtain.

The regulations as to the construction the stage have been recast, and the ea of the lantern light has been ineased from one-tenth the area of the ge to one-sixth. The object of this gulation is to afford an outlet for flame d smoke in the event of the stage tching fire—serious fires have generally curred on the stage. The sashes of this ıtern are required to be glazed with in glass. We venture to suggest that e area is unnecessarily large, much in cess of that required in any similar gulation with which we are acquainted. our opinion it will make the stage bearably cold in winter. The sashes the lantern are required to be on a sible link. This is an improvement vocated first by the American engineer eeman. But instead of a glazed sash he advocates a shutter or series of shutters which will be released when the link fuses, and this, we think, is a better method of dealing with the problem, which we commend to the favourable consideration of the London County Council. We are also strong advocates of the all metal stage, which was introduced into this country by the late Edwin O. Sachs. Its installation will reduce materially the amount of combustible material on the stage, and effect a substantial reduction in the wages bill, as fewer men will be needed to work the scenes.

The regulation requiring adequate dressing-rooms is one which should be applied to the provinces, where the need is generally greatest. Further regulations are promised on ventilation, heating, and lighting. If gas lighting still exists in any London theatre it should certainly be abolished.

Parliamentary Notes

BY OUR SPECIAL REPRESENTATIVE.

Unemployment Insurance.

In the House of Commons last week Major Barnes asked the Minister of Labour whether his attention had been called to the case of Mr. William S. G. Wear, a naval architect, of Walkerville, Newcastle-on-Tyne, who, holding an exemption certificate under the National Health Insurance Act, was compelled to pay contributions under the Unemployment Insurance Act whilst holding a temporary appointment extending over a period of four months from October 1, 1921, to February 11, 1922, and was subsequently granted an unemployment exemption card; whether he was aware that repeated applications to his department for a refund of those contributions, amounting to 13s., had been refused; and whether, in view of the fact that Mr. Wear had been unemployed for a considerable period and it was extremely unlikely that he could ever benefit by the provisions of the Act, and that the small sum in question was one of substantial importance to him, he would give instructions that the contributions deducted from Mr. Wear's wages during the temporary appointment in question be returned to him. Dr. Macnamara said that he understood that the contributions which Mr. Wear claimed should be repaid to him were paid prior to the date on which he obtained exemption from Unemployment Insurance. He already held an exemption certificate under the National Health Insurance Acts, but this did not exempt him from the payment of Unemployment Insurance contributions. If an employed person holding such a certificate desired to obtain exemption from Unemployment Insurance, he must make a definite application that the certificate granted to him under the National Health Insurance Acts should be applied to Unemployment Insurance. The contributions paid by Mr. Wear before he was granted exemption from Unemployment Insurance were properly payable, and he had no power to authorize a refund of these contributions.

Building Trade Unemployment Figures.

Dr. Macnamara, Minister of Labour, informed Mr. T. Thomson that on May 22 last, the latest date for which figures were available, the numbers and percentages of unemployed in the building trade were as follows :—

	Number Unemployed.	Percentage Unemployed.
Carpenters	11,562	8.7
Bricklayers ..	6,334	10.2
Masons	2,421	10.2
Slaters	546	10.1
Plasterers	676	3.9
Painters	10,648	9.2
Plumbers	3,539	9.9
Other skilled workers	5,824	21.9
Labourers	74,462	
Total building trades	116,012	15.3

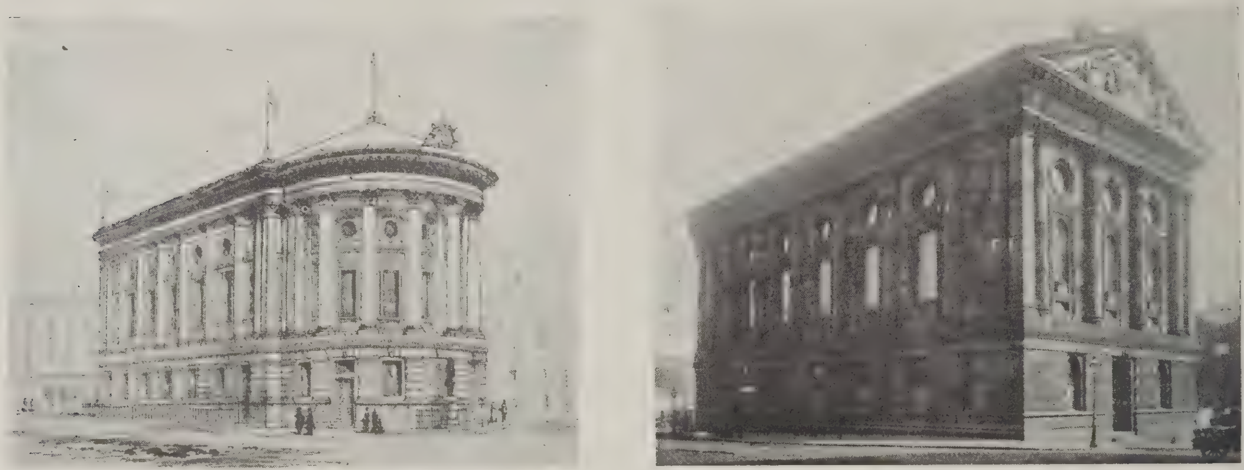
Rent Restriction Act.

Replying to Sir Walter de Frece, Sir A. Mond said that the composition of the committee of inquiry into the Rent Restrictions Act was not yet complete, but he hoped to make an announcement at a very early date.

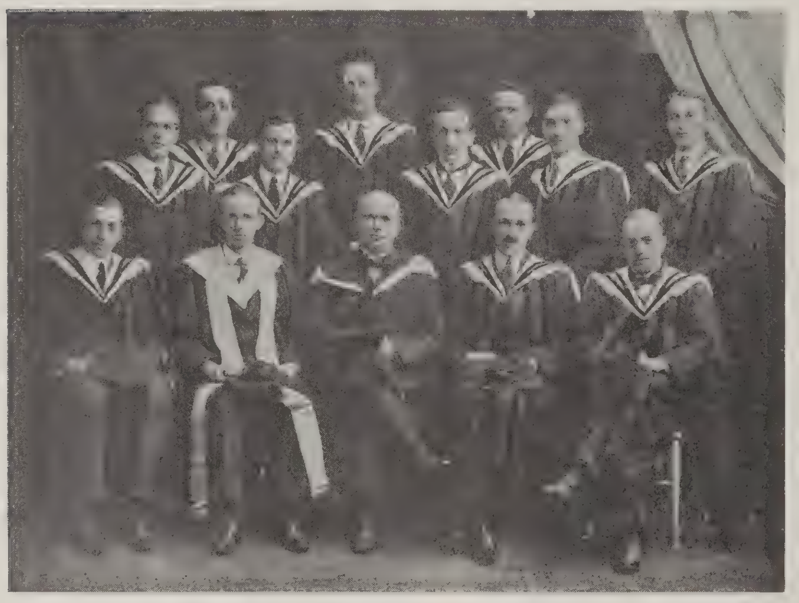
A Pictorial Review

Illustrations of Topical, Practical, or Curious Interest

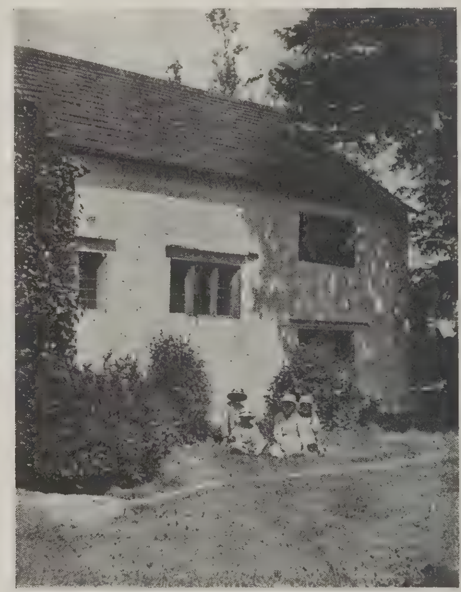
Readers are invited to send in sketches and photographs for publication in these pages. A fee of 2s. 6d. will be paid for each illustration accepted. Contributions should be accompanied by short explanatory notes.



The Town Hall at Todmorden was built by John Gibson "of Westminster" in 1870. The design is remarkably consistent, the end bays on the flanks being well managed as foils to those between. Gibson is best known in connection with the head office of the National Provincial Bank of England in Threadneedle Street and its branches throughout the kingdom. John Gibson became a pupil of Sir Charles Barry in 1835, hence his predilection for Italian detail, which in process of time experience enabled him to modify to accord with the style made familiar by the genius of Cockerell. The illustrations show the hall as designed and as carried out.—ANON.



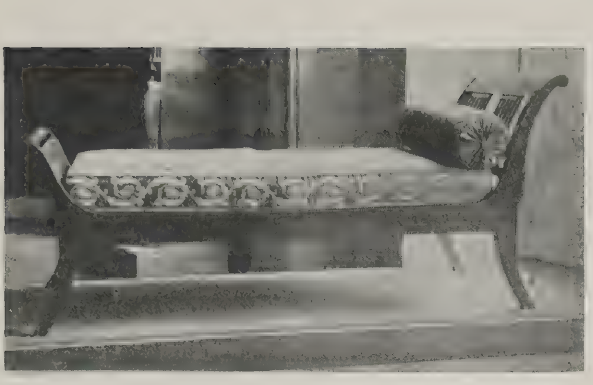
Apropos of the discussion, now proceeding in our columns, on university degrees in architecture, the above photograph is of interest. It shows the students (with their leading teachers) who obtained the Liverpool B.Arch. this month. The B.Arch. hood is a white silk hood like the Cambridge M.A., but lined with a narrow black velvet line to suggest the architect's drawn ink line. This narrow velvet line appears, too, on the stole of the gown. The hood, like all Bachelors' hoods, is edged with fur, the removal of which would convert it into a Master's hood should an M.Arch. be founded. Reading from left to right the names are as follows: Top row—A. C. Holliday, E. R. Arthur, E. W. Martin, W. Dougill, P. B. Haswell, G. Checkley (Jarvis Scholar), J. S. Allen, H. Forshaw. Bottom Row—S. Welsh (Rome Scholar), L. B. Budden, Professor C. H. Reilly, E. R. F. Cole, J. E. Marshall.



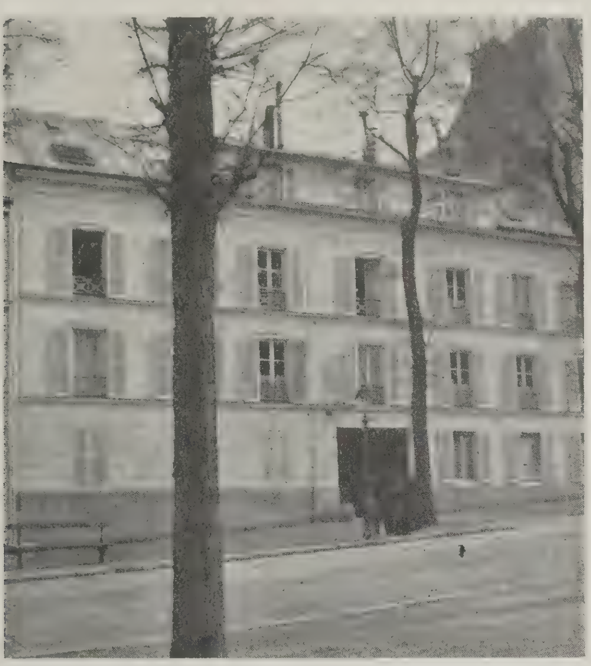
The Friends' Meeting House at Brigg Flatts, near Sedbergh, Yorks, which is said to be, with one exception, the oldest Quaker establishment in England, was built in 1675. George Fox, the founder of Quakerism, had visited the neighbourhood long ere this, but about the year in question a large public gathering, numbering some hundreds, assembled to hear him preach, and this interesting little fabric was the outcome of their espousal of the new creed.

JOHN A. METCALFE.

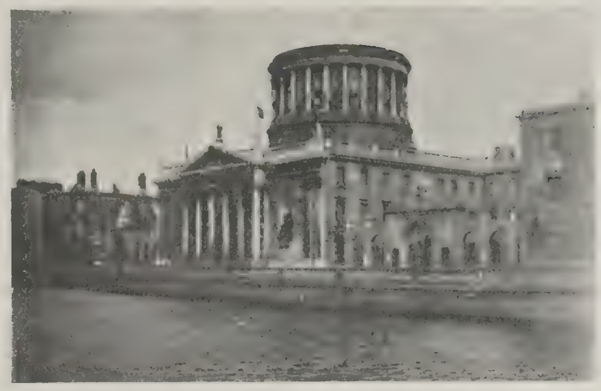
A consignment of over a quarter of a million Fletton bricks in fifty-ton wagons leaving a London brick company's works for King's Cross. The bricks, which were used in the construction of the London County Hall, represent only a portion of the daily output.



This "chaise longue," or sofa, an excellent specimen of furniture of the First Empire period, is now on exhibition in the Louvre. It is notable for the general simplicity of its character, the grace and distinction of its lines, and the absence of ornamentation. The modern furniture-maker might well take cognizance of pieces of this type.

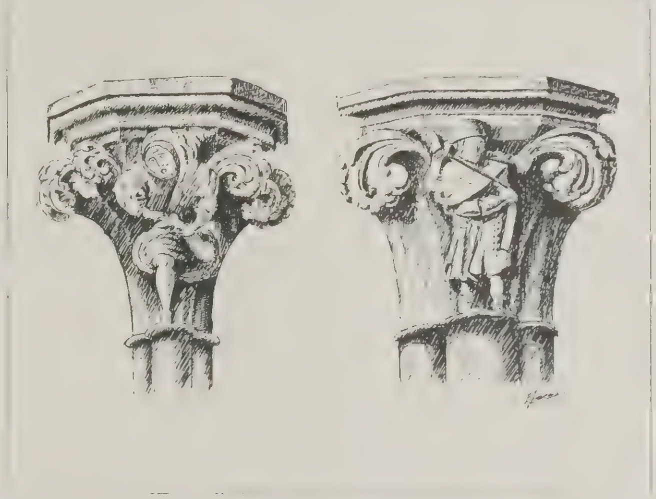


This illustration shows a beautiful French house of the period of the transition, Louis Seize to Empire. The delicacy of the mouldings, the adjustment of the slight attic story, the sound proportion, and, moreover, the colour of the wall surface, reveal that rich simplicity which is the best evidence of good taste.—ANON.



I send you a snapshot of the "Four Courts," Dublin, after bombardment, fire, and internal explosions. The copper dome is gone, and the peristyle drum is much more shattered than appears. The artillery breach to right of portico is into one of the courts, which were disposed radially on the diagonals of the square around the central hall under the dome. The centre of the front is merely a frontispiece, but the central portico, with its recessed alcove of segmental plan, is excellent, and the stone screens to the courtyards are very pleasing.

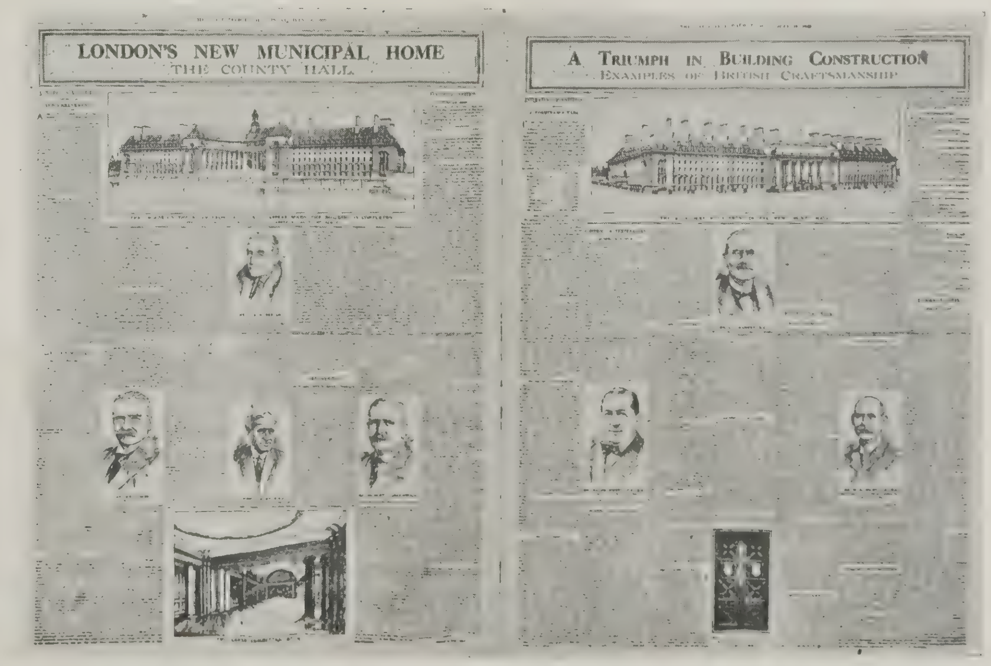
H. G. LEASK.



These capitals from Wells Cathedral reveal in a very amusing way the essentially human quality of Gothic art. One represents an old woman extracting a thorn from her foot, and the other a woodman. May I suggest that modern architecture would be better for a few touches of everyday human life? A direct and vigorous expression of life would make a far more intimate appeal to people. Very few have the time or the inclination to unravel the meaning of dull symbolic groups of sculpture.

E. L.

A portrait of Mr. George Checkley, who recently won the Jarvis Scholarship. Mr. Checkley is a student of Liverpool University, which he entered with a N.Z. Government Scholarship, after serving three and a half years with the N.Z. Expeditionary Force.



LONDON'S NEW MUNICIPAL HOME
THE COUNTY HALL

A TRIUMPH IN BUILDING CONSTRUCTION
EXAMPLES OF BRITISH CRAFTSMANSHIP

It is very gratifying to note the increased interest which is being taken in architecture by the general Press. During the past week many excellent illustrated descriptions of the new London County Hall have appeared in London and Provincial newspapers, "The Daily Telegraph" devoting two full pages to the building. These are reproduced above as a memento of a remarkable event.

Abandoned State-Aided Housing : Fees Payable to Architects

The following statement has been issued by the R.I.B.A. :—

It will be recollected that on the issue by the Ministry of Health of General Housing Memoranda 51 and 52, the profession generally felt that the extent of the services rendered by them to their clients—and through their clients to the State—had not been fully understood or appreciated, and the scale of payment therein set forth was considered to be inadequate. The members of the R.I.B.A. thereupon elected representatives to reopen negotiations with the Ministry for the purpose of revising the terms of these Memoranda; giving to its representatives full powers to conclude an agreement on their behalf.

Prolonged negotiations between the Ministry of Health and the members of the R.I.B.A. revealed difficulties on both sides, but have resulted in an agreement being reached on the question of payment to architects for work upon schemes which have been wholly or partially abandoned.

In their consideration of the many cases of hardship submitted to them the representatives of the R.I.B.A. were impressed by the unequal application of any flat-rate scale of payment to partially and wholly abandoned schemes and to large and small schemes.

In the revised terms effect has been given by the Ministry to the claim that the fees for partially abandoned schemes should be more equitably apportioned in relation to the amount of the scheme which has been carried out, a more generous proportion being paid to those who have had very little work executed. Also a new scale of payment has been adopted giving still more favourable consideration to those architects whose schemes have been entirely abandoned as compared with those who have carried into execution a fair proportion of the work originally placed in their hands.

These terms and conditions are set out in a new memorandum to be issued by the Ministry known as General Housing Memorandum No. 61.

The main points in which this memorandum differs from or supplements G.H.M. No. 52 may be briefly summarized as follows :—

A.—Whereas G.H.M. No. 52 only provided for charging to the Housing Assisted Scheme Account fees for schemes which were approved by the Minister, in G.H.M. No. 61 provision is made for the consideration of schemes not so approved.

B.—In regard to work on roads and sewers the fees have been more accurately apportioned to the stages which the work had reached when it was abandoned.

C.—Average prices per house have been agreed as the basis on which fees for abandoned work should be calculated in respect of plans which were prepared before July 1921 and subsequently.

D.—In partially abandoned schemes instead of half the fees for totally abandoned work being paid in all cases, the fraction payable is related to the proportion of the scheme carried out.

E.—A more generous scale of payment has been adopted where the whole of an architect's work has been abandoned, and it has been provided that the R.I.B.A. will act as a Board of Reference in deciding certain points in this connection.

F.—It is provided that the local authority shall be satisfied as to the respective stages of the work carried out, and the appropriate fees.

G.—The settlement does not supersede cases where an agreement providing specifically for abandoned work has been made between the architects and the local authority, their clients, or where a final settlement has already been arrived at.

H.—The term "scheme" used in G.H.M. No. 52 has been more favourably interpreted in relation to abandoned work in G.H.M. No. 61.

I.—Travelling expenses have been provided for in G.H.M. No. 61 on a more reasonable scale.

K.—Under G.H.M. No. 61 payment may be made in certain cases for the preparation of additional copies of drawings and specifications.

L.—The Ministry are requesting local authorities to expedite the settlement of accounts with architects.

It is satisfactory to note that by the reopening of negotiations terms have been agreed which will result in a greater appreciation of the services rendered by the profession, and a scale of remuneration more in accordance with its labours.

It is desired to place on record appreciation of the manner in which our deputation was received by the Ministry and the sympathetic consideration given by the Ministry to the case presented by the deputation.

The Institute are not inclined to think that the association of architects and local authorities in connection with municipal housing schemes is at an end. They believe that in many cases local authorities will proceed with their schemes on their own account, and that architects will resume their work on these schemes.

For the guidance of members examples of the application of the revised scales have been worked out in conjunction with the Ministry; copies of these examples showing the manner in which the fees are calculated, also the average cost of houses in the months subsequent to July 1921, will be supplied on application to the R.I.B.A.

Signed :

HERBERT T. BUCKLAND, F.R.I.B.A.
FRANCIS JONES, F.R.I.B.A.
HERBERT A. WELCH, A.R.I.B.A.

New Rate of Interest for Housing

A new Order named The Ministry of Health (Rates of Interest) Amendment Order, 1922, dated June 17, 1922, has been made by the Minister of Health, with the approval of the Treasury, under Section 5 of the Housing Act, 1921 (11 & 12 Geo. 5, c. 19). As from the date of this Order the Ministry of Health (Rates of Interest) Order, 1921, shall have effect as if the words "Six per cent." were substituted for the words "Six-and-a-half per cent." and the words "Five-and-a-half per cent." for the words "Six per cent." in the Schedule to the said Order. Provided that nothing in this Order shall affect the rate of interest on any advance made or any expenses incurred by a local authority before the date of this Order.

New Companies Registered

There has been an encouraging increase in the number of new private companies registered during the past half-year, compared with the corresponding period of 1921. According to a statistical report prepared by Messrs. Jordan and Sons, Ltd., of 116 and 118 Chancery Lane, W.C.2, company registration agents, the increase is rather more than 30 per cent., but the average capitalization of the private companies declined from £10,980 to £10,756. Taking the whole of the registrations, public and private, limited and unlimited, while the aggregate capital increased by nearly £13,000,000 the average declined from £16,719 to £16,114.

Appended are details, which have been extracted from a table embodied in the report, of company registrations of importance to the building industry :—

Classes.	Public Companies.		Companies other than Public.		Totals.	
	Number Registered.	Capital.	Number Registered.	Capital.	Number Registered.	Capital.
		£		£		£
Bricks	—	—	61	652,400	61	652,400
Builders	1	1,000,000	138	1,010,500	139	2,010,500
Electric, Gas, Water . .	11	6,698,500	82	291,418	93	6,989,918
Engineers	1	12,500	245	2,386,280	246	2,398,780
Furniture	—	—	66	332,410	66	332,410
Iron, Brass, etc. . .	3	725,100	171	1,560,260	174	2,285,360
Mines, Quarries, etc. . .	20	2,078,900	102	1,874,950	122	3,953,850
Oil	5	915,000	34	157,850	39	1,072,950
Timber	2	145,000	65	954,400	67	1,099,400

The totals of all the various companies, including the above, registered during the past half-year, were as follows, the figures for the corresponding period of 1921 being given in parentheses : Number of public companies registered, 190 (204); capital, £23,686,930 (£20,173,350); number of companies, other than public registered, 3,851 (2,921); capital, £41,401,386 (£32,073,808). Total number companies registered, 4,041 (3,125). Total capital, £65,088,316 (£52,247,158). Messrs. Jordan and Sons state : The continued heavy Capital Duty still tends to restrict enterprise, and despite the lower bank rate now prevailing we can scarcely hope for a notable improvement in the figures unless relief be given from the quadrupled burden imposed in April 1920.

The Rio Pavilion: Mr. Reginald Bell's Cartoons

We illustate on this page two of Mr. Reginald Bell's cartoons for figures in the stained-glass dome of the British Pavilion at the Rio de Janeiro Centenary Exhibition.

The dome, or arched lantern, is situated over a great square orifice in the ceiling of the central hall of the pavilion. Four curving sides taper upwards to a circle at the summit. In this a sun, with golden rays penetrating downwards into the dome, is set, and about it the stars of the Southern Cross, part of the Brazilian national emblem, are dotted. A tropical sky in exquisite blue glass occupies the upper portion of the sides and forms a background to four figures.

In two opposite quarters gorgeously robed female figures, each seated upon a terrestrial globe, symbolize the British Empire and the Eastern World, and Brazil and the Western World. Two other figures in bright garments occupy the other spaces. Their arms are stretched upwards as though supporting the centre of the dome.

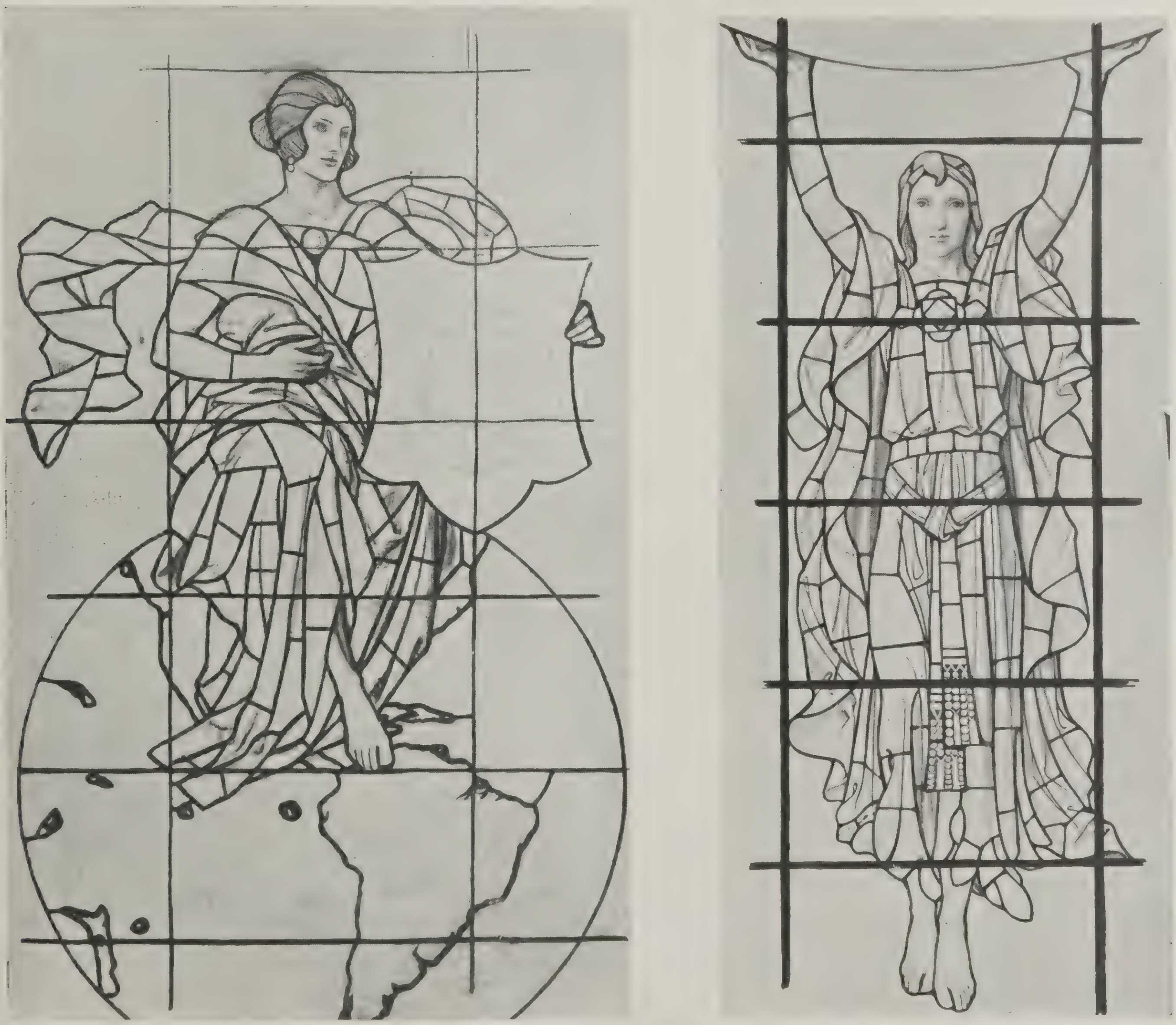
Beneath the feet of the figure runs a narrow strip of coast line, on one side the chalk cliffs of Dover, on the other the low-lying dark line of distant Brazil, and in front of these the sea, reflecting the blue light of the sky. An effect of great distance and glorious colour is obtained. The dome will be illuminated from the outside at night.

Mr. Bell is of the third generation of a family of stained-glass designers and craftsmen. Since 1856, the partnership of which he is a member (Clayton and Bell) have produced windows that have been installed all over the world.

Glasgow Housing Exhibition

Glasgow Corporation will hold their fourth Housing and Health Exhibition in Kelvin Hall during the three weeks commencing October 2. The Council have been the foremost of all Corporations in the endeavour to encourage the display of the latest in the building of and the internal arrangements of the home under up-to-date methods. So successful have been the recent enterprises of the Glasgow Corporation in such exhibitions that they have arranged to make the forthcoming one quite outstanding, and additional features have been arranged which will make the show the most attractive they have yet held. The classification of exhibits has been extended so as to include building materials of all classes—reinforced concrete brickwork, concrete slabs and blocks, asphalts, asbestos, slabs, tiles, marbles and mosaics, casements, cements, chimney-pots, cowls, etc., roofing materials, doors, door fitting and window fittings, flooring, glazing, timber, art metal work, mouldings, plaster, chimney-pieces (metal and wooden), stone.

In furnishings, lighting, heating, labour-saving and cleansing appliances the exhibits will include furniture of every description, electric and hand sweepers, electric and gas irons, gas and electric cookers, heaters, boilers, and geysers, gas and electric radiators and fires, electric and gas fittings, globes and shades, and gas mantles. Sanitary appliances will include baths and bath fittings, sanitary pipes and drainage fittings, and sanitary specialities of every description. The decoration section comprises paints, oils, varnishes, distempers, wall-papers, enamels and wall-hangings.



TWO OF MR. REGINALD BELL'S CARTOONS FOR THE STAINED-GLASS DOME OF THE BRITISH PAVILION AT THE RIO DE JANEIRO EXHIBITION.

The Week's News

Additions to Guy's Hospital.

New anatomical and biological departments are to be constructed at Guy's Hospital, at an estimated cost of £45,000.

Fish Market, Looe.

Looe Harbour Commissioners have decided to erect a covered market for fish buyers.

Improving Scarborough.

Important alterations to the Scarborough Spa have been sanctioned at a cost of over £13,000.

Keighley War Memorial.

Keighley Town Council are considering the erection of a war memorial, and it is likely that competitive designs will shortly be invited.

Bank of England Rebuilding.

We understand that the Bank of England is to be reconstructed from designs by Messrs. Herbert Baker and F. W. Troup, FF.R.I.B.A.

Oxford Public Baths.

The Corporation have invited tenders for the erection of a building and fitting it up as public baths at the rear of Grey Friars' House, Paradise Street.

Clock Tower for Golders Green.

As the result of a referendum the war memorial for Golders Green is to be a tower with a four-faced clock at the cross roads near the tube station.

Malvern War Memorial.

Part of this memorial is to consist of a library to be built at a cost of £12,000, to the designs of Mr. Maurice E. Webb, F.R.I.B.A.

Seaham Harbour War Memorial Fund.

The memorial, which is to be erected in the centre of the Terrace Green, is to be a Celtic cross, 20 ft. high. The cost will be about £1,200.

Sir Charles Ruthen to Stand for Parliament.

Sir Charles Ruthen has been chosen as a candidate for South Hackney in view of the expected expulsion from Parliament of Mr. Bottomley.

Shelters for Cinema Queues.

It is recommended by the Building Acts Committee of the London County Council that cinema halls be put on the same footing as theatres and music halls as regards shelters over the public way.

New School for Barnsley.

The Barnsley Education Committee has approved of recommendations to erect a permanent building for the long-proposed Central School, to accommodate 400 children up to fourteen years of age.

Change of Address.

Mr. C. L. J. Doman, who is executing the sculpture work on the new Port of London Authority building, has moved to 9 Spencer Hill Road, Wimbledon. 'Phone 332.

Improving Weymouth.

Improvement schemes involving an expenditure of £63,000 have been adopted in principle by Weymouth Town Council. The schemes include esplanade widening, enlarging bowling greens and tennis courts, and erecting sea-front bungalows.

The International Theatre Exhibition.

In view of the continued large attendance at the International Theatre Exhibition, and in response to many requests, the authorities of the Victoria and Albert Museum have decided that this exhibition shall remain open till July 31.

A.A. Prize Distribution, &c.

The distribution of prizes at the A.A. will take place to-morrow at 3 p.m. The address to students will be by Sir Reginald Blomfield, R.A. An exhibition of students' work will be held from July 27 to August 27.

Dewsbury War Memorial.

The Dewsbury War Memorial Committee have decided that the borough's war memorial should be erected in Crow Nest Park. Professor Reilly is to be asked to give an opinion upon the question of site, the type of the memorial, and the cost.

Vacancies for Architects in the U.S.A.

Mr. Edward B. Lee, President of the Pittsburgh Chapter of the American Institute of Architects, has written to notify the editor of the R.I.B.A. Journal that there are vacancies for British architects, assistants, draughtsmen, and apprentices in that city.

Hathersage Memorial Hall.

At a meeting of the Hathersage War Memorial Committee it was reported that the fund has reached close on £2,000, and when negotiations for the parish land are completed building operations will be commenced in the centre of the village, where a memorial hall will be erected.

New Partnership.

Mr. Eugene C. Beaumont, M.S.A., has taken into partnership his son, Mr. E. Edward Beaumont, A.R.I.B.A. The practice will continue to be carried on at 134 Fleet Street, London, under the title of Eugene C. Beaumont and Son, architects and surveyors.

Bedford War Memorial.

Bedford War Memorial, unveiled last Thursday, takes the form of a statue of Justice, the work of Mr. C. S. Jagger. The lay-out and architectural details were designed by Mr. George P. Allen, F.R.I.B.A., consulting architect to the War Memorial Committee.

Harefield Light Railway.

At the Ministry of Transport inquiry into a proposal to construct a light railway between Harefield and Uxbridge, the Metropolitan Railway are submitting an amending scheme for connecting the proposed new line with their Uxbridge and Harrow branch near Ickenham.

New Washhouses, Manchester.

Manchester Baths and Washhouses Committee are considering the establishment of six new washhouses in and around the city. The sites which are under consideration are in Moss Side, the Hulme Barracks site, Chancery Lane, Mayfield (conversion of the women's bath), New Islington, and Moston.

Ken Wood.

A contract has been entered into between the Preservation Council and the Earl of Mansfield for the purchase of a considerable portion of the estate at the reduced price of £1,350 per acre, and a deposit of £10,000 has been paid. The area to be secured for the public amounts to something between 90 and 100 acres.

The Wren Centenary.

Mr. Andrew T. Taylor has been recommended as the London County Council representative on the committee of the R.I.B.A. to arrange the proceedings for the commemoration in February next of the bicentenary of the death of Sir Christopher Wren. Mr. Josiah Gunton, Chief Commoner of the Corporation of London, has been appointed by that body to represent it on the same committee.

R.I.B.A. Special War Examination.

The Special War Examination will be held for the last time from December 11 to 15, 1922, inclusive. Applications, accompanied by the necessary Testimonies of Study and entrance fees, must be submitted by November 4, 1922. Candidates who fail to satisfy the examiners in this examination will be required to take the ordinary examinations of the Institute if they desire to qualify as candidates for the Associateship.

Rebuilding Moscow.

Colonel the Hon. F. H. Cripps, son of Lord Parmoor, has returned from Moscow, where he has been organizing a rebuilding scheme under special charter of the Soviet Government. One building has already been completed, and contracts have been arranged for three others, the total estimated cost being £50,000. The enterprise represents a capital of £100,000 at present, but an expansion of this sum is expected to be forthcoming in the city.

Foreign Contractors' Visit to London.

The International Congress of Building Traders and Public Works Contractors, which assembled in London last week, is the outcome of a conference held in Brussels last year, when it was suggested that it would be interesting to inspect our public buildings and see the results of British effort to meet the housing problem; 120 foreign delegates, including representatives of France, Italy, Switzerland, Belgium, Holland, and Czecho-Slovakia, attended the Congress.

Mr. Justice Darling's Bon Mot.

A bon mot of Mr. Justice Darling's during the week escaped notice. The case was a libel suit between the council of a local authority and an architect, in which questions of tenders for building houses were under discussion. One of the counsel found it difficult to discover the right word to use regarding a building contract, and sometimes spoke of it as "a contract," "a tender," "a proposal," and "an engagement." Mr. Justice Darling leant forward and asked: "Why not call it a tender proposal?"—"Daily Mirror."

(*Continued on page* xvii.)

News (*continued.*)

British Industries Fair Catalogue.

In connection with the British Industries Fair, recently held at the White City, London, a catalogue was issued embracing not only a list of the manufacturers exhibiting, but also comprehensive particulars of the various goods manufactured by them. In view of the detailed nature of the information given it is thought that the catalogue should prove of use as a book of reference to firms requiring information as to where to place orders or make enquiries regarding any special class of goods. Copies are still available and may be obtained, price 2s. 6d., from the Department of Overseas Trade, 35 Old Queen Street, S.W.1.

Leplay House Tours.

Arrangements have been completed for the holiday course in the Austrian Tirol which is being organized by the directors of the Leplay House Tours. The party will leave London on August 4, and will spend four weeks in the Tirol, making their centre at Achensee, and returning to London on September 3 or 4. The eaders include Mr. Alexander Farquharson, Mr. Harold Peake, Mr. Christopher Dawson, and Dr. Marcel Hardy. Anyone wishing to join the party, either for the whole period or for two weeks, should apply immediately to Miss Margaret Tatton, Leplay House, 65 Belgrave Road, Westminster, S.W.1.

Japanese Lacquer at the V. and A. Museum.

The Victoria and Albert Museum has eceived another valuable gift of Japanese acquer, Mr. R. A. Pfungst having presented to the nation the whole of the collection of medicine cases (Inrō) which have been exhibited on loan for the last ive years. This series consists of 286 inrō, most of which are complete with their netsuke and ojime. It ranges in date rom the seventeenth to the nineteenth century, and, in conjunction with the earlier examples which the museum owes to the generosity of the late Mr. George Salting, the late Mr. Alexander, and Mrs. Sage, now places this section of the museum collections in a very strong position.

R.A.M.C. Memorial.

The Duke of Connaught, in unveiling a memorial in Westminster Abbey to the officers and other ranks of the Royal Army Medical Corps who fell in the Great War, announced that £10,000 of the fund aised by the corps for the memorial had been assigned to the Dean and Chapter or the restoration and maintenance of he structure of the Abbey. The memoial takes the form of a simple white marble tablet placed on a wall about ten yards from the stone covering the grave of the Unknown Warrior. The tablet bears an inscription that it was erected o the memory of 743 officers and 6,130 other ranks of the R.A.M.C. who fell in he war, 1914–1919.

Rust and Corrosion : A New Society.

In view of Sir Robert Hadfield's recent stimate that the ravages of rust and orrosion represent an annual wastage of more than £500,000,000, an Association of Manufacturers of Non-corrodible and Anti-corrosive Products is being ormed to create new and increased demands for the products and processes of its members. Several firms have already intimated that they are in accord with the formation of such an association. A meeting will be called as soon as all members of the trade have been approached with a view to being associated as founders of the movement. Manufacturers interested should communicate with Mr. W. R. Douglas Shaw, the Royal Society of Arts, 18 John Street, Adelphi, London.

French Duties on Cast Iron.

Tariff increases on imports of cast iron are recommended to the French Government by the committee appointed to consider the imposition of "co-efficients of increase" (states the Paris branch of the Anglo-South American Bank). These involve the raising of the *ad valorem* tariff on cast iron from 6 to 12 per cent.; the application of a 2.5 co-efficient to the protective duties on cast hematite and cast spiegel, and of a 1.8 co-efficient to all other classes of castings in place of the co-efficient of two now applied to all castings. It is considered that cast hematite of British origin may find difficulty in competing in the French market, should the recommendation be accepted.

Prize-giving on the "Arethusa."

The annual distribution of prizes took place last Wednesday on board the "Arethusa" at Greenhithe, which is under the command of Commander F. G. C. Coates, D.S.O., R.N. A large company was present, including Sir James H. Brooks, K.C.B., and Lady Brooks, who very kindly distributed the prizes, and the chairman, Mr. Howson F. Devitt, presided. Some 200 lads in training presented a smart appearance, and the report on their work during the past year does great credit not only to the boys, but to all those who give so much time to the institution. Full particulars may be had of the institution from the Secretaries of the Shaftesbury Homes and "Arethusa" Training Ship, 164 Shaftesbury Avenue, W.C.2, to whom donations should be sent.

Bristol Architects Visit Oxford.

The Bristol Society of Architects have paid an enjoyable one-day visit to Oxford. Among those who accepted the invitation of the Society to join the party were the Sheriff (Mr. F. N. Cowlin) and Mr. E. F. Fabian (hon. Associates of the Society), Messrs. C. Hayes (President of the Master Builders' Federation), Mr. Lessel S. McKenzie (City Engineer), and Mr. F. J. Williams (Building Surveyor). The party journeyed by charabanc, and a halt was made at Cirencester, where the church and other interesting buildings were inspected. On arrival at Oxford luncheon was served in the Hall of Magdalen College, where the party was welcomed by Sir Herbert Warren, the President, who is also President of Clifton College, and who extolled the architectural and other beauties of Bristol and Clifton. After an interesting detailed account of Magdalen by Mr. Edward P. Warren, F.S.A., F.R.I.B.A., a tour of the Colleges was made under the able guidance of Mr. Harold S. Rogers, M.A., the President of the Oxford Society of Architects. The return journey was made via Malmesbury, where the Abbey provided the final item in the architectural itinerary.

Royal Engineers Memorial at Chatham.

This memorial, which was unveiled last Wednesday, is an obelisk with a spreading base set on a paved platform. The base is subdivided into four stages, the lowest of which has, on each of the four sides, dies carved with festoons, symbolizing the four corners of the world from which the Royal Engineers were recruited. The next stage comprises the stone on which is the dedication inscription, and above are groups of symbolical sculpture. The work has been carried out to the designs of Messrs. Hutton and Taylor, FF.R.I.B.A., architects, Glasgow, and the sculptured panels are the work of Mr. Alexander Proudfoot, A.R.S.A., Glasgow.

10,000 *Houses for Miners.*

A scheme to provide 10,000 cheap houses for miners at the rate of 2,000 a year has been put into operation by colliery owners. Thirty large colliery companies have formed what is in effect a co-operative society for housing. For this purpose a company has been registered as "The Industrial Housing Association," with a starting capital of £1,000,000. No profit will be aimed at, but each housing scheme undertaken by the association will simply be required to pay its own way upon the actual expenditure incurred. Substantially built houses, playing fields, open spaces, institutes, and other amenities will be provided for the tenants. A beginning has been made in several areas. Sir Tudor Walters, M.P., is the chairman of the building committee which will supervise the building and planning of the villages.

List of Competitions Open

Date of Delivery.	COMPETITION.
Aug. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Apply, by Aug. 1, to "Chicago Tribune," 5 Rue Lamartine, Paris.
Aug. 11— Jan. 31, 1923	Labour-Saving Flats, Hampstead Garden Suburb. Premiums £500, £300, and £200. Assessors: L. Rome Guthrie, F.R.I.B.A., J. C. S. Soutar, Lic.R.I.B.A., and E. J. Cooper, Secretary, Second Hampstead Tenants Ltd., to whom, at Temple Fortune House, Hampstead Way, N.W.11, applications must be made by August 11.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8.000 francs.
Nov. 1	New Town Hall and Municipal Offices in Victoria Park, Colombo. Cost not to exceed Rs. 1,000,000. Premiums Rs. 5,000, Rs. 3,500 and Rs. 2.000. A F.R.I.B.A. will act as assessor. Apply Secretary, Municipal Council, Colombo. Deposit Rs. 25.
No Date	Lay-out of Land at West Cliff, fronting the sea, in Promenades, Recreation Ground, Roads, and Building Plots. Premiums £300, £200, and £100. Apply Mr. A. Blasdale Clarke, Town Clerk, Albion House, Ramsgate.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
	Southend Proposed Secondary School. At the request of the Competitions Committee of the R.I.B.A., the drawings required in this Competition will be to a scale of 16 feet to the inch.

Labour-Saving Flats, Hampstead.

The attention of readers is directed to the above new competition, full particulars of which are given in the small advertisements on page xxiv.

New Inventions

Latest Patent Applications.

18730.—Black, R. A.—Lavatory seats. July 7.

18371.—Dudley, J. G.—Building. July 4.

Specifications Published.

181389.—Bell, F. J. T., Hague, J. M., and Entwistle, E.—Means for suspending cradles or the like used by workmen in repairing or analogous operations on the outside of buildings.

181930.—Walker, J. H.—Concrete structures.

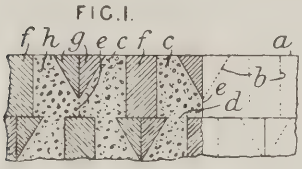
182016.—Hartmann, J.—Construction of ceilings.

176778.—Soc. Industrielle de Matériel d'Entreprise et de Construction.—Apparatus for constructing concrete piles or the like.

Abstract Published.

180222.—Wall slabs.—Richardson, O. C., 93 Queen's Road, Finsbury Park, London, and Meredith, E., The Rosary, Northolt Junction, Middlesex.—Concrete wall slabs *a* are formed with internal passages *b* which extend downwardly and laterally from the top *c* of the slab and open both at the bottom *d* and sides *e* forming in each slab a parallel-sided central web *f* and triangular corner webs *g*. When built up to form a wall and arranged to break joint, the slabs are positioned as shown, and cement grouting *h* poured into the passages effectively keys the whole together.

FIG. I.



The above particulars are specially prepared by Messrs. Rayner & Co., Registered Patent Agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

Trade and Craft

The New County Hall.

The whole of the decorative marblework at the County Hall was executed by Messrs. Farmer and Brindley, Ltd., and we regret that their name was inadvertently omitted from our description of the building last week.

We are informed that the large bowl pendants in the Council Chamber of the County Hall, the massive six-branched electroliers in the Education Committee's room, as well as a number of dish pendants and wall brackets for various positions of lesser importance, were made by Messrs. Faraday and Son, Ltd., of Wardour Street, W.

Messrs. Rippers Hospital Doors.

Messrs. Rippers, Ltd., joinery manufacturers, of Castle Hedingham, Essex, are exhibiting a full range of hospital doors at the Royal Sanitary Institute Exhibition at Bournemouth, which is being held in the Drill Hall, Holdenhurst Road, from July 25 to July 29 inclusive. Architects, physicians, and all interested in modern sanitation are cordially invited to visit Stand No. 30.

Law Item

Decay of Woodwork. Liability to Paint

Broadbent v. Smith.

July 14. Official Referees' Court.
Before Sir Edward Pollock.

Sir Edward Pollock gave judgment in London in an action heard at Leicester, in which a claim of £145 was made for dilapidations of a house, 107 Hinckley Road, Leicester, occupied by Dr. David James Smith, who was defendant. The plaintiffs were Mrs. Susan Broadbent, widow of the late Dr. Broadbent, by whom the house was let to Dr. Smith, Mr. Reginald Broadbent, and Mary Broadbent, who claimed as executors under the will of Dr. Broadbent.

Sir Edward, in the course of his judgment, said there was no doubt the defendant under the agreement of tenancy was bound to keep the premises in reasonable repair, but only such repair as would make them fit for the occupation of a tenant of the class likely to occupy them. They were now occupied by the plaintiffs, and the question arose as to the condition of the house when Dr. Smith entered into possession. The evidence left that in a very vague state, and he was unable to say from the evidence what rooms were in a bad state and what were not. Plaintiffs had claimed for the painting of every room in the house, but there was nothing to show that any of the woodwork was likely to suffer from decay consequent upon neglect to paint. There were other repairs claimed for which he thought unnecessary, and the result was that he had cut down the claim to £30, and for that amount there would be judgment for the plaintiffs.

Judgment was accordingly entered for the plaintiffs for £30.

"VERONESE"

Proprietors: C. S. Co. Ltd. Ranelagh Gardens, Fulham, S.W.6.

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FIBROUS PLASTER MANUFACTURERS.

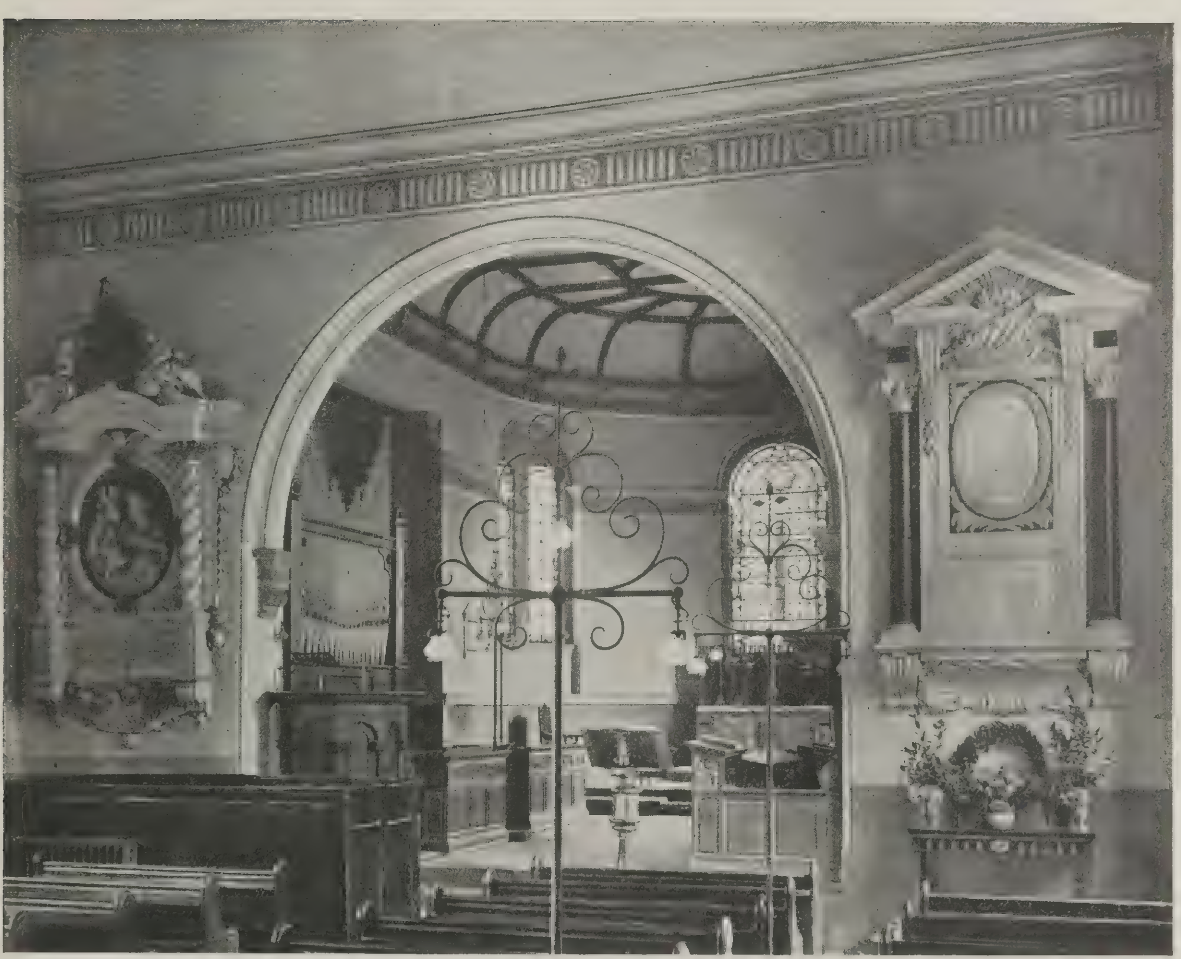
ROCKQUA PLASTER WORKS,
STAMFORD ROAD,
BIRKDALE,
LANCS.

ednesday, August 2, 1922.

Vol. LVI. No. 1439

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



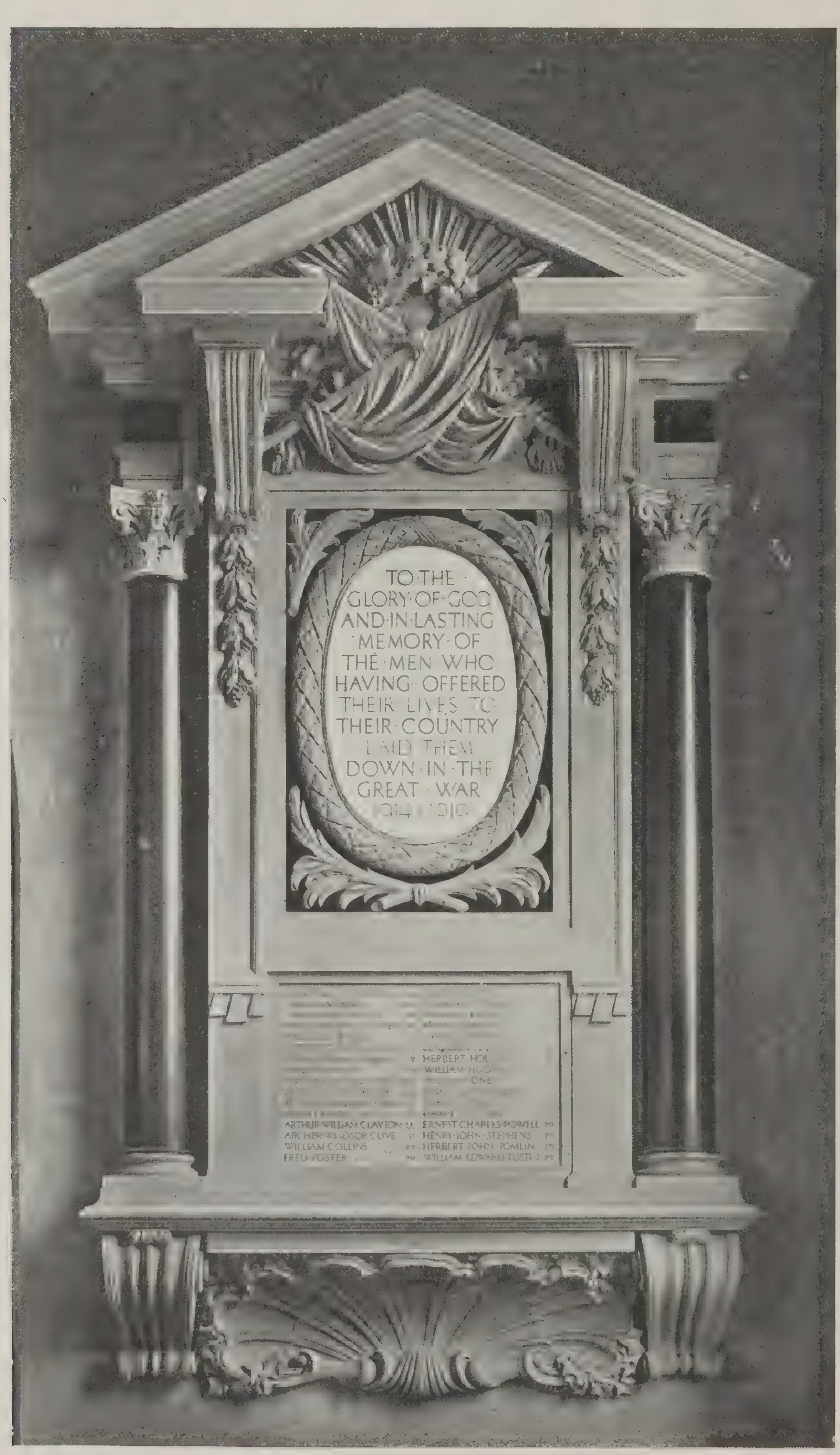
THE CHANCEL OF TARDEBIGGE CHURCH, SHOWING WAR MEMORIAL PANEL (ON RIGHT) DESIGNED BY DETMAR BLOW AND BILLEREY.

(*See also Frontispiece.*)

27-29 Tothill Street, Westminster, S.W.1.

War Memorials. 28.—Wall Panel in Tardebigge Church, near Bromsgrove, Worcestershire

Detmar Blow and Billerey, Architects



The main portion of this memorial is in specially selected Bath stone, the columns, frieze, and panel around the central inscription being of black Belgian marble. The inscriptions, incised and gilt, are on white marble (second Statuary Carrara). (See also back of this plate and page 168.)

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, August 2, 1922

Volume LVI. No. 1439

Architecture, the Public, and the Architecture Club

THAT public interest in and knowledge of modern architecture at the present time are at a low ebb needs little demonstration. How fully is it recognised that architecture of any age is the reflection of the mind and aims of the people themselves? We get the kind of building that we as a community demand and deserve. If we care little for such things, or are content with a low standard, our building will be poor in conception and mean in execution; if we like vulgar or dreary streets we shall have them. It is only as the general public demands fine buildings that we shall get dignified and worthy towns.

Architecture, the greatest art, indeed the art to which all other plastic arts minister, has in these latter days, when perhaps our standard of values in all artistic matters is not very high, become the most neglected of them all. It is not written about or criticised with any intelligence in the public press. The names of our architects are unknown to the general public. The daily press when it does take note of, say, the opening ceremony of a new building or the unveiling of a monument will tell us about the cost and who unlocks the door or pulls away the veiling. We shall know who presents the bouquets, but as a rule we shall not be told even the name of the designer; and as to any intelligent description or praise or blame of the value of the work we shall hear nothing. We need not stress the poverty of idea in the mass of our modern-day building; we can illustrate it by taking the case of shops alone. The shop in its modern guise is a product of to-day. How often do we find it finely treated—a building of artistic merit? In the suburbs the shopping street is usually synonymous of all that is bad in architecture. We can think of plenty of vulgar rows of shops, but around London only one fine block rises to our mind (of course there are others)—a block in the Finchley Road in the Hampstead Garden Suburb.

In London itself the examples of shops of fine architectural quality are equally rare. Fine ones there certainly are, such as the Selfridge building in Oxford Street, by Mr. Frank Atkinson; the Wolseley building in Piccadilly, by Mr. Curtis Green; Messrs. Heal's shop, by Messrs. Smith and Brewer; and a small motor showroom in King Street, by Mr. Vincent Harris, all of which have real quality; but they are distressingly few among a mass of mediocre buildings. It is the same with every class of structure, whether public buildings, business premises, or domestic houses. It is not for lack of architects capable of doing the fine thing that our building generally is of so poor a character; they are to be found, as our sprinkling of worthy buildings shows; it is rather that we should educate the public or the private owners or public bodies who control and commission building to have the strong desire for and the knowledge of how to judge the best thing.

And so it is that the formation of the Architecture Club, to which we referred in our last issue, may well be one of the most significant events in the history of modern architecture. It perhaps is, as "The Observer" remarked in its leader of July 23rd, "a grim commentary on the artistic condition of our age" that such a Club should be necessary, but it may be the beginning of a recognition by people in general that architecture is the most intimate of the arts and touches the lives of all in the community very closely, both in their homes and in their towns and countryside.

The Club, which is wholly unconcerned with professional politics, has set out with a great object; in the words of its rules, "To enlarge the public appreciation of good architecture and the allied arts, and especially the best work of to-day." It aims at creating a public opinion about architecture—an architectural atmosphere—by promoting the description and criticism of architecture in the press and by holding exhibitions of modern work, the first of which is promised for the spring of next year.

It has taken on a difficult task, and if it achieves its object even in limited measure it will be doing a great work.

Its formation appears to be on the right lines; it has recognised that architecture is not only the concern of practising architects. The membership, though strictly limited, comprises, as well as architects, writers and laymen—all people who are interested in furthering good modern building—and the architects are in the minority.

Thomas Hardy, O.M., now one of our most distinguished men of letters, who started life as an architect, is the Hon. President. The membership seems to cover a wide field when we find upon its roll, to mention only a few, such names as Viscount Lascelles, Lord Plymouth, Lord Lee of Fareham, Lord Leverhulme, Mr. A. C. Benson, Mr. Granville Barker, Mr. Gordon Selfridge, Mr. G. K. Chesterton, Mr. J. C. Squire, Mr. E. V. Lucas, Sir Lawrence Weaver, Lord Riddell, Mr. Clutton Brock, Mr. D. S. MacColl, and Sir Frederick Radcliffe. Among the architects we find Sir John Burnet, R.A., Sir Edwin Lutyens, R.A., Mr. G. C. Scott, R.A., Sir Robert Lorimer, A.R.A., Mr. Herbert Baker, Mr. Ralph Knott, and Mr. Percy Worthington, as well as many other distinguished names.

The Club seems to have found its beginnings in a conversation that took place little over a year ago between Mr. J. C. Squire, the distinguished writer and editor of "The London Mercury," and Mr. Oswald P. Milne. The man of letters, being deeply interested in architecture, expressed the view that architects lived in a world of their own, nobody knew their names even, and if architecture was to take its right place of importance in the modern world they must tell people what they were doing and thinking both in the press and elsewhere. The architect, on his side, said that architects were on the whole practical if inarticulate people, but were ready to do anything to get the public interested in fine building. Meetings of architects and writers ensued, and soon it appeared that there was latent plenty of living interest in architecture among laymen, and that something in the nature of the Club which grew out of these meetings was "in the air" and merely needed a touch to bring it into being.

The architects who, with their fellows in the art of letters, were the prime movers in the formation of the Club belong to the younger generation. The outlook of the Club is broad, and is not concerned with any particular school or phase of architecture; the encouragement of really good work is its aim. It will not encroach upon work of the professional societies and bodies, but clearly will supplement the work that they are doing, and can do much that an official organisation cannot attempt. The Club will be doing in its own way what has been done by the Architectural League in New York. There the annual exhibition is a function that is not ignored by society or the public; every intelligent citizen knows the names of the architects and what buildings they have designed. Architecture is a common topic of conversation, and the commercial magnates have realized that fine architecture is a commercial asset.

We wish the Club every success on the road upon which it has successfully embarked.

The Potency of Bank Buildings

To rebuild the Bank of England is to create no small stir and no small precedent. The enlargement of its premises in Threadneedle Street appeals to the imagination as an outward and visible sign of the expansion of the Empire, and an augury of restored national prosperity.

If the "Man in the Street" is still unaware of the names of the four architects who successively had a hand in building the Bank, it is not the fault of the daily newspapers. They have familiarized him with the names of George Sampson, Sir Robert Taylor, Soane, and Cockerell, and have told him that the architects (whether consultative or executant, he cares not) for the extensions are Mr. Paul Waterhouse, P.R.I.B.A., Mr. Herbert Baker, and Mr. F. W. Troup; the two latter, of course, being the authors of the new designs; while to Mr. Waterhouse the Bank Directors are no doubt indebted for the best possible advice as to the general principles on which the rebuilding should proceed. The "general reader" will have learnt, too, if he had not divined it from his own knowledge and observation, that many features of the old Bank have been thought worth preserving, and are to be preserved, thanks to the wisdom and prudence of the Governors in seeking and accepting sound architectural advice.

Said Mr. Herbert Baker, as reported in "The Times": "The banking halls designed by Sir John Soane for this building seem to give an exceptional sense of dignity and fitness of expression to a bank, and honour can, therefore, best be paid to his memory, not only by the preservation of these halls, but by the acceptance, after the test of a century, of his invention as the motive idea for the natural aftergrowth of his building." The familiar outside blank wall is not to be destroyed, nor are the rooms that Soane put behind it.

Similar tenderness is to be shown towards Taylor's old Court-room, which looks out upon the pleasant Garden Court which was once the churchyard of St. Christopher-le-Stocks. There, right in the midst of the roar and bustle and clatter of the busiest part of the busiest city in the world, silence reigns save for the twittering of the sparrows. It is one of the marvels of London that it contains so many harbours of refuge from the tumult. Drapers' Gardens is one of those that, being not far from the garden with which Sir Robert Taylor, with the architect's true instinct and foresight, provided the Bank, were no doubt directly inspired by it. Pity it is that the Rotunda must go; but, sympathetically though its retention was considered, it could not be preserved.

Taylor's work, which was done between 1694 and 1734, found little reverential regard in Sir John Soane, who seems to have got rid of as much of it as he dared; whereas the present architects are preserving as much of it, as well as of Soane's work, as circumstances will permit.

It is pleasant, however, to see in the Bank such strong reflections of the classical taste affected by Soane as the imitation, in the corner towards Lothbury, of the Temple of the Sibyl at Tivoli, as the Constantine arch leading to the Bullion Yard, and as the Roman baths motif in one of the Stock offices.

A World-wide Influence

Excellent! Such scholarly amenities redeem a bank from the sordidness commonly but quite erroneously assumed to be inherent in lucre. Sampson, Taylor, Soane, and Cockerell, each in his day, and, of course, Soane most of all, helped to establish for all time the classical type of bank-buildings; and, on the whole, an excellent type it is, introducing classic dignity and serenity to many a mean town, and thereby setting an example and radiating an influence that, especially since the passing of Sir Robert Peel's Joint-Stock Banking Act in 1844, has pervaded every town in the kingdom, and far beyond it. The gracious influence has indeed spread overseas, and is no doubt obvious in the designs of the Commonwealth Bank at Melbourne, of which the foundation stones were laid by the Australian Prime Minister and Sir Denison Miller on July 26. Did Sampson, Taylor, Soane, and Cockerell dare to dream that their influence would be so prepotent and so widespread? Taylor and Soane must surely have had an intuition that banks would at no distant day become ubiquitous. Cockerell knew it from actual observation, because he did not succeed Soane as architect to the Bank until 1833, and lived until 1863; while in 1836 "the rage for bank-building," says the annalist, "was at its height."

Mr. Herbert Baker and Mr. F. W. Troup are obviously handicapped by the peculiar conditions. They have not to plan a grand new building, but to enlarge an old one designed by acknowledged masters. It was a problem to solve in fear and trembling, lest one should fall under condemnation of the saying about new wine and old bottles.

But the rearing of this great new Bank in times like the present is a testimony to the wisdom, energy, and enterprise of the Directors, and a powerful incentive to the business community to build boldly and well in spite of those who croak about "unpropitious times."

The Growth of Interest in Architecture

In the House of Commons on July 22 there was a pleasing incident that ought to be less startling for its rarity. A member—Mr. Hogge—who is not remarkable for tenderness towards Ministers, actually rose in his place to express his thanks to one of them. Mr. Hogge thanked Lieut.-Col. Gilmour, as representative of the First Commissioner of Works, for the opportunity he had afforded members to inspect the work of restoration of the roof of Westminster Hall. Mr. Hogge said he understood that the work would probably be completed by the end of March next, and that the cost would amount to £100,000. Lieut.-Col. Gilmour was responsive in a like vein, and this little interchange of courtesies became the more pleasant for eliciting the statement that the Office of Works is considering the question of publishing, for sale to the public, drawings or photographs of the work of restoration. It is in the public interest that it should do so, if there were no other object or effect in view than the stimulation of the public interest in architecture and building; but such publications are of practical value also, and we trust that the Office of Works will not be checked in its enlightened policy. An official description of the work from start to finish would be of great interest as a souvenir of a most interesting piece of restoration.

On Going Forward

A Conversation on Architectural Education

By JAMES BURFORD

(Concluded from last week's Issue)

"I AM opposed," said my friend, as we sat in the veranda after lunch, over coffee and cigars, "I am opposed to the time-honoured type of academic lecture. I do not doubt it has a use and place, but it is not best suited to my purpose here. I have emphasized the importance of appreciation over information; but information, in some degree, we must have, as material to work with; and the surer the judgment the more room there is for facts. But we strive to make our lectures here anything but a one-man show.

"It would seem hard to include the benefits of co-operative and emulative effort in a method of lecturing, but by encouraging our students to take an active part in lectures, by questions and discussion, and by requiring that, in the place of notes, a précis of the matter should be written afterwards, and by a public criticism of these papers, we obtain a deal of the emulative spirit in what, too often, was a tedious performance."

"But surely," I said, "some men have instilled a great enthusiasm by what you term 'the old type of academic lecture'?"

"I will not deny it," he admitted, "but such a man is the rarity rather than the rule, and such enthusiasm evanescent in its quality. You may think my methods elementary, but they can scarcely be disparaged; they stimulate an interest and a mental activity, and, by exercising the memory, they ensure that the knowledge gained is not easily forgotten."

"And so you take every precaution to keep interest afoot," I said. "By all means," he replied; "indeed, it is one of the fundamentals of my creed. When interest flags, true education ceases. The discipline of the mind is one of the aims we have before us, but it must be a discipline maintained by interest, not by coercion.

"Little is gained when the difficult task is regarded as an unpleasant imposition; we must endeavour to cultivate that attitude of mind which attacks difficulties for the power their conquest brings. It is in this spirit we approach architecture here. If you will come with me I will explain the workings of my course.

"I maintain," my friend continued when we had entered another of the studios, "that the student should receive his introduction to architecture proper by way of a sound understanding of the essential needs of building—of the problems of construction and the principles of their solution. He should discover how these difficulties have been overcome in past times, and, what I regard as of great importance, realize that the various appearances these solutions have presented—what are commonly known as 'styles'—are the inevitable outcome of certain conditions, social, geographical, ethical, and political, exerting their influence on problems which are fundamentally the same.

"By acquiring a habit of mind which regards architectural form as the result of factors broadly conceived, he will recognize the necessity for understanding our own times and of approaching modern problems in the same spirit of reasonable deduction."

"Your theory sounds well enough," I said, "as you put it to me, but I should be interested to learn how you carry it out in reality."

"It is in this way," he explained; "we study first what I might term the 'elements' of building—walls and openings in them, lintels and arches, the problem of covering a space, roofs, and all the requirements general to buildings of all periods. To take a wall for example; it does not call for a deal of mechanical demonstration to show why a wall stands up or why it does not, and I encourage my students to find out the principles of construction for themselves, experimentally.

"When these principles have been grasped, in this way, we discover, with the help of books, photographs, and drawings, the various treatments these elements have received, at different times and by different peoples. We take them in an historical sequence to maintain the idea of continuity—confining ourselves to Pre-Renaissance work as being best suited for our purpose. That the reason for the differences of treatment should be understood, our lectures, of the informal kind I have described to you, set forth the life, customs, and resources, in short the history, in its broad sense, of the peoples whose work is under review.

"There is a great interest in beginning a study of architecture in this way. Education should not be like a journey through darkness to some bright land beyond, but rather a progress up some pleasant slope, from which we can see farther as we go higher, and gather flowers all the way."

After so poetical an outburst I felt there was something of bathos in my asking him what part constructional details played in this part of his course. I was mistaken, for he seemed to regard poetry and construction as of equal importance—to be, in fact, as I thought later, very intimately related.

"I fear," he said, "that I have not made my ideas clear to you. It is impossible to study by the methods I practise here without realizing the part that construction plays in architecture. By following a system which gives at once an idea of development and of the causes which controlled it, the student discovers that nothing has been or can be built until the constructional problem is solved, and, on the other hand, that, as new requirements arise, the resources of construction must be extended to meet them. In short, construction is the limit of design, design is the stimulus to construction.

I should think it detrimental to a proper appreciation of architecture and a sound policy of education to introduce the smaller details of construction at this early stage of the student's career. If the broad principles of construction are understood, in a comprehensive way, they provide of themselves an incentive to discover that more exact knowledge which will permit a wider use of the powers already gained. You see, I am true to my conviction that to go from the indefinite to the definite is the proper course to follow."

I had been looking with a growing interest at some of the drawings and papers before me; the written papers sufficiently explained the wide scope of the lectures, a number of sketches showed a searching about for solutions of the problems, while from other drawings I learnt how complete had been the inquiry into the treatment of the same problems in the past.

I remarked on the excellence of proportion the forms displayed; but, as my friend said, there could be little difficulty in achieving a good proportion after the earlier study of composition, "And whenever some power has been acquired," he added, "I make a point of keeping it in active operation.

"But I must not detain you with this elementary work—there is still much to see. Although to me these primary studies have an importance at least equal to the more advanced work—regarding them, that is, from the educational standpoint—I have no doubt the later studies will be, to you, more generally attractive." I was hastily disclaiming any lack of interest in what I had been seeing and hearing as my guide led the way to the next room.

"By the time the student reaches this stage in my course," he continued, "he has sufficient understanding of the 'elements' of building to use them in combination. Our method of study is the same, and we still confine ourselves to the Pre-Renaissance work. We find out how these 'elements' have been combined in the past, and we consider the conditions which controlled their use.

"At first I choose buildings which show these combinations in their simplest forms; and an historical sequence, if properly handled, gives a natural progress to more complex arrangements—we are studying in miniature, as it were, the development which took centuries to evolve. Our lectures deal more closely with the details of construction and design. It would, of course, be a waste of energy to acquire an exact knowledge of the building trade as it stood in any historical period, but a general understanding of the evolution of constructional resources is essential to a proper appreciation of the architecture of the past; a report explaining these matters accompanies each design."

"I suppose it is about here that you make room for a study of the Orders?" I asked.

"Oh, the Orders," he said, smiling; "we take them in, certainly. But we find that they have to be divested of a good deal of the pre-eminence and pride they once enjoyed. We consider them as parts of an organic whole, subject to change and growth, not as separate entities of isolated perfection."

"And what importance do you give to the reconstruction of historical buildings?" I enquired.

"It is my opinion," he answered, "that reconstruction of the kind you mention has little educational value. A critical and comprehensive study of such buildings is necessary in any system of architectural education; but we must search for the spirit, and not content ourselves with the letter. It is, for example, of more use to design an Imperial Thermæ for the Roman people than to reconstruct the Baths of Caracalla."

The drawings he showed me indicated the results of his teaching and impressed me with the power and freedom of the draughtsmanship. There was no attempt to make for prettiness, but the drawings very adequately expressed the designs as buildings. Laboriousness, unnecessary finish, and irrelevant additions, were alike absent—in short, the work was eminently workmanlike. My friend was at pains to show me how the problems were approached by determining the essentials of construction, and what surety the earlier training in composition gave to the handling of the forms.

"And in planning," he went on, "we have the same powers at work. If we have a sufficient knowledge of conditions to put the various units in the right relation to each other, our appreciation of constructional possibilities and the requirements of composition will enable us to combine them in a plan of architectural worth."

"I suppose you have some periodic test of the student's progress?" I said. "What examinations do you hold?"

"If you mean examinations in the generally accepted sense, we have none," he replied. Seeing my puzzled air, he continued: "To the student, an annual inquiry into his attainments—superficial and limited as it necessarily is—gives a poor indication of his progress; he should be constantly aware of the extent of his powers, for a self-knowledge assists his development. But with the system we have here, the papers which follow the lectures, the reports which go with the designs, and the frequent criticisms of his studies and drawings, give an indication of his advancement sufficient for him and more than enough for the needs of the staff."

"And added to those advantages," I said, more than partly convinced by his argument, "you avoid the cramming which annual examinations inevitably excite, and banish for ever that incubus of possible disaster which made my work of more pain than pleasure."

"And which robbed your work," he added, "of much of the educational value it might have had."

We continued our tour to the next studio.

"It is here," he continued, "that we study architecture from the beginning of the Renaissance to the time when eclecticism took the place of traditional development. By grouping this period as a field of study we can recapitulate the knowledge already gained and re-use our resources as fresh conditions and new means of construction dictate or permit. By discovering how new influences will give fresh life to old familiar things—how new vitality can spring up, phœnix-like, from out the past—we receive a suggestion of a way of approaching our problems of to-day.

"Many of the constructional details encountered at this stage have so close a bearing on modern work that an exact study may be made of them, but those of more recent invention are reserved for their proper place and time, when their use and purpose can be better understood. You can see," he went on, turning over a number of drawings and sketches for my inspection, "that the student is reaping a yet richer harvest from his previous acquirements—from his early appreciation of composition, his understanding of the 'elements' of building, and his study of Pre-Renaissance architecture. From beginning to end my students have two and a half years with this historical study; their next step is to apply their gain of knowledge and abilities."

I could think of no very apposite remark for the occasion, my friend seemed anxious to explain the remainder of his course, and after the usual migration attendant on the introduction of a fresh phase I was ready to witness the results of what I had already seen.

"But do you never find," I asked, "that some students have a marked predilection for the work of some particular period?" With that he came back on me with, "Such a discovery would announce the complete failure of my whole educational system. You see," he continued more quietly, "my students have not only discovered what buildings were like or how they were constructed, they have also inquired into the reasons for the forms they took or the methods employed.

"Such a system of education encourages a type of mind which seeks for reason in all it does, which is not afraid to let its conclusions be guided by conditions nor to seek for help in the storehouse of the past. A mind so trained will reject instantly the idea that the manner of a bygone day is wholly suitable for modern usages.

"Of course, a study of the past, however properly made, is not alone sufficient to ensure a reasonable advance. Our work, at this period, includes a study of the broad aspects of the social and political questions of the present day. It may seem strange to you, perhaps, to find lectures and essays on such subjects as 'Individualism and Co-operation in Industry,' 'The Organization of Peace,' or 'The Future of the Empire' taking place in a school of architecture; yet such matters must play their part if architecture is to have a vital meaning in the civilization of the future. Our inquiry into the means of construction embraces all modern resources—you will notice that they are not introduced until their need is felt and their purpose appreciated.

"We have passed from the indefinite to the definite—from the abstract to the concrete—and we can build up on what has gone before; the details are quickly acquired when the principles are understood. In a time which is short when compared with that taken under the old method of putting the details first, we are calculating the stresses and strains of a steel-framed building or following the intricacies of ferro-concrete."

A brief inspection of the drawing convinced me of the continuity of his system. The first design—the student's earliest attempt to help the progress of architecture, as my friend remarked—was for a small building, governed by the simplest conditions and calling for few constructional details, but those very fully understood. The next was more complex, but came into line with the student's growing attainments. Each step led to the handling of more complicated problems, to designs governed by an increasing exactness of conditions. Though the preliminary studies were rendered, with the shadows properly projected, the final designs were presented as working drawings. Some of the later problems equalled any to be met in actual practice.

I spoke of the rapid development apparent in the work before me, and my friend replied: "The student is now in a position to make a quick advance. He has an ample stock of resources to draw upon, he is backed by his appreciation of composition, his understanding of the fundamental principles of construction keeps his work in the line of probability, he can apply the whole range of his study of the elements of design, he has gained a knowledge of the past and the habit of using his knowledge in a critical spirit, and he has formed that attitude of mind which recognizes that architecture is controlled by causes and conditions."

I felt there could be no doubt of the thoroughness of his equipment. "And what time do your students give here to this modern design?" I asked.

"About two years," he said, "and that brings my course to a length of six years or thereabouts. I have taken you through it in less than a day, and I think we are both in need of a little relaxation."

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"There seems to me to be one particular objection to the system you use here," I said, when tea and toast had warmed me to criticism. "If a student found himself unable to take more than, say, the first four years of your course, through lack of funds perhaps, however far he would have advanced in an appreciation of architecture, he would stand poorly equipped for the necessity of earning his living."

"He certainly would," my friend replied, "but there is little danger of his finding himself in that predicament. It has begun to be realized that a proper study of architecture is a liberal education; for that reason some part of the time and money formerly spent on a general education may be laid out on a special education with as much immediate profit to the mind and, from its closer application, with more ultimate gain to the work of life. In a school such as this, students can begin their special training younger, and keep to it longer, than was once the case."

Our conversation turned to the subject of his staff. "Any system of education is worthless unless used with skill," he said. "When I began my work here I had great difficulty in finding the right men to help me; it was that that brought about my course for the training of instructors. A knowledge of architecture, however extensive, or abilities in it, however brilliant, do not necessarily imply a capacity for educational work."

"I suppose not," said I; "architectural education has become a complicated matter since the days when we were simply apprenticed to the trade, so to speak."

"Not complicated, but different," he replied, "and on the whole, I think, simpler. If you would understand the system of education I use here, ask yourself two questions The first: How and why has architecture developed from its origin to the present day? The second: How does the mind develop from a state, architecturally speaking, of knowing nothing, to that attitude of thought which will make men an influence in the progress of civilization in the years to be? It is on the answer to these questions that I have built up the whole structure of my policy."

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It was a regret to me that our conversation should be interrupted at this point by the necessity of my catching the return train to town. I arrived at the station with a bare minute to spare, and as I settled myself in the corner of my compartment I laid aside the book I had brought with me to while away the journey. If there were some things in my friend's ideas with which I did not agree, there was that in them had given me "much food for meditation."

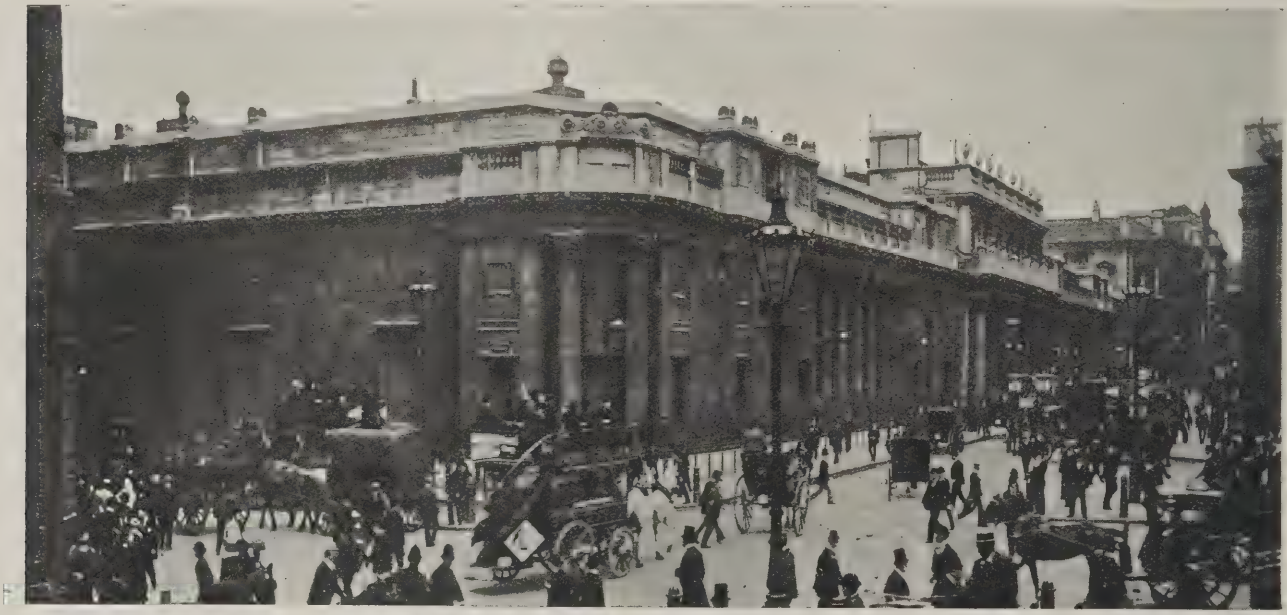
Acoustics and the Architect

IN the Council Chamber of the new London County Hall the speakers are heard with difficulty. It is, unfortunately, not an uncommon defect in a new building; nor, indeed, in an old one, as witness the notorious case of St. Paul's Cathedral; and many writers in the Press have asserted, rather ignorantly, that insufficient attention has been given by architects to the science of acoustics; the fact being that, in designing any building in which speaking or singing is to be heard, the architect always gives the most anxious consideration to this matter, and we do not for a moment doubt that Mr. Ralph Knott made full use of all the available data before proceeding with his design. Those data are admittedly very scanty, and many an architect has had to deplore the fact that the science of acoustics as applied to buildings is largely, if not entirely, empirical. From patient and protracted experiments the late Mr. W. C. Sabine, who was then Professor of Physical Science at Harvard, deduced many important facts. Nevertheless, as Sir W. J. Pope, of the University of Cambridge, has said in a letter to "The Times," "So far, no attempt has been made to ascertain the factors which determine acoustical efficiency in an auditorium." He adds: "It is, however, certain that a quite small expenditure of time, money, and intelligence, would suffice to provide architects with knowledge which would enable them to render every hall acoustically perfect." Sir Joseph Larmor, another distinguished Cambridge Professor, is much less positive if not less sanguine than Sir William. To his interesting letter on the subject he appends a very useful moral: "Until the principles governing a phenomenon have been elucidated as a matter of pure science, it may be of little use groping by experiments of trial and error after tentative modes of improvement. In architecture as in other practical arts, much may be gained by traning in a university atmosphere." From all this it follows that the newspaper and other critics who have made haste to blame the architect for the alleged "defective acoustics" of the London County Hall Chamber do not in the least know what they are talking about. We shall return to this important subject in a later issue. In the meantime we are impelled to protest against the gross and grotesque unfairness of blaming an architect for not having mastered a science that has not yet been formulated.

The Rebuilding of the Bank of England

THE question of rebuilding the Bank of England has for some time been engaging the attention of the Court of Directors, in order to provide on the existing site accommodation for the whole staff, of which the greater part is now working in various buildings in other parts of the City.

For this purpose an entire reconstruction of the interior will be necessary. But in order to preserve as far as possible the style and character of the existing building it is proposed to keep the present outside walls with as many of the old rooms behind them as possible; to continue a similar series of top-lighted offices round the site, and, inside the enceinte thus formed, to raise the building to the height of four or five floors. In the course of the consideration of these preliminaries, the Bank consulted on the general question the President of the Royal Institute of British Architects, Mr. Paul Waterhouse, who was unhesitating in his reply that the only possible way of harmonizing the artistic claims of the Bank with its present duties lay in the direction of building a central structure of the necessary height surrounded by a girdle of lower buildings composed in fact of the existing external walls —unaltered and without any avoidable superstructure.



THE BANK AS IT IS.

The Bank furthermore have been in consultation with Mr. Herbert Baker, F.R.I.B.A., and Mr. F. W. Troup, F.R.I.B.A., and we publish some sketches which, with the following notes, have been prepared by Mr. Baker :—

"Long and sympathetic study has been given to the determination of the extent to which the more valuable portions of the old building of the Bank of England could be retained consistently with the creation of a new structure worthy of the Bank, and sufficient for its needs.

"The facts of the site in relation to its light and the surrounding streets and buildings, together with the practical and sentimental values of silence, security, and seclusion which the present blank external wall affords, all seem to point favourably to the policy which it is proposed to adopt and to a solution of the problem on the lines of Sir John Soane's own design of top-lighted halls screened from the street by his great blank wall.

"In an architectural appreciation of this building, Sir John Soane's life work and masterpiece, it may be recognized by those who have given most study to it that his genius is more specially distinguished by the powers of invention which he shows in the varied and ingenious treatment of domical-vaulted and top-lighted spaces. His banking halls seem to give an exceptional sense of dignity and fitness of expression to a Bank, and honour can therefore be best paid to his memory not only by the preservation of these halls, but by the acceptance, after the test of a century, of his invention as the motive idea for the natural aftergrowth of his building.

"The proposal under consideration by the Directors includes the retention in its entirety of the outside blank wall with such of Soane's rooms as lie behind it, and the construction of a sequence of similar rooms behind the old wall right round the perimeter of the site.

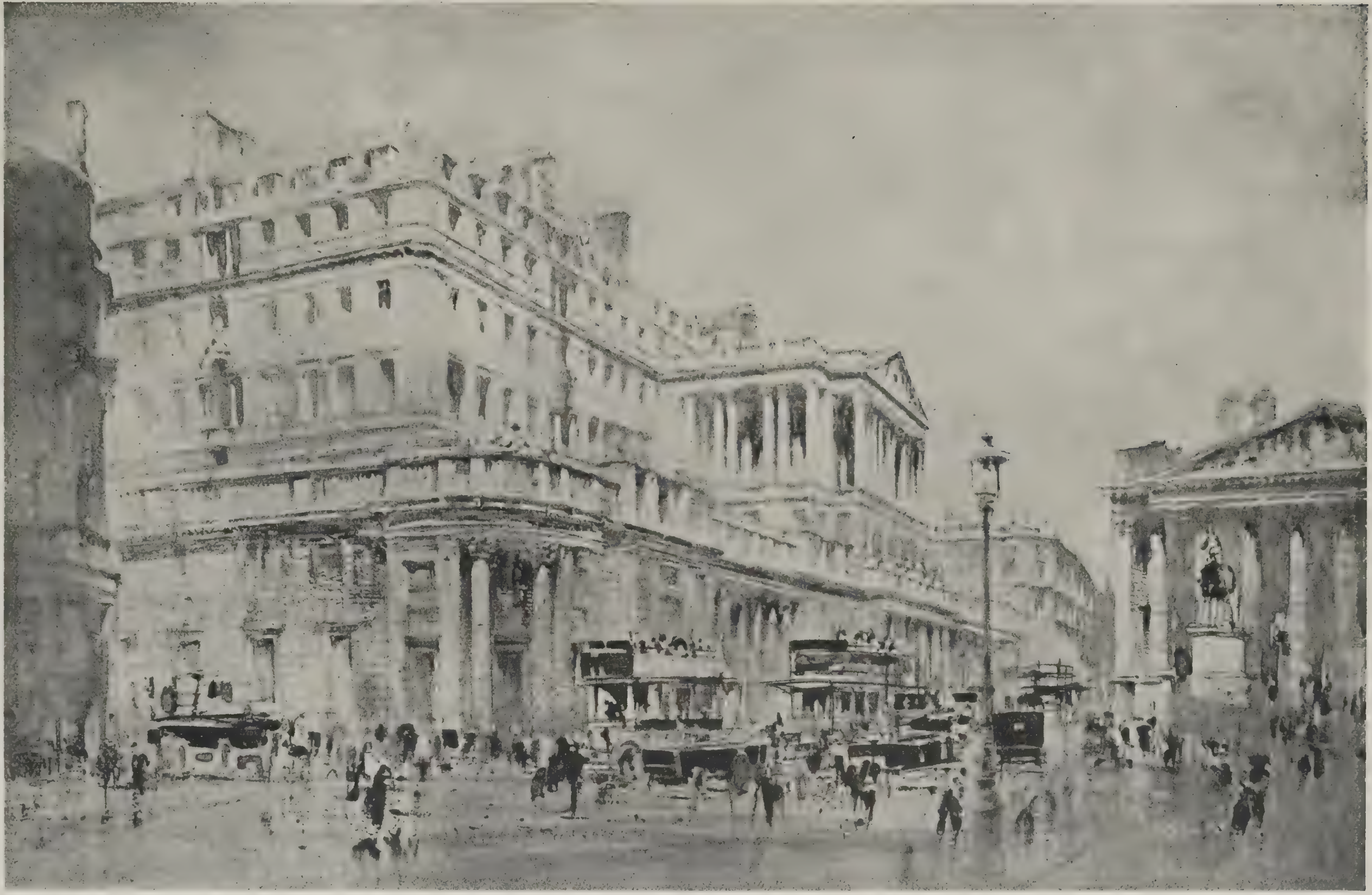
"A feature of characteristic beauty in the Bank is the open Garden Court on the site of the old churchyard with its venerable tree and Taylor's old Court Room looking out upon it. This small court, however, if the walls round it are raised, would lose its light, its tree, and its charm. It is therefore proposed to build a larger open court in the centre of the site where it will best fit the organism of the building, and to reconstruct on the north side of it, with the same southern aspect as of old, Taylor's old Court Room with its attendant Committee Room and as many of the attractive little ante-rooms as may be possible.

"It will be between this inner court and the outside sequence of Soane's banking halls that it is proposed to rear the new inner building to the fullest height which may be held to be legitimate and advisable for the architectural harmony of the building as a whole, and for the light and health of the surrounding narrow streets and buildings. It has been considered that such a plan, while retaining what is of the greatest value in the old building, will give at least as much accommodation on the ground floor as would be possible in any scheme of reconstruction, and on the upper and basement floors sufficient well lit and ventilated office space for the future needs of the Bank.

"Most sympathetic consideration has been given to the retention of the Rotunda, but it has been considered that the retention of its great masses would involve too serious

Current Architecture. 162.—Proposed Rebuilding of the Bank of England

Herbert Baker and F. W. Troup, FF.R.I.B.A., Architects



In this suggested rebuilding it is proposed to retain the outside blank wall in its entirety, with such of Soane's rooms as lie behind it. Between a new central court and surrounding halls will be reared a new inner building four or five stories high. A notable feature of the reconstruction is a projecting portico on the front towards the Royal Exchange.

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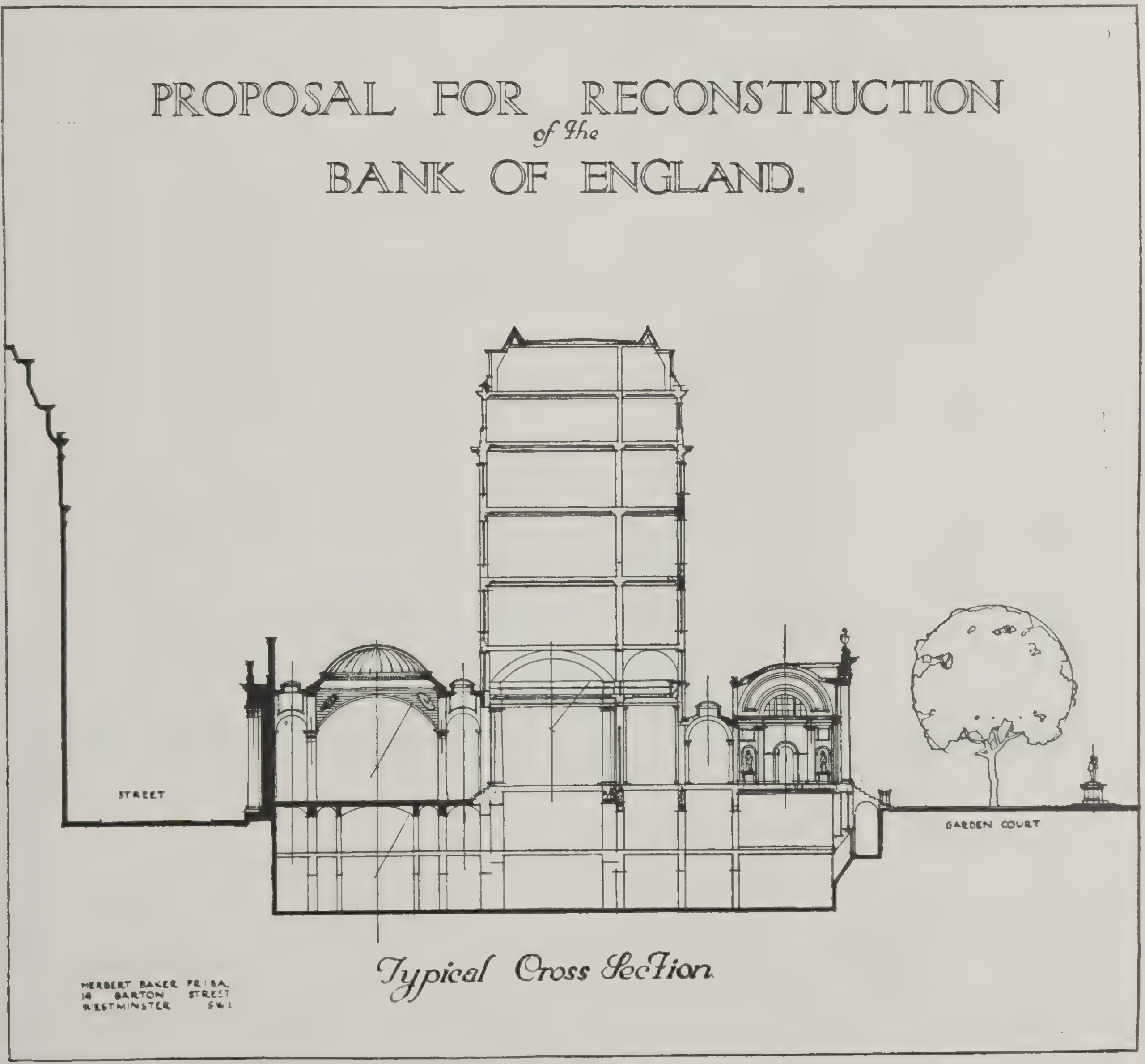
a sacrifice of space and efficiency. But there are throughout the building many ingeniously vaulted rooms and corridors, and it is hoped that after more prolonged study of these and of the requirements of the new building, it may be found possible to set in the new building some more gems of the art of Soane, or of Taylor, or even of Sampson.

"It must be understood that the drawings now published in no way represent any final solution, and have been prepared only as illustrations of the very complex problems involved in the rebuilding scheme. The plan illustrates the three main features herein described, the outer sequence of top-lighted rooms, the new inner court, and the high building between them. The section is intended to illustrate a possible method of lighting through the great width of continuous offices. The perspective illustrates the general appearance of such a building, and presents only a possible solution of the problem of connecting the old low and new high building in some way that will give visible architectural expression to the unity of the building and the sense of the continuity of the life of the Bank."

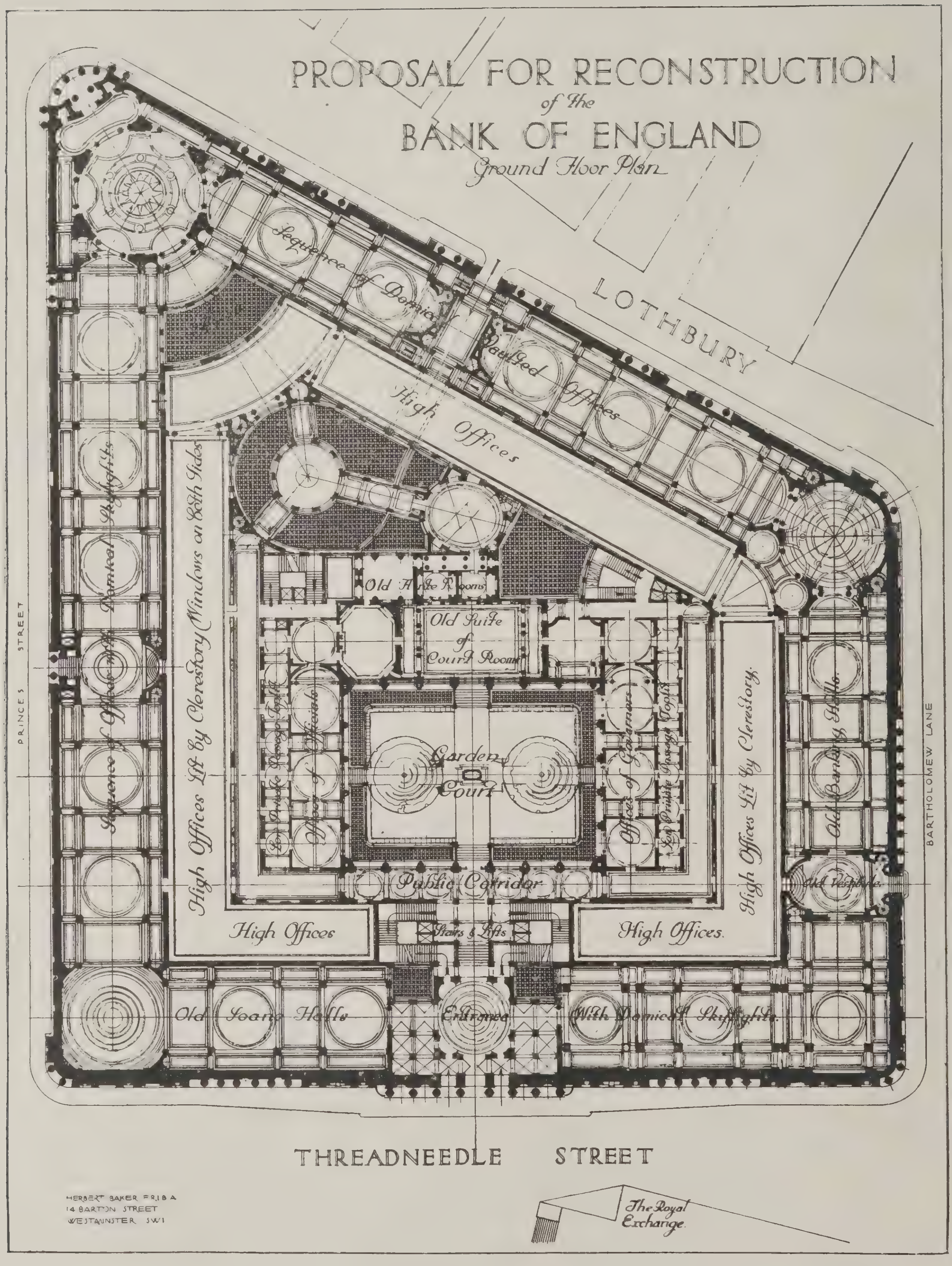
In some quarters the proposed rebuilding has not been favourably received. We quote the following from "The Westminster Gazette":—

"It may be admitted at once that, according to the architects' drawing, much skill has been devoted to the task of finding a way to enlarge the Bank of England without destroying the architectural features of the present building. The picture which has been prepared is that of a handsome and imposing structure; but architects' drawings are no more to be accepted at their face value than house-agents' advertisements, and in this case it is possible that the design may be carried out in all faithfulness and yet have a very different effect from that which the draughtsman suggests. The scheme proposes to leave the outer rectangle of Sir John Soane's building, with the 'practical and sentimental values of silence, security, and seclusion which the present blank external wall affords,' and to erect within it a structure more than three times its own height—to 'the fullest height,' the architects tell us, 'which may be held to be legitimate and advisable for the architectural harmony of the building as a whole.' The result would, undoubtedly, be a very fine building; but in 'architectural harmony' it would be altogether lacking. The present long, low walls will lose all the value of their proportions and their design if they are made to serve merely as the pedestal of a miniature sky-scraper. If the Bank is to be rebuilt at all, it should be rebuilt entirely, for there is enough unfortunate patchwork in the architecture of London already."

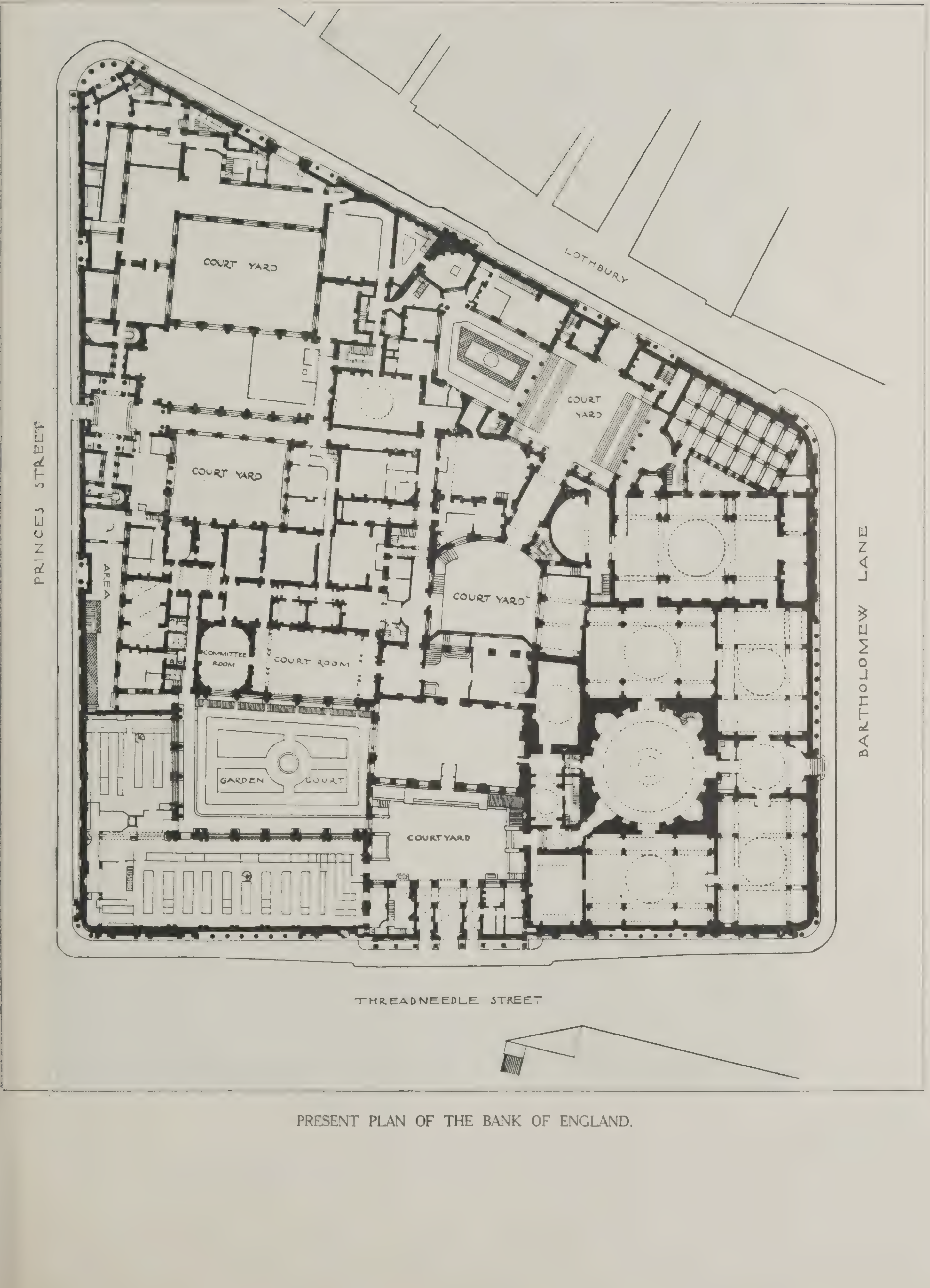
[That the architects themselves anticipated this objection is certain. In any case, they are to be congratulated upon a solution which, though a compromise, is an extremely clever one. We should welcome the opinion of our readers on the question of whether the Bank should be remodelled or entirely rebuilt.—Eds. A.J.]



HERBERT BAKER AND F. W. TROUP, FF.R.I.B.A., ARCHITECTS.



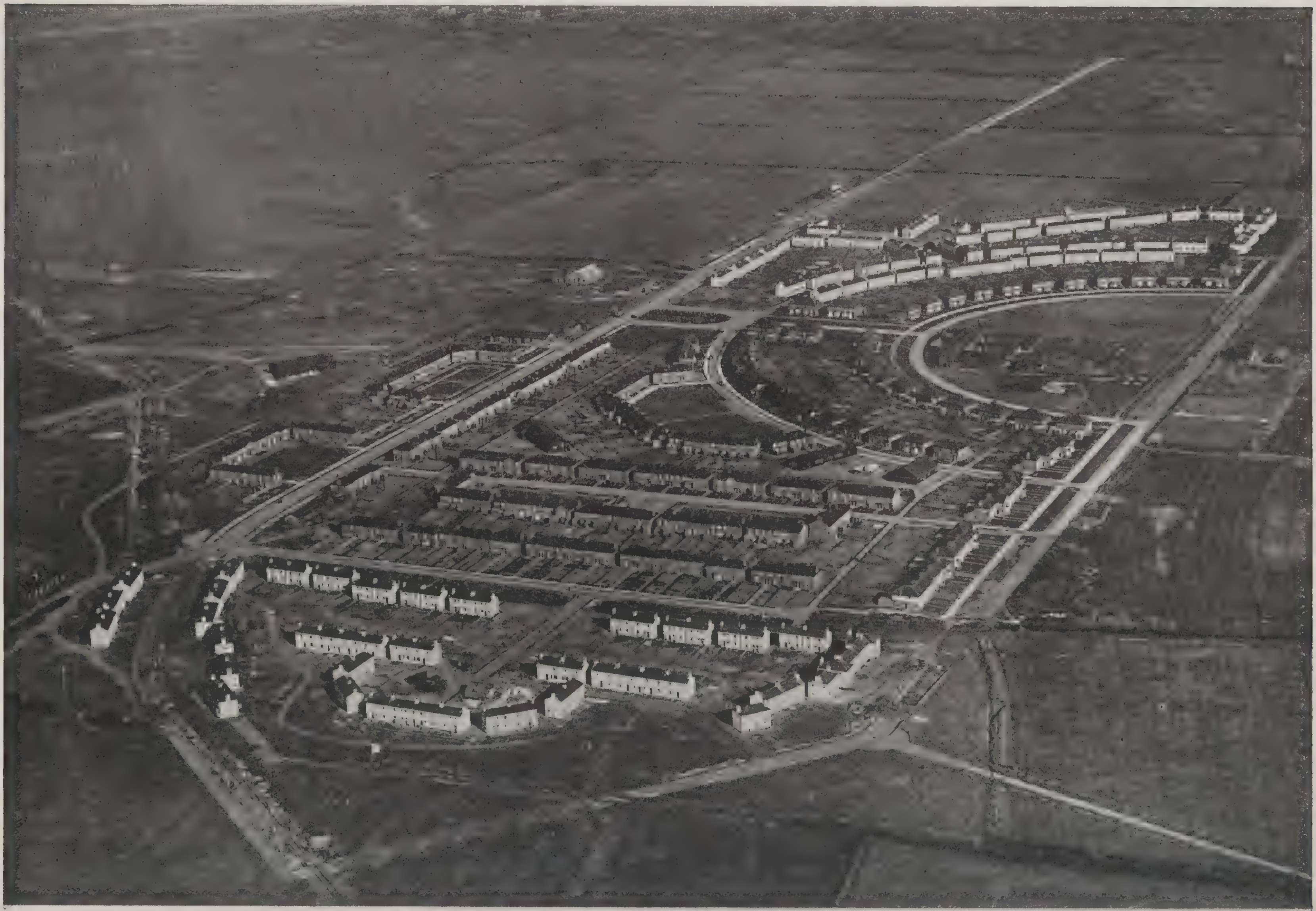
PROPOSED NEW PLAN.

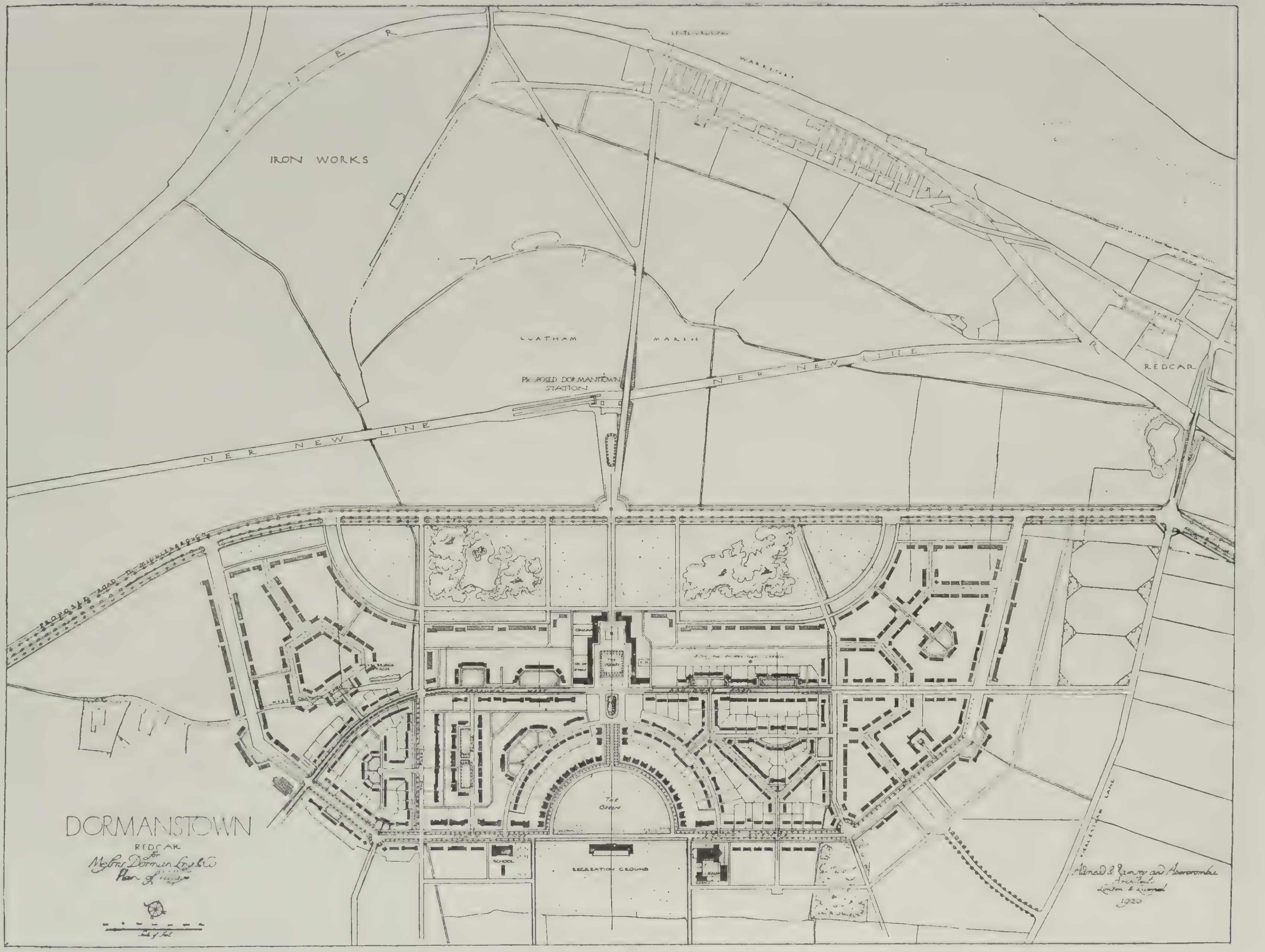


PRESENT PLAN OF THE BANK OF ENGLAND.

An Air View of the Industrial Village of Dormanstown, Redcar, Yorks

Adshead and Ramsey, with Patrick Abercrombie, Associated Architects





An illustrated description of Dormanstown was given in our issue for December 31, 1919. We now reproduce a remarkable air view of the scheme, together with the architects' plan, which affords an interesting comparison.

The Chiswick Works of the L.G.O.C.

THE depôt at Chiswick built for the overhaul and reconstruction of the London General Omnibus Company's motor-buses is, the company claims, the most modern in lay-out and progressive in system in the world. It is located in Gunnersbury, immediately facing the Chiswick High Road, and buildings and plant were erected by direct labour to plans prepared by the company's staff.

The works extend over 31 acres of ground, of which the buildings cover more than half. Thirteen acres are actually under cover, and the main building, which is of steel-frame construction, occupies an area of some 300,000 sq. ft.

In the works the motor-bus overhaul, formerly discharged in between thirty and forty different garages scattered all over London, is now concentrated and standardized in one establishment.

Before the works were in full swing, the average time taken for a complete motor-bus overhaul was sixteen days, but the Chiswick system will reduce this time to four, which means a saving of twelve clear working days per vehicle per annum.

Building was actually begun in September 1920. By the following March a certain amount of work was being turned out in the coach-building section. The engineering side did not actually begin operations until August, 1921. By September, 1921, the weekly output of completely overhauled vehicles had reached fifty. Within two months of starting, this figure had risen to seventy-five.

The works are laid to accommodate a weekly total of a hundred units nominally, but the system is elastic enough to enable the executive to handle, during short rush periods, 120 vehicles weekly.

When in full swing the works give employment to something like 2,000 people, the men being almost equally divided between the engineering and the coach-building sections.

The welfare of the staff has not been neglected, and in the works canteen, where 1,000 men can be served, meals are provided at cost price. A portion of the spare land has also been laid out as a sports ground for the use of the employees.

Motor-buses for overhaul are driven to Chiswick under their own power. Turning in at the entrance gates, they leave the main block of offices—which are detached from the works proper—on the left, and continue to the west side of the works where, actually entering the factory for the first time, they run, still under engine power, on to marked ways to the body-demounting shop.

The first operation is the removal of the bolts holding the coachwork to the chassis. A multiple hydraulic jack swings into position, and the coachwork is lifted clear, after which the chassis leaves the demounting shop and continues its journey right round the works to a second gate, located on the other side of the factory.

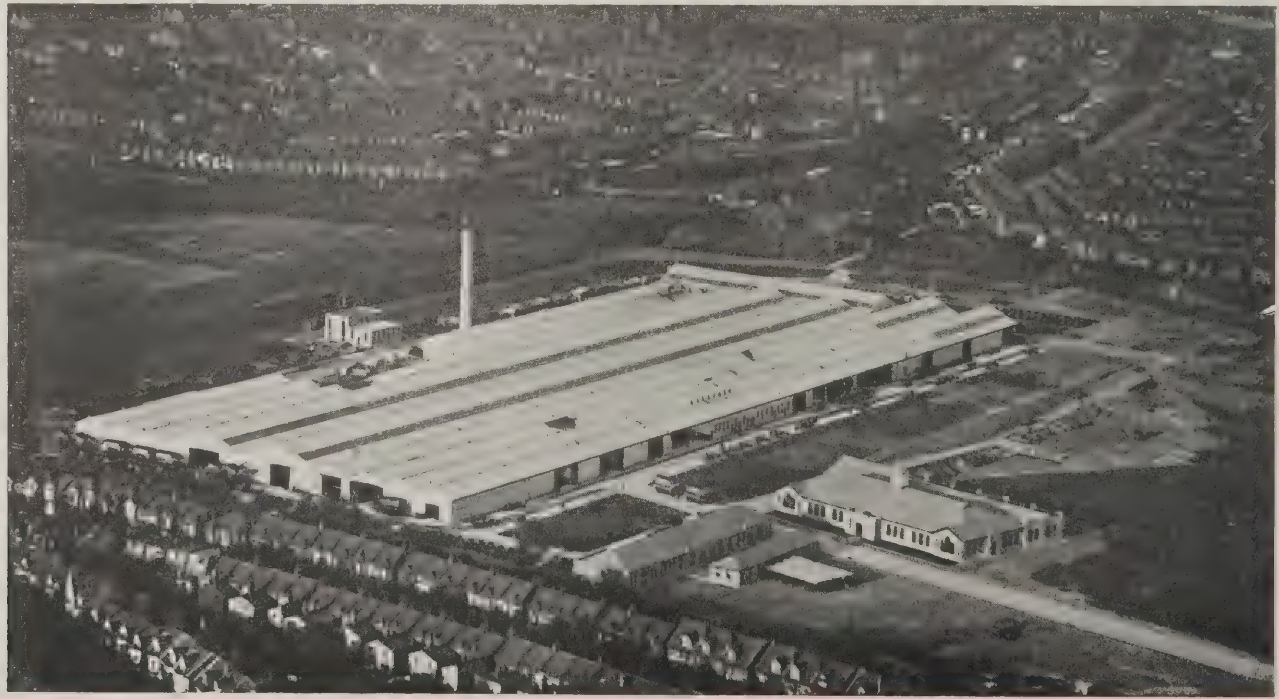
By this system each successive dismantling operation follows on in logical sequence, and the reconditioned coachwork reaches the mounting department as the completely overhauled chassis leaves the works for its road test. The two entirely different sections have worked inwards, and come together, in the end, at exactly the right moment.

When coachwork is detached from the chassis, an electric trolley carries the body into the factory proper, through a lower entrance gate. In this particular section of the works—the body shop—there is accommodation for 104 units. The lay-out is simple. On the left-hand side, looking towards the centre of the shop, are the timber stores. Alongside are other very completely equipped stores, containing all supplies which are in constant demand in the body-shop.

The whole of the supplies for these various stores are taken in by a central door on the south side of the factory. So that there may be no unnecessary movement in supplying any parts required at any stage of overhaul, the raw material, as it flows in at the south door, is distributed in due order over the whole range of stores. As these run the full length of the body-shop, whatever particular replacement part is needed is almost automatically to hand at any stage. This arrangement is common to both engineering and coachwork supplies.

The bodies are first completely stripped, and then reconditioned so far as their main components are concerned. Following these operations, they pass into the paint shop, where there is accommodation for fifty-seven units. The whole of the body-painting is done by hand, and the full time taken to paint and varnish a complete vehicle is five days. The painting completed, the body passes into the mounting and finishing shops, where it is fitted with cushions, aprons, boards, and advertisements, while the electricians complete the wiring and electric fitting. In the meantime a score of different jobs have been called for, necessitating the employment of smiths, tinsmiths, and other workers.

With regard to the chassis, immediately the engine is stopped, the petrol tank is emptied and the fuel drained, by an underground pipe, into the main storage tank. As each chassis part is taken out it is moved, by rollway or conveyor, according to its size, and completely dismantled. Each part is tested and inspected before it journeys down the line of workers and benches, and parts which have become worn are replaced.



AERIAL VIEW OF THE WORKS.

THE MESS-ROOM.

One of the greatest difficulties confronting the motor repair shop is that of obtaining perfect cleanliness in parts grimed and greased by a year's work. The special washing-machine, designed to overcome this trouble, takes the form of a big diameter tunnel, carrying, on its inner diameter, coiled piping perforated with many thousands of $\frac{1}{8}$ in. holes. A high-temperature caustic solution is forced through the perforations by means of a 6 in. pump, the result being that thousands of high-velocity jets play on every part, from every angle, as the component passes through the tunnel on an automatic conveyor. Three machines of this type are installed, and each is capable of accommodating five components, such as gearboxes, at one time.

As the chassis passes along the shop it is gradually stripped of engine, clutch, gearbox, brakes, back and front axles and steering gear, and all other fittings, down to the bare frame. The wheels go into their own special shop for retyring, the tyres themselves being taken from the store immediately adjoining. The millwright's, tool-room, and electrical departments are also located in this section of the works.

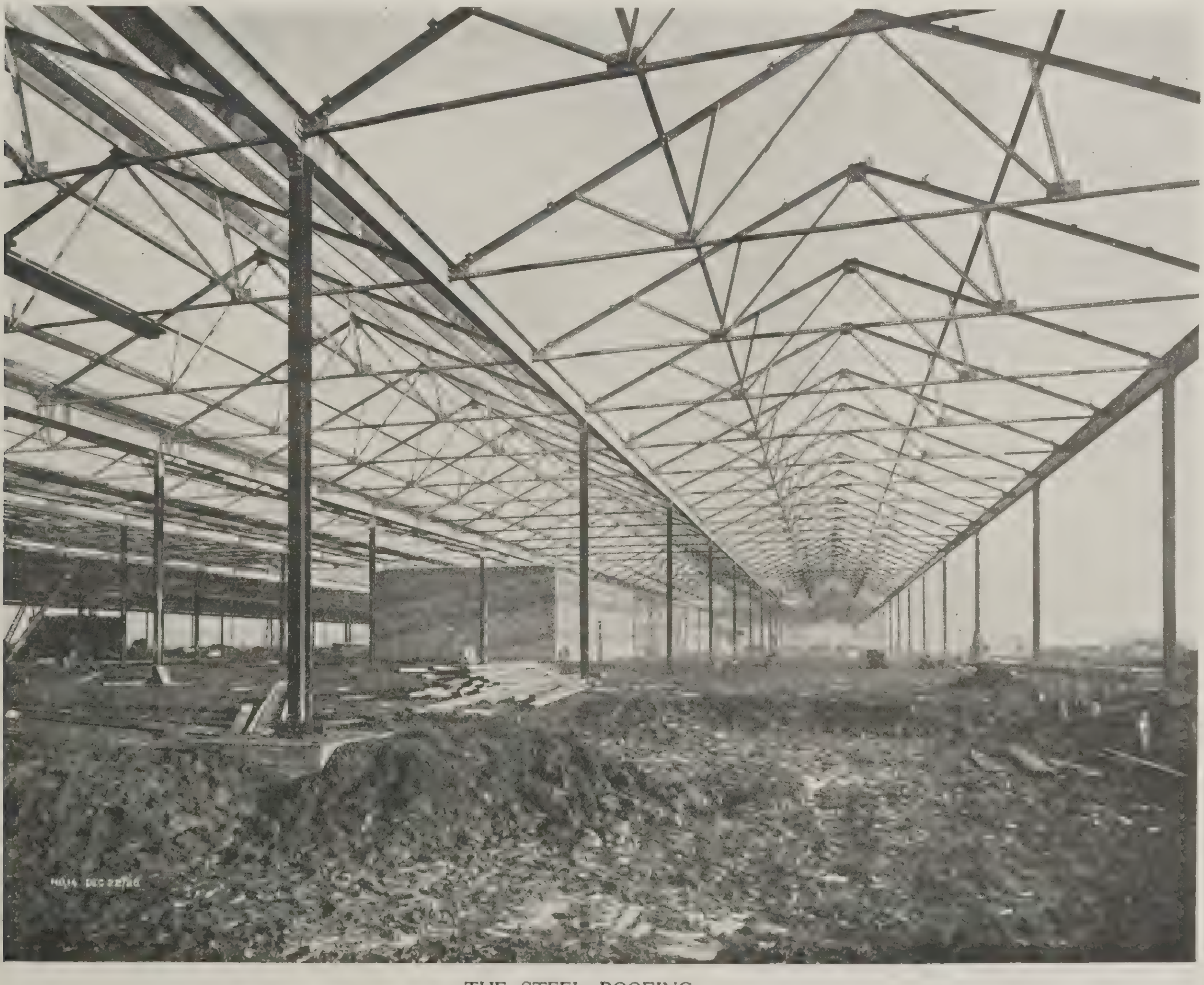
After the frames have been inspected, repaired, and passed as fit for further service, the retempered springs are mounted, and reassembling begins. As the frame passes along towards the main moving platform which runs practically the full width of the shop, front and rear axles are also being reassembled until, when they actually reach the main conveyor, they practically fall into position.

Once on the main platform, rebuilding is chiefly a matter of bolting the various units into position. The total length of the platform is 220 ft., and one may walk up the full distance and see, in the course of an hour or so, a chassis completely assembled.

As the frame and transmission nears the end of the platform the time arrives for the engine installation. A boring, reamering and running-in machine is installed centrally between the point where the engine is first taken from the chassis, and the point where, completely rebuilt, it joins up on the main moving platform. A noteworthy point about this machine is that it reduces what was formerly a two-day task for skilled fitters to a twenty-minute affair for a machinist.

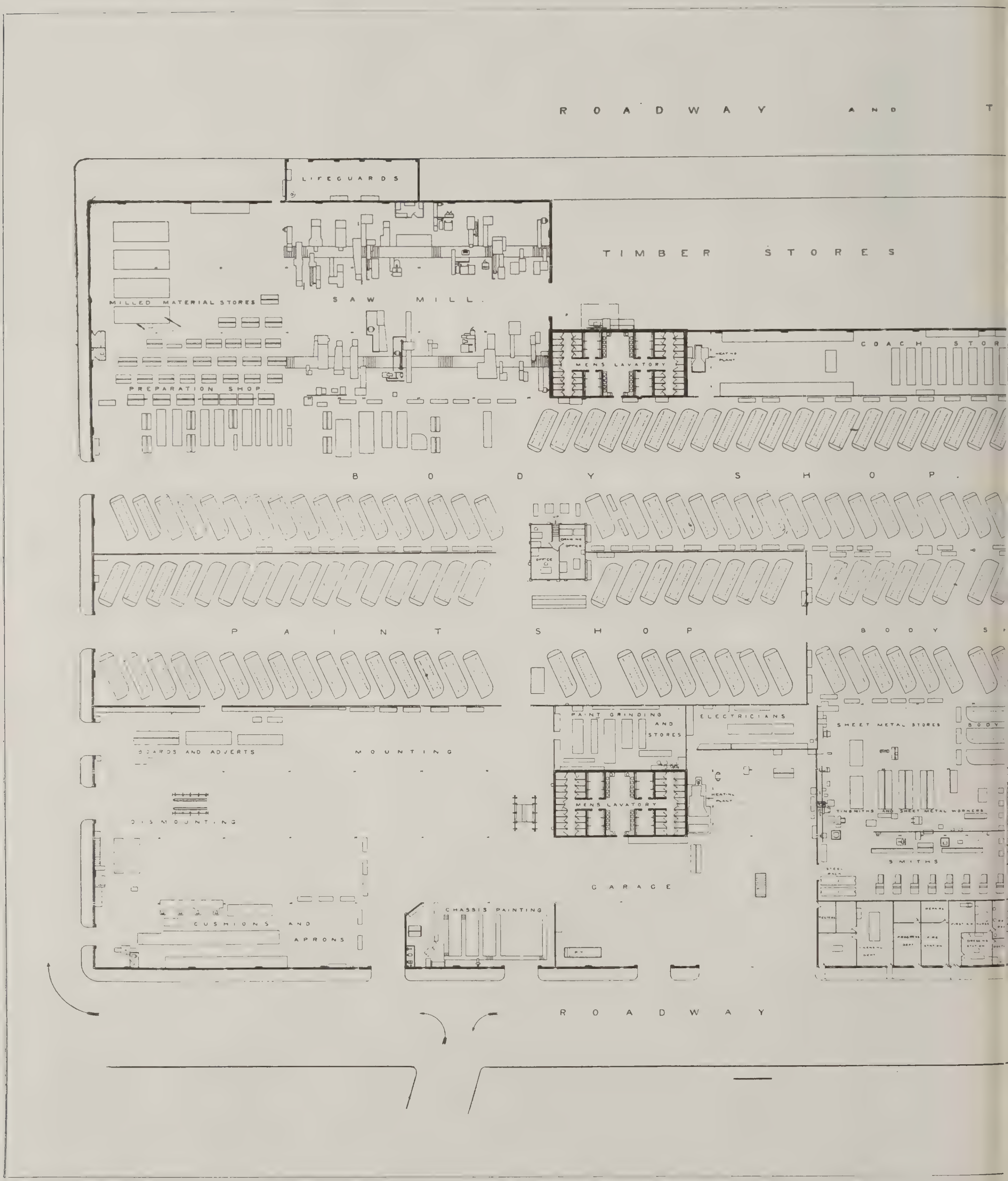
In the meantime all other engine parts are being overhauled, all eventually being assembled on a moving platform. When the chassis has moved far enough up the main platform the engine, complete with all its auxiliary gear, leaves the moving conveyor ready to be dropped into place and bolted down.

Radiators, tanks, electric equipment,



THE STEEL ROOFING.

L. G. O. Co.'s Depôt for the Overhaul and Reconstru



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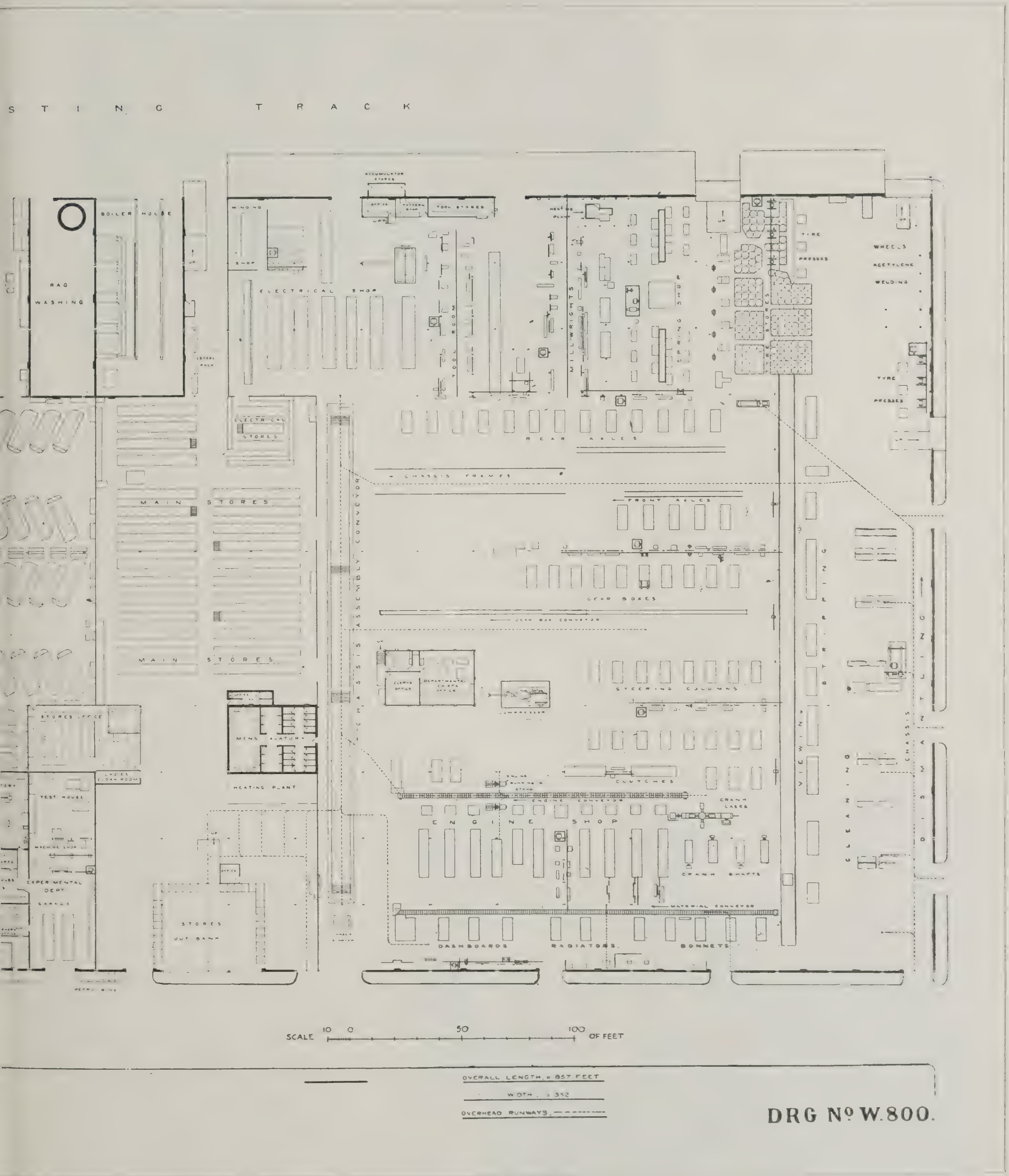
on of Motor Omnibuses, Chiswick: General Lay-out



on *page* 154.)

and details by the score are fitted in due order, and the chassis is completely erected by the time it has reached the end of the platform. It then passes on to a further position, where the engine is started by a machine operating through the rear wheels, and the unit leaves the shop under its own power for the first test run.

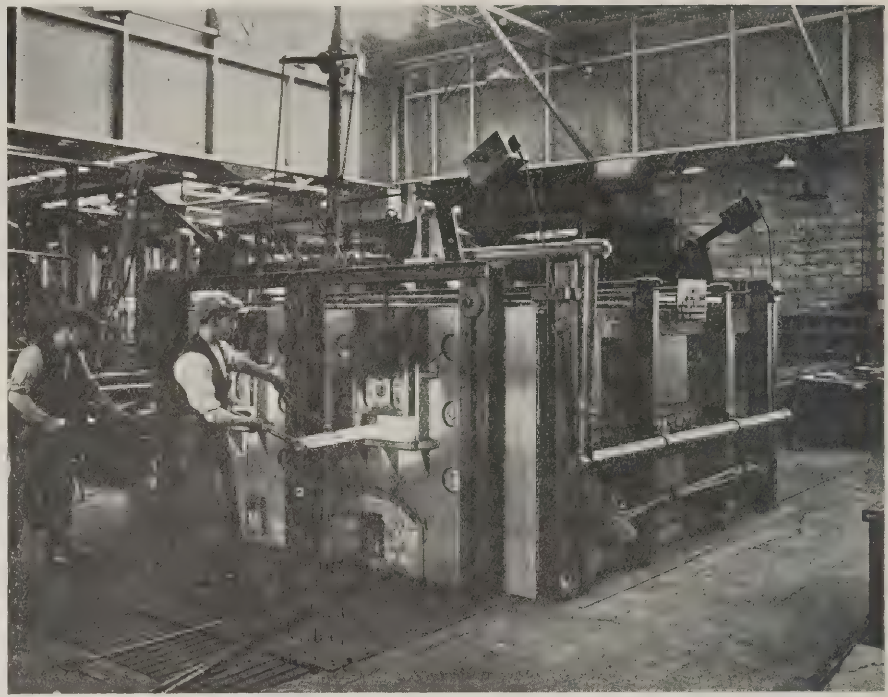
Outside the works, testing roads have been built with a rough surface and a gradient of one to fifteen—approximately as severe a test of brakes and pulling power as the chassis is likely to experience in the course of ordinary service. This testing-place, constructed as a part of the general scheme, involved the making of 800 ft. of graded roadway with a double hill. From the excavations all the sand and ballast required for the buildings were obtained.

Having successfully passed the running test, the chassis runs on to its registered track; the coachwork has preceded it by electrical truck, and is held in position on multiple hydraulic jacks similar to those used for dismounting the body in the first place. The nuts are screwed home on the holding-down bolts, the battery terminals are coupled up for final test before being submitted to the police passing station, and the vehicle "passes out" fit for another 30,000 miles of running.

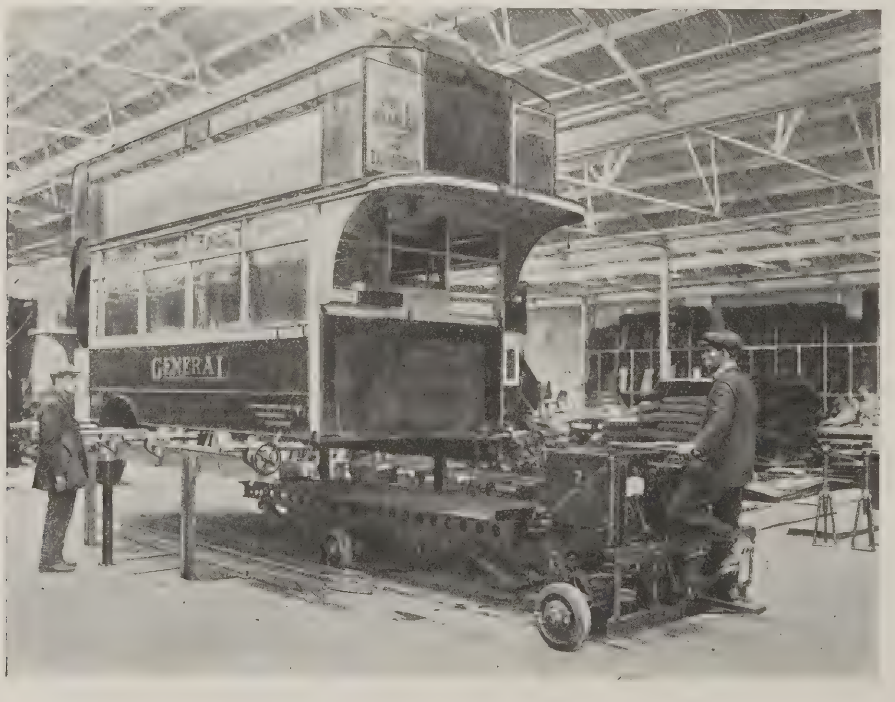
The whole arrangement is particularly well planned: there is no retracing of steps, and no overlapping. As every part of either coachwork or chassis is dismantled, it immediately begins a journey which brings it out, either repaired or replaced, at the exact moment and position where it is needed in the reassembling of the whole job.

Moving platforms and conveyors are utilized on a very large scale.

A modern experimental shop forms part of the scheme. In the laboratory raw materials, fuels, and lubricants are tested. There is a dark room for photography tests, and, lastly, there is the first-aid and rest-room, where accidents may be treated without delay.



L. G. O. CO.'S WORKS, CHISWICK: A GAS-FIRED SPRING FURNACE.



L. G. O. CO.'S WORKS, CHISWICK: BODY LIFT AND ELECTRIC TRUCK.

Parliamentary Notes

BY OUR SPECIAL REPRESENTATIVE.

Housing in Scotland.

During discussion on the Scottish Estimates in the House of Commons last week, Mr. Munro, Secretary for Scotland, said that the Royal Commission on Housing stated that the pre-war needs of Scotland were 235,900 houses—undoubtedly a very high standard. To-day 25,550 houses had been built, were building, or planned, and if to that figure were added the houses built under the private builders' subsidy, estimated at 2,400, and 400 under the special crofters' scheme, they got a total of 28,350. At the end of December 1920, the houses completed numbered 927; at the end of December 1921, they numbered 5,287; at the end of June 1922, they numbered 10,253. Although the number of houses built could not be described as a large contribution to the housing needs of the country, he thought that, having regard to all the difficulties that prevailed, they might congratulate themselves upon the results achieved. Dealing with the clearance of slum areas, he said that the Scottish Board of Health had decided that after the schemes of the local authorities had been approved those authorities should have a free hand. The State contribution to the clearance of slum areas was £30,000 a year for Scotland.

The Rent Restriction Act.

Replying to Mr. Myers, who asked whether the committee to deal with questions arising under the Rent Restriction Acts had yet been constituted, and, if so, whether he would state the names of the members of the committee and the terms of reference, Sir A. Mond said that the committee will consist of: Sir H. Norman (Chairman), Lord E. Percy, Mr. A. Shaw, Lt.-Col. Watts-Morgan, Major Barnes, Sir Aubrey Symonds, K.C.B., Second Secretary, Ministry of Health, His Honour Judge Sir Edward Bray, Mr. A. S. D. Thomson, Sheriff Substitute for Lanarkshire, Mr. T. White, Chairman of the National Federation of Assessment Committees, Mr. B. P. Moodie, Assistant Secretary of the Scottish Office, and the President of the Surveyors' Institute had also been asked to nominate a surveyor to serve on the committee. The terms of reference were: "To consider the operation of the Increase of Rent and Mortgage Interest (Restrictions) Act, and to advise what steps should be taken to continue or amend that Act." The Secretary of the Committee would be Mr. H. H. George, of the Ministry of Health.

The Royal Sanitary Institute Congress at Bournemouth

The Congress of the Royal Sanitary Institute was held at Bournemouth from July 24 to 29. Below we give extracts from some of the more important papers in the Engineering and Architecture Section.

Presidential Address

BY SIR HENRY TANNER, C.B., I.S.O., F.R.I.B.A. (Vice-President).

THERE are several subjects to which I wish to draw attention. The first of these is Research. As you are no doubt aware, there has existed for rather over twenty years a committee termed the British Fire Prevention Committee which has done much useful work in testing on regular lines various materials both manufactured and otherwise, and the results obtained were regularly published. With the death of Mr. Sachs, this committee practically ceased to exist for various reasons, mainly for want of funds and a directing mind which could give continuous attention to business. The cessation of the activities of this committee is, I consider, a great misfortune.

This is one phase of research, but there are other, and continually recurring examples where it is required in connection with materials, construction, etc., needed for building and engineering. One would have thought that the Fire Insurance Committee would have supported such an institution as the British Fire Prevention Committee, but although the companies' surveyors and others frequently attended the testing, they gave no help. I understand, however, that the companies are meditating the establishment of a station in the neighbourhood of Manchester. The Government Research Department has acquired a site and provided a building with some appliances, but how far this will meet the requirements of the building profession it is impossible to say.

The Engineering Standardizing Committee has done much in some directions. What is wanted, however, is some central and independent institution not relying on casual subscribers, but to which manufacturers and others can submit their productions to test at reasonable charges, the results being published and easily obtainable at moderate cost.

All by-laws and building regulations become antiquated in course of time, and they should, therefore, be revised at intervals. The model by-laws issued from the Ministry of Health should be brought up to date at short intervals not exceeding ten years, and such modifications as may be introduced should be compulsorily adopted wherever the model by-laws are in operation, as some have been in use without change for perhaps fifty years. The same applies with greater force to the London Building Acts and the regulation made thereunder. Drastic changes have been made in the manufacture of cement, and yet the Act still contains the same requirements as was the case sixty years ago or more. Steel has become standardized, and can be thoroughly relied upon; and yet a safety factor of four is still demanded in building work. Surely something less than this would meet any reasonable contingencies. In these times of high costs, demands under Building Acts and by-laws should be relaxed so far as is reasonably safe, and they should be made with the belief that they will be acted upon and not ignored. If the latter is the thought underlying them the dishonest will still depart from them if possible, and the honest will be handicapped.

A short time ago the question of relaxing the by-laws under the London Building Acts relating to the height and capacity of buildings was brought before a general meeting of the R.I.B.A., and there was a large majority against change, but at the recent elections the mover of the rejection of any change has failed to gain re-election, while the supporters of the change have found seats. In these circumstances it would seem that the late council did not represent the general feeling.

There is, however, another aspect of the case. The by-laws limit the height of buildings for the sale, manufacture, and storage of non-inflammable goods to a height of 60 ft. to the level of the topmost floor (recently varied to 80 ft. to the underside of the ceiling of the topmost floor), and at the same time restrict the area of any floor to 20,000 sup. ft., increased, however, to 40,000 sup. ft., with a cube not exceeding 500,000 cu. ft. in any single compartment. At the same time it is insisted that the building shall be fire-resisting and furnished with all kinds of fire-fighting apparatus, which is not the case in ordinary buildings which are allowed to be carried up some 20 or 30 ft. higher. This does not seem a reasonable proposition, and, having regard to the superior character of such building from a fire-resisting point of view, the time has certainly arrived when there should be no differentiation in the different class of buildings; for if it is possible for the London Fire Brigade to deal with fires at the top of buildings of an office or other ordinary class there should not be any greater difficulty in the second class. Having regard to the concessions recently made, we still hope that this distinction as to height may be withdrawn.

Open Spaces in the Rear of Small Houses

BY MANNING ROBERTSON, F.R.A.S., A.R.I.B.A.

The Departmental Committee on Building By-laws, appointed by the President of the Local Government Board in 1914, has, in its 1918 report, given us a thorough summary of the position and of possible remedies; but in attempting to rectify numerous small defects and absurdities, which cause intermittent worry, we may overlook the fundamentals, and fail to concentrate sufficiently on the obvious fact that our by-laws, by omitting to deal with certain essentials, have failed to secure an adequate standard of housing. The competitive speculator is a past-master in the art of discovering loopholes, and we owe it to the community to see that such gaps are filled, especially when they are being utilized on a tremendous scale.

We are not here concerned with over-meticulous requirements as to house construction, but we cannot adequately deal with the effect of by-laws upon public health without reference to the width and construction of roads; and, above all, we must realize the disastrous results of our consistent refusal to recognize the importance of light.

In examining pre-war housing, leaving out of account the question of design (which is not without its bearing on the moral and physical welfare of the people), we find, almost universally, the following characteristic defects :—

1. The frontage is too narrow.
2. Light is obscured from the main back windows by an extension of the building at the rear.

These two faults are well known, but there is nothing to prevent them from being perpetuated in the future. Number two follows as a direct consequence of number one, as can be seen on Fig. A, a drawing that I prepared and which originally appeared in the Ministry of Health's short-lived journal, "Housing"; it illustrates the inevitable degradation of a sound plan when it is subjected to the squeezing process with which we are too familiar. The areas of the rooms are the same for the 15 ft. front as for the 21 ft. front, but when the frontage is reduced the lighting of the living-room is sacrificed, and the outlook becomes dreary and depressing in the extreme. I hesitate to insult my hearers by reminding them that on any ordnance sheet of any town in Great Britain a superabundance of such houses can be found, generally in terraces.

It is impossible to prevent the erection of these narrow-fronted houses by any stipulation as to a minimum frontage. I suggest that the problem can best be tackled in two ways simultaneously: first, by reducing compulsory development charges to a minimum; secondly, by getting power to secure adequate lighting, and in each of these directions Parliament should be asked to extend the requisite powers. The first remedy is persuasive, the second obligatory, but both would tend towards the discontinuance of the evils under consideration.

Let us now examine the position with respect to cramped frontage, in so far as this is unintentionally encouraged by the by-laws.

It may be contended that I exaggerate when I say that we have habitually overcrowded our houses in the past; I may be asked what evidence I can adduce to prove that they are overcrowded. In reply, I point to Fig. A, and ask whether 90 per cent. of small Victorian houses were not of the degraded shape shown on Plan 3. They are that shape because the frontage was cramped, and because it was therefore necessary to squirt the scullery and offices outside the main building into the back extension, and the frontage was cramped because too many houses were placed along a given length of road, and this means overcrowding. We have already noted the main objections to Plan 3, and it cannot be denied that by-laws that permitted the erection of such dwellings in hundreds of thousands have proved themselves inadequate to secure healthy and satisfactory conditions.

The limitation of the number of houses to the acre would get over the difficulty, and is a necessity in any town-planning scheme, but such a restriction could hardly come within the scope of the by-laws, and it is first in the direction of relaxing overstringent demands in road-making that we must look to them for help.

The question of the width and construction of streets and carriageways is exceedingly complex, and has been fully considered in Chapter 4 of the committee's report already referred to. A thorough revision of the existing system is here necessary, and to this end Parliament should be asked to extend adequate powers.

The Public Health Act of 1875, which gives power to secure "a free circulation of air," must be amended to include light, and I suggest that the attention of the Minister of Health be drawn to the urgency of obtaining such amendment. Under the law as it stands it is doubtful whether windows can be legally demanded at all, and whether holes in the wall or dark louvres would not meet all strictly legal requirements; but as we are here considering abuses that are in being, and not those that might legally arise, I shall confine myself to outlining two proposals, each of which presupposes that we are given powers to deal with light, and either of which should help to cure existing evils.

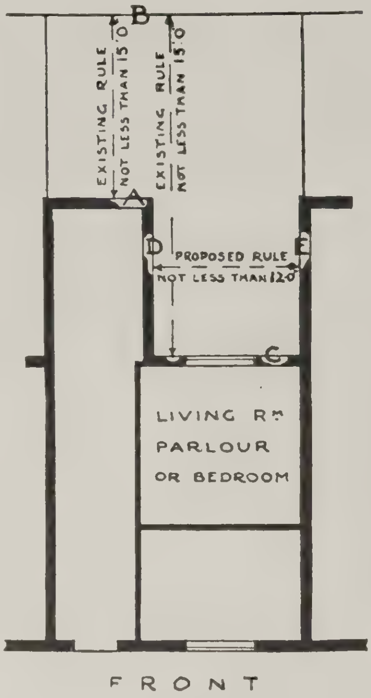

B
EXISTING RULE NOT LESS THAN 15'0"
EXISTING RULE NOT LESS THAN 15'0"
A
D
PROPOSED RULE NOT LESS THAN 12'0"
E
C
LIVING RM
PARLOUR
OR BEDROOM
FRONT

FIG. B.

The first possibility would be to include a proviso in the by-laws to the effect that no extension to the rear of any dwelling-house shall be so constructed as to interfere materially with the light entering any living room or bedroom. I am dubious about this proposal, because the word "materially" would be interpreted in different ways.

My proposal, which I think meets these difficulties, is as follows: Referring to Fig. B. It is now stipulated that the distances A—B and C—B must each be at least 15 ft. (although the distance C—B, for obvious reasons, is usually, and is here shown, a good deal more). I suggest that, in addition to the two requirements as to A—B and C—B, a third should be inserted, to the effect that, when the light to any ground floor, living room, or bedroom depends upon a window in the back wall C, the distance D—E shall not be less than 12 ft. I incorporate in this rule an exemption for walls projecting less than 4 ft., in order to allow every possible freedom in design. In appropriate language, I propose the following: Where any living room or bedroom, situated on the ground floor, depends for its light upon a window in any rear wall, the width of the open space adjoining such window, measured parallel to the window, from any wall rising above the level of the sill, and projecting more than 4 ft. from the plane of the face of the wall containing the window, to any other such wall, and to the boundary of any lands or premises adjoining the site, shall not be less in any part than 12 ft.

This rule precludes the back extension where it does harm, but legitimate use can still be made of this feature, because the ill-lighted back wall can be used for windows of minor importance. It will also be noted that when living rooms or bedrooms are adequately lighted from elsewhere, as in through rooms, there is no restriction as to extending the building to the rear.

Housing from the Technical Point of View

BY W. R. DAVIDGE, F.R.I.B.A. (late Housing Commissioner for the Southern Counties and London Areas.)

The Government Housing Scheme was brought into being by a national emergency, and like many emergency measures, has been much criticized owing to the inherent weakness of its finance, but

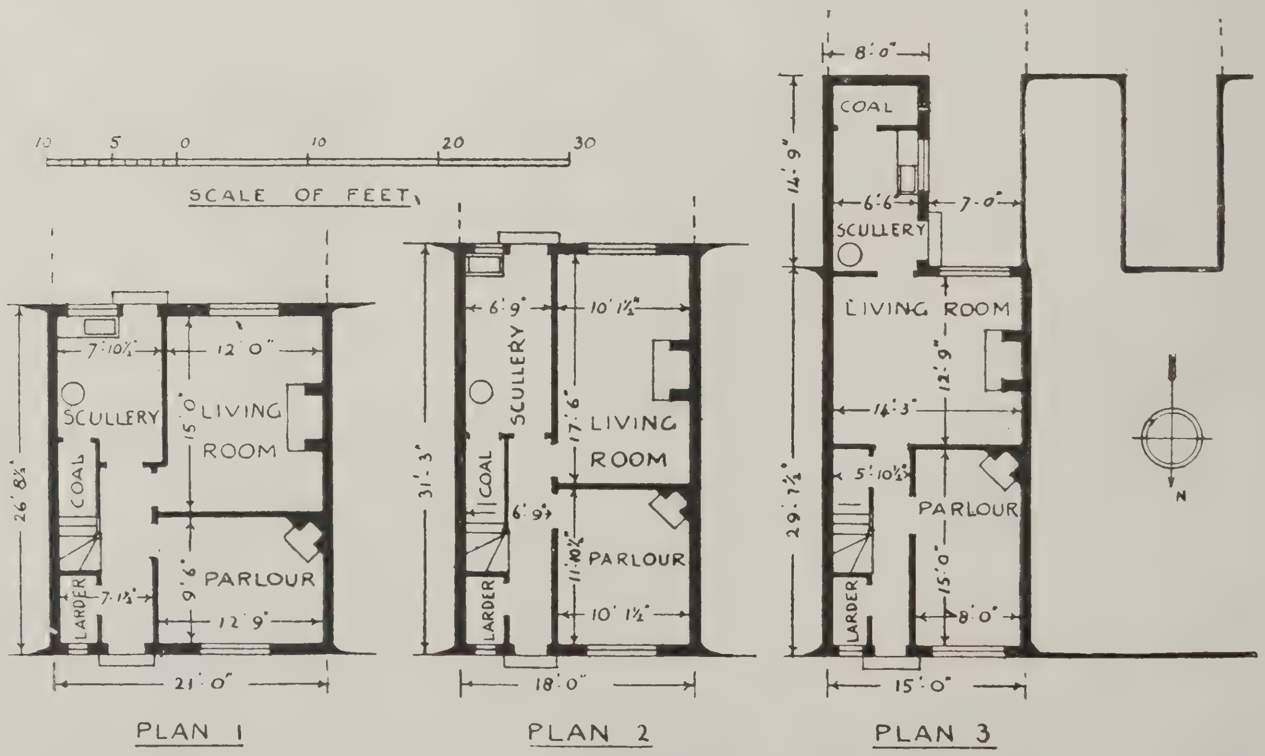


FIG. A.

the object lessons of good housing to be seen all over the country will be of incalculable value in the effort which will still have to be put forward to raise the general standard of housing.

It may be worth while to review the typical pre-war housing scheme of 1913 and see how it compares with its successor of the present day.

The Local Government Board only nine years ago, in their official publication, recommended cottages with narrow frontages of only 16 ft., and even showed back additions. Many cottages had only two bedrooms. Bathrooms were unrecognized, and even baths, when introduced, were almost invariably to be placed in the scullery, either under a side table, or in the floor, upright against the wall, or anywhere else so long as they were out of the way.

Lavatory basins and upstairs W.C.'s were alike unknown. The size of the rooms did not allow even for the proverbially necessary operation of swinging the domestic cat.

Then as to the style of architecture of those now remote days of 1913. Sound construction was important, but the employment of an architect in connection with a housing scheme was, except for the larger schemes, almost unknown.

Heavily paved by-law roads and sometimes narrow little paved forecourts and tar-paved or brick-paved yards completed the "tale of the bricks."

The prolonged and careful inquiry instituted during the war by the Departmental Committee on Building Construction under the chairmanship of Sir John Tudor Walters, reported in 1918 on Housing and House Construction in detail, and the report of the Committee* may be regarded almost as epoch marking, and in itself it was one of the greatest advances in housing ever made in this country. The Ministry of Reconstruction, it will be remembered, had also during the later stages of the war issued a number of suggestive reports, including reports by the Advisory Housing Panel on the Emergency Problem, The Women's Housing Sub-Committee, and the Housing (Financial Assistance) Committee.

The Local Government Board, now the Ministry of Health, in their "Manual on the Preparation of State-aided Schemes," published early in 1919, embodied all the important conclusions of the Tudor Walters Report, and officially set a new standard of housing for the whole country, to be modified, it is true, at a later date in actual practice so far as sizes of rooms are concerned, but otherwise substantially setting forth the standard which has now been put into practice.

The "Lay-out" and aspect of the house now for the first time received official consideration. It was recognized that the principal living-rooms should be arranged to get the maximum of sunlight possible, according to the time of day in which the room was likely to be used; that the larder should face north, or at any rate be protected from the direct rays of the sun; that the drainage of the house should be grouped, either in the front or the back of the house with a view to economy, and that every house should have a bath and, if possible, a bathroom.

"By-law" roads were to be no longer a necessity, and the width was to be in future regulated, not by a hard and fast by-law, but according to the traffic expected, and economy in road planning was strongly recommended.

A minimum of three bedrooms was regarded as essential.

The sizes of rooms officially recommended were as follows :—

	Square feet.
Living room	180
Parlour (when provided) ..	120
Scullery	80
Larder	12–16
Coal store (to hold at least one ton)	15
Bedroom	150
,, ...	100
,, .. (minimum)	65

Bath to be provided in separate chamber.

It will be seen at once how great an advance this standard was on the pre-war average of accommodation.

The Government have not yet announced what they propose to do when they have completed the whole of the 176,000 houses to which at present they have set their hand, but it is evident that some form of municipal housing will have to be continued, and so long as the Rent Restriction Acts are in force some form of assistance or contribution from national funds, either for the purchase of land or by other State grant, is almost essential if the housing is to be provided in the districts where it is most needed.

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* Cd. 9191—(19:8).

Sanitary Annexes to Ward Blocks

BY A. SAXON SNELL, F.R.I.B.A.

Until recent years it was usual to place the sanitary conveniences in towers built out at the lower or open ends of the ward blocks, with disconnecting cross-ventilated lobbies. The disconnection was efficient if the windows of the lobbies were kept more or less open; but the position of the towers overshadowed beds at the end of the wards and shut out valuable light and air.

It is more usual now to have *one* tower only, and placed at the upper or closed end of the ward, and so arranged as to avoid overshadowing the separation wards and day rooms. It is thus under better control and supervision.

Even so it is still an excrescence, and comparatively costly to build; and some architects, therefore, have boldly eliminated it, by building the sanitary offices among the ward annexes (separation wards, scullery, etc.). An intervening lobby lighted and ventilated by a window is regarded as sufficient cut-off from the approach corridor to the wards. It is, however, open to doubt, because with a strong wind blowing against the window, air would probably pass through into the corridor, drawing with it the foul air from the w.c., etc.

It would seem better to provide means of *through* ventilation, either by opposite windows, or by a window at one end of the lobby and a ceiling ventilator at the other opening into the air.

Suggestions on these lines were made in a paper I read before the R.I.B.A. The essential point was that the w.c.'s were placed on one side of the corridor and the sink room exactly opposite on the other side; both compartments and that portion of corridor between them were kept low—not more than 8 ft.—so as to provide a blow-through above them, into which the ceiling ventilators opened.

R.I.B.A. Examinations

Twenty-six candidates passed the recent Intermediate Examination of the Royal Institute of British Architects. The names of the successful candidates placed in order of merit are as follows :

Messrs. L. W. T. White, A. M. McKewan, R. O. Vine, A. V. Montagu, H. J. Coates, C. E. M. Fillmore, S. C. McManus, C. C. Gray, A. W. Hodges, G. Wilde, D. Cuthbertson, E. G. Felgate, W. H. Ford, J. Byers, G. C. P. Gough, C. T. Prangnell, G. J. Bragg, B. Cowser, A. G. Geeson, R. T. Green, G. R. Barnsley, R. J. Carter, A. W. Ecclestone, N. R. England, J. C. Richard, K. S. Tayler.

Eighty-five candidates were relegated.

The following candidates passed the Final and Special Examinations : Messrs. W. Baillie, W. A. C. Ball, B. Butler, F. N. Gilder, E. L. Gunston, M. R. Hofler, E. K. D. Hughes, A. G. Jenson, G. W. M. Leverkus, W. B. T. Newham, D. S. Petrovitch, A. S. Reid, F. A. Richards, W. Ryle, F. J. Sawyer, H. D. Sugden, A. E. Williams. Messrs. W. J. Allcorn and E. G. Hines passed the examination in Part I only (Design).

The Ashpitel Prize (£10 in books), and a mark of distinction for his thesis, have been awarded to Mr. A. S. Reid, of Aberdeen. Fourteen candidates failed.

The following candidates passed the Special War Examination : Messrs. C. W. Allen, L. M. Austin, G. H. Backway, W. F. Ball, H. C. Bankart, C. D. Barnard, L. J. Bathurst, S. L. G. Beaufoy, C. N. Beeston, W. Beeston, J. W. Binge, E. L. Bird, T. Blakeley, A. V. Booker, H. E. Box, J. Bramwell, R. Briars, J. S. Broadbent, C. S. Brothers, W. Brown, C. J. A. K. Buysman, W. H. Caley, G. B. Carter, W. Cartwright, A. M. Chisholm, J. Clack, E. H. Cornes, G. H. Crickmay, J. H. Crowther (Junr.), R. S. de Burgh, A. R. Dent, C. G. Dixon, F. G. Eastwood, F. W. Eggins, J. Ellis, A. C. Fare, A. V. Farrier, A. C. Flitcroft, A. T. Flutter, L. R. Foreman, C. W. Francis, B. Fraser, E. Fryer, G. C. Gadd, C. E. George, J. S. Glass, L. R. Gower, J. Gray, H. J. Hall, L. W. Hall, M. A. Hall, J. F. Hampton, P. Hickey, W. F. C. Holden, J. Hopwood, L. C. Howitt, G. E. Hubbard, S. D. Igglesden, H. E. Jarvis, L. John, W. A. Johnson, T. E. Jones, L. H. Kemp, C. Kendall, C. W. Kennedy, H. C. Killender, G. E. King, K. Kinna, S. C. Kirby, A. S. Knott, F. H. Lambert, G. V. Lidbury, R. A. H. Livett, H. G. Lonsdale, D. A. Lumsden, J. R. A. McDonald, R. S. S. Mackay, R. M. McNaught, A. McWilliam, B. G. L. Mansergh, J. G. Marr, C. W. Milburn, J. S. Milner, W. S. Minty, S. G. Monk, H. L. Moody, F. A. Moore, A. T. Newsum, C. Noble, E. J. Nutt, E. D. O'Connor, E. C. R. Page, K. Palmer, J. R. Piggott, C. W. Pike, H. W. Pritchard, G. G. Quarmby, D. C. Rae, A. Rankine, J. F. Rees, H. G. Riley, W. J. Rogers, D. J. A. Ross, H. A. Scott, J. C. Shepherd, G. W. Silk, E. H. Skipper, L. E. Skipwith, L. S. Slaughter, W. L. Starling, C. G. Stillman, H. J. Stribling, S. H. Suthers, C. P. Tanner, W. L. Taylor, W. R. Templar, B. H. Toms, F. E. Towndrow, R. J. Troup, W. L. Vinycomb, H. Wessen, G. Whittaker, H. C. Wilkinson, W. P. W. Williams, S. J. Willmott, J. W. G. Wilson, M. L. Winslade, C. W. Yates, J. R. Young, T. Yoxall. Eighty-five candidates failed to satisfy the examiners.

The Tenth International Congress of Architects

The Tenth International Congress of Architects will be held under the auspices of the Société Centrale d'Architecture de Belgique in Brussels from September 4 to 11, 1922, and will be accompanied by an International and a National Retrospective Architectural Exhibition.

It will be remembered that the outbreak of the war interrupted the preparations for the Tenth Congress of the regular series, which was to have been held in Petrograd in May 1915, under the patronage of the late Tsar.

The Société Centrale de Belgique will be celebrating the fiftieth anniversary of its foundation at the time of the Congress, and the architects of Belgium extend a cordial invitation to their foreign colleagues to join them in the celebration.

The Congress will include delegates from many foreign countries. The Belgian Committee is under the chairmanship of M. J. J. Caluwaers, with M. R. Moenaert as secretary.

Programme.

September 4.—Morning: Meeting of the Permanent Committee of the International Congress of Architects. 2 p.m.: Formal opening in the Palais des Académies. Evening reception.

September 5.—10 a.m.: Opening of the Architectural Exhibition in the Palais d'Egmont. 2 to 6 p.m.: Conferences. Evening receptions.

September 6.—9 a.m. to Noon: Visits to buildings of interest in Brussels. 2 to 6 p.m.: Conferences. Evening receptions.

September 7.—Visits to the devastated zone, stopping at Ypres and spending the night at Bruges.

September 8.—Visits about Bruges, returning to Brussels in the evening.

September 9.—Excursion to Antwerp; visits about the city and up the Scheldt. 2 to 5 p.m.: Conferences; returning to Brussels in the evening.

September 10.—9 a.m. to Noon: Visits to the Exposition. 2 to 6 p.m.: Conferences. Evening receptions.

September 11.—10 a.m.: Closing exercises.

Subjects for Discussion.

1. The responsibilities of the architect.
2. Schedule of charges.
3. The appointing of State and Municipal architects.
4. The rights of authorship of the architect.
5. The profession of architecture: its aims and its rights.
6. Women architects.
7. Public, national, and international competitions. The position of the winning architect in an international competition or of one working in a foreign country.
8. Town planning.
9. Small houses.
10. The influence of locality on architecture.
11. The preservation of historic monuments: with consideration of their economic, hygienic, and social aspects.

Exhibitions.

An Architectural Exhibition will open on September 5 in the Palais d'Egmont, lasting two weeks.

It will be divided into two general classes:—(*a*) Belgian: (1) Retrospective; (2) Contemporaneous (Jury: Messrs. Maukels, Mercenier, and Van Montfort). (*b*) Foreign: There will be as many sections as there are countries represented.

Fees.

The fees for members will be fifty francs; for ladies accompanying members (wives and daughters only) thirty francs, which will give them the privilege of visits, excursions, and receptions.

Language.

Official delegates may address the meetings in their own language. The official language of the Congress will be French, though any other language may be used provided a "résumé" in French is submitted at the same time.

British Architects Invited.

All British architects are cordially invited to take part in the Congress. All those desiring to attend or to receive further information should communicate with the Secretary, The R.I.B.A., 9 Conduit Street, W.1.

Correspondence

Architectural Perspectives

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In going round the Architectural Room at the Royal Academy this year, it is not unnatural that one should find oneself recalling Professor Rothenstein's recent remarks on the subject of architects' drawings, and trying to look at the exhibits through the eyes of an ordinary lay visitor with some intelligent interest in art. And one wonders whether all this slickness and brilliance of "rendering" is not dazing us into overlooking the standards of criticism which we should apply to any other form of drawing or painting.

Most of the perspectives are in watercolour; but it would surely be difficult to find any watercolourist of recognized ability and taste who would tolerate the anarchic recklessness in the choice and use of colour which staggers the visitor to our room at the Academy. Here, lawns or shutters of blistering green fester into gamboge and orange, and the smarting eye turns in vain to find repose in shadows, which merely add an intenser note of solid ultramarine or violet. The surroundings of the English suburban house, no less than those of the Eastern palace, send forth "visible music-blasts" of devastating stridency.

"But, my good man, these *aren't* watercolours; they're architectural perspectives," may be a sufficient answer; and if so it is a most interesting one. But it does seem rather as though, just as we unthinkingly adopt from our quantity-surveyors and builders such perversions as "cill," "molding," and "lintol;" we are inventing for specialized use a new horror in the form of an architectural picture to which the ordinary rules of picture-making do not apply.

How effective the quieter and more "normal" methods of drawing may be in architectural perspective can be seen this year in Mr. Hepworth's cool drawings, and in Mr. Farey's splendid sepia "Theatre Design"; and a drawing by Mr. H. R. Poulter of "Old Walls, Camberley"—clean pencil line with a very reticent use of flat wash—suggests that the methods we use in our ordinary architectural sketching would be much more suitable for the illustration of our buildings, at the Academy or elsewhere, than all the kaleidoscopic stunt-work which is so eagerly imitated at the present moment

A. L. N. RUSSELL.

The Young Architect's Future

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I disagree with P.L.D. when he says that the "real" architect has no concern with buildings of the factory type and has depended largely on the more artistic side of the profession for the realization of his ideals. I think P.L.D. is advocating an extremely dangerous doctrine, and one calculated to confirm the idea in the public mind that the service which architects can render to the public is limited in its scope. It is because this view has been expressed in the past by some members of the profession that the public have taken the whole on this valuation, with the result that a great deal of work which in my opinion should come within the scope of the architect goes elsewhere.

I maintain that a "real" architect is as capable of designing a factory as he is of erecting a church, and your pages contain from time to time illustrations showing that factory buildings in the hands of a competent architect can be produced in accordance with the accepted canons of architectural design in regard to outline and proportion.

I agree with P.L.D. in the last paragraph of his article, the more so because it happens to coincide with the advice which I am constantly giving to those who invite my opinion on this aspect of the subject.

C. MCARTHUR BUTLER,
Secretary of the Society of Architects.

The R.I.B.A. Registration Committee

The first meeting of the Registration Committee was held on July 24 at No. 9 Conduit Street. The following appointments were made: Mr. A. W. S. Cross, Vice-President, Chairman; Mr. George Hubbard, Vice-President, and Mr. C. B. Flockton, Vice-Chairmen; Mr. Sydney Perks, Hon. Secretary.

A sub-committee consisting of Mr. A. W. S. Cross, Mr. George Hubbard, Mr. C. B. Flockton, Mr. Sydney Perks, Mr. W. Gillbee Scott, Mr. Herbert Shepherd, and Major Harry Barnes, M.P., was formed for the purpose of considering the various Registration Bills that have been promoted, interviewing representatives of other bodies, and submitting suggestions to the main committee.

Architects' Fees for Abandoned State-Aided Housing Schemes

THE following memorandum (General Housing Memorandum No. 61) on the subject of fees payable to architects in connection with State-aided housing schemes is just issued by the Ministry of Health :—

The Minister of Health has given careful consideration to representations which have been made to him relative to the terms and conditions of payment for abandoned work as provided for in G.H.M. No. 52. While he considers the payments there authorized to be generally reasonable, he has recognized that, as between different schemes partially abandoned, the fees provided for could be more equitably apportioned in relation to the proportion of the work which is carried out; that, moreover, there are certain cases where schemes have been completely abandoned, in which the scale of payment for plans does not sufficiently allow for all the general work which may have been involved. In consultation with representatives of the Royal Institute of British Architects, the Minister has decided, therefore, that the following modifications shall be made in the terms as set out in G.H.M. No. 52.

A.—G.H.M. No. 52 refers to "plans which are abandoned after approval by the Minister." This applies also to the present Memorandum; it is recognized, however, that plans may have been prepared by an Architect to the instructions of a Local Authority, which have not been approved by the Minister, or even submitted for approval; and that the Architect may be entitled to payment for them. Provided the instructions to prepare plans were properly given for an extent of work and number of houses not exceeding those with which the Local Authority had been authorized to proceed, and that the work was abandoned with his approval, the Minister is willing to consider whether these plans are of a character which would have been approved had they been submitted, and what payment can be allowed to be charged to the Housing Assisted Scheme Account in respect of fees for such plans.

G.H.M. No. 52. II.—Roads and Sewers.

B.—For sub-clauses (i) and (ii) of Clause 1 the following will be substituted :—

(i) If the preliminary scheme of roads, drains, and sewers based on contour levels has been prepared, the proportion of the scale of fees, set out under the heading "B"—"Roads and Sewers," in G.H.M. No. 31, to be paid shall be .. $\frac{1}{6}$

(ii) If, in addition, the roads have been pegged out and the levels taken for sections the additional proportion to be paid shall be .. .. .. $\frac{1}{6}$

(iii) If, in addition, the sections have been set up in accordance with the levels taken and embodied in the working drawings of Roads and Sewers the additional proportion to be paid shall be .. .. .. $\frac{1}{6}$

(iv) If, in addition, Specifications and Bills of Quantities have been prepared, and all the work necessary for the purpose of obtaining tenders has been done, the additional proportion to be paid shall be .. $\frac{1}{6}$

Total proportion .. $\frac{2}{3}$

For Clause 2 the following will be substituted :—

In all cases of partially abandoned schemes the fees payable for the abandoned work shall be three-quarters of the fees indicated in (i), (ii), (iii), and (iv) of the preceding paragraph according to the circumstances of the particular case.

G.H.M. No. 52. III.—House Plans.

C.—Sub-section (*c*) shall be amended as follows :—

In so far as plans were prepared prior to July 1921, the fees shall be calculated on an assumed average cost of £700 for all types of houses. In the case of plans prepared in or after July 1921, the fees shall be calculated upon the average price at which tenders were approved by the Minister for the types concerned during the month previous to that in which the scheme was abandoned, but in no case to exceed £700.

D.—For paragraph 3 there shall be substituted the following :—

3. (*a*) In the case of partially abandoned schemes the fees shall be a fraction of those payable in the case of schemes totally abandoned, according to the proportion of the work abandoned. The fees set out in paragraph 1, sub-paragraphs (i) or (ii) of Section III of G.H.M. No. 52, shall be multiplied by a fraction calculated as follows :—

(i) For the purpose of the calculation, the work in any scheme of an Architect or Panel of Architects shall not be deemed to include more than 250 houses; any cases involving more than that number shall be treated as if they had comprised 250 only.

(ii) The denominator of the fraction shall be the total number of houses for which plans were prepared by the Architect or Panel of Architects on the definite instructions of the Local Authority, provided that plans for that number were approved by the Minister and they are shown on an approved large scale lay-out plan, but limited by the maximum of 250 as above.

(iii) The numerator shall be the number by which the number of houses in the denominator as defined in (ii) exceeds the number of houses erected.

(*b*) In any partially abandoned scheme in connection with which an Architect has prepared plans for a greater number of houses than 250, there shall be paid, in addition to the fees arrived at in accordance with (*a*) above, for any separate designs prepared for the abandoned portion, and not utilized for the portion erected, one half of the scale fees allowed for such designs under sub-paragraphs (i) and (ii), paragraph 1 of Part III of G.H.M. No. 52.

E.—The following additional clauses shall be added to G.H.M. No. 52, Part III :—

4. In all cases in which the Royal Institute of British Architects satisfies the Minister that an Architect has been commissioned to carry out a housing scheme and has prepared plans approved by the Minister, but that no houses have been erected from his plans on the housing scheme of any Local Authority for which he has prepared plans, the following scale of payment for house plans will apply instead of that provided in G.H.M. No. 52, and the Local Authorities concerned will be notified by the Minister as to the amounts payable.

(*a*) For preliminary negotiations with the Local Authority and the Ministry, and for preparing sketch plans and all other general work incidental to the abandoned scheme, payment will be made to each Architect on the following scale, based on the number of houses for which plans were prepared by him as defined and limited in paragraph D. 3 (*a*) above.

For the first 12 houses the fee shall be £10 per house; next 60, £3 per house; next 178, £1 per house. Maximum number, 250.

(*b*) If all the work necessary for obtaining tenders for houses has been completed, an additional fee of £26 will be paid for each separate design approved by the Minister for which working drawings have been made.

F.—In all cases before payment of fees, the Local Authority should be satisfied that the Architect has properly carried out the instructions of the Council and the requirements of the Ministry, and that all the work covered by the respective stages has been done.

G.—The foregoing terms and conditions will not apply in any cases where an agreement providing specifically for abandoned work has been made or where a final settlement has already been arrived at between the Local Authority and the Architect prior to the date of this Memorandum. If the Local Authority have made any such agreement or final settlement without the approval of the Minister, the terms of the agreement should be notified to the Minister.

G.H.M. No. 52. General.

H.—The last paragraph of G.H.M. No. 52 shall not apply to abandoned work on house plans. Both for the purpose of calculating the fee and ascertaining the proportion abandoned, the work of the individual Architect or Panel of Architects for each Local Authority shall be taken to be a scheme.

Supplementary.

I.—Travelling expenses : In Memorandum to Housing Authorities 51/D, reasonable travelling expenses are allowed to an Architect in respect of journeys over 25 miles from his office. In cases where, although the journeys may be less than 25 miles from his office, an Architect is involved in unusual expense owing to the Site or Sites being situated more than three miles from a railway station, and not served by any other regular public means of conveyance, the Minister will be prepared to allow as a charge to the Housing (Assisted Scheme) Account the reasonable out-of-pocket costs necessarily incurred in travelling from the nearest railway station to the Site.

K.—In cases where no Bills of Quantities have been provided and the Architect has been required to supply the necessary extra copies of drawings and specifications from which to obtain tenders, allowance shall be made for the reasonable out-of-pocket charges incurred for the purpose.

L.—Owing to the doubts which have existed as to the application of the provisions of G.H.M. Nos. 4 and 31 in regard to abandoned work, payments to Architects have, in some cases, been delayed. In view of the further information contained in this Memorandum, Local Authorities should make prompt settlement, or substantial payments on account, in respect of the amounts payable to their Architect for professional services rendered.

A copy of this Memorandum should be handed to the Local Authority's Financial Officer.

Ministry of Health,
Whitehall, S.W.1.
July 1922.

The Memorandum is published by His Majesty's Stationery Office, and may be purchased, price 1d., through any bookseller or directly from H.M. Stationery Office at the following addresses : Imperial House, Kingsway, London, W.C.2 ; 28 Abingdon Street, London, S.W.1 ; 37 Peter Street, Manchester ; 1 St. Andrew's Crescent, Cardiff ; 23 Forth Street, Edinburgh.

Contemporary Art Exhibitions

The Twenty-one Gallery and the Independent Gallery

THE vagaries of Fate ! The ironies of Hazard ! How they dog our steps and play upon our fortitude and patience !

An English painter, young, active, and, above all, extremely able, had the whim, a few years ago, to enter the competition for the Prix de Rome in painting. Pleasant to relate, he won it ; he therefore went to Italy, where he strengthened an already brilliant talent.

His achievements and the promise which he gave had been bruited abroad, and so it came to pass that one of our Dominions, sensing a fine painter, gave him an order for a war painting to celebrate the valorous deeds of its soldiers. He made a fine canvas of it. It was bold, apt, and "modern," but some pernickety folk said that it was a little hard and intransigeant. But he got paid for it all the same, and the picture—a large one—duly crossed the water, and now adorns the walls of an important museum.

It is only right to say that even on this side critics could be found who admitted that this painting gave obvious proofs of the artist's ability to handle big subjects in a decorative way, and that, beside a sense of colour and rhythm, he also possessed architectural qualities. His decorative panels, in other words, would fit a large modern building with an ease similar to that of Luca Signorelli's frescoes in the Chapel of the Madonna at Orvieto, or of Puvis de Chavannes at the Pantheon in Paris. Yet, known as he must be by now, his talents are never used in that connection, though anyone can see it is the kind of work he would most wish to do.

All the while Time rolls on and the £ is worth eleven and nine . . . So Mr. Colin Gill, former Prix de Rome, and a credit to the Slade and to Prof. Tonk's teaching, in order to make an honest shilling, and fill his idle hours has turned his talent to portraying and caricaturing the notabilities of the Labour Party ! If you go to the Twenty-one Gallery, in the Adelphi, you will see a small but choice selection from his later portraits and sketches.

The portraits are indeed splendid. Mr. Gill is perhaps a little less happy in caricature, but then it is one of the hardest imaginable subjects to treat. A good caricaturist, one gathers, is one who draws, as a rule, from memory, and does not allow himself to be hampered by irrelevant exactitudes. Salient peculiarities remain in his mind's eye, and these he puts down, exaggerated or not, even at the expense of anatomical truths which do not interest him. Apart from physical individuality he tries to make his drawings indicate character, and the better the caricaturist, the less dependent is he for this end upon accessory properties.

We are fortunate enough to possess in England a few remarkably good caricaturists. Mr. Max Beerbohm, Mr. Kapp, Mr. Evans, for instance, all with their delightful peculiarities, though the first gentleman is still so supreme in that respect that his influence is felt in unlikely quarters ; even Mr. Gill is not quite able to banish from his mind the mannerisms of our incomparable "Max."

Of the eleven caricatures shown at the Twenty-one Gallery, those of Mr. J. H. Thomas (21), Mr. Clifford Allen (28), and of "Mr. Webb and Mr. G. B. Shaw" (24) are the most effective. They have pep, and they are beautifully drawn.

If the others are possibly not quite so happy it is at any rate arguable that the blame can be laid at the door of the subjects as much as the artists. The L.P. leaders are not all so distinguished-looking as their Graces and Lordships, nor so distinguishable as their rank and file as seen by, say, Mr. George Belcher ! Hence an initial obstacle difficult to overcome. Nevertheless much fun can be got out of the show. Plebeian noses, mighty chins, absurd angel wings, and volcanic pipes at their most tremendous . . . yes, it is all very amusing.

The portraits give a better idea of Mr. Gill as a draughtsman. They are characterized by exactitude, a certain reticent power, and an impeccable line. But, oh ! how Mr. Gill must all the time yearn for large, decorative canvases, with trestles, brushes, and big surfaces upon which he can let rip, to the astonishment — and satisfaction — of the architect, down below ! . . .

Equally modern, but less bound by formal tenets, is Mr. Jean Marchand, whose paintings and drawings are now on view at the Independent Gallery, Grafton Street. This French artist has an especial love of landscape. The contrast between his work and Mr. Gill's could not be greater. Mr. Gill, in his decorative panels, rather like Mr. Brockhurst, is still attached to the Florentine and Siennese way of painting. Mr. Marchand, on the contrary, follows no one, but is influenced by Cézanne and Vlaminck.

There is something impatient and unfinished about his paintings which does not in the least detract from the attraction. It is all a little loose, but it has power. He does what abstract art splendidly aims at but rarely achieves, what all true artists have achieved but rarely aimed at, he does it because he emotionally feels the intellectual in art.

It is to his credit that he avoids all easy ways of being charming ; he almost cultivates the new austerity. His admirers, by now, have become accustomed to his method of approach. Would that he had more, and that more got accustomed to —though were still thrilled by—this method which, in his landscapes, seems to treat a wide diversity of motifs with a startling directness, as of diagram.

No. 16, "Dans les Oliviers," shows a curvilinear system imposed on a rectangular one, but the representational incidences and the atmospheric effect which he brings to play about them invest these systems of composition with great artistic activity. The forty exhibits shown are all extraordinarily able, and the many visitors, chiefly artists and eager students, who seem to have made a point of seeing his paintings, are an eloquent proof of the regard in which he is held in England as well as in his native country.

G. HOLT.

St. Paul's Ball and Cross:

Photography under Difficulties

The ball and cross crowning the lantern of St. Paul's Cathedral are now being repaired and regilded, and the scaffolding which has been erected for this purpose has provided a unique opportunity for taking a "close-up" photograph (courteously sanctioned by Mr. Mervyn E. Macartney, B.A., F.R.I.B.A., Surveyor to the Fabric).

This photograph, the one reproduced on the right-hand side below, was taken under extraordinary difficulties. Our operator, after climbing through the staging surrounding the lantern, had to ascend the ladder against the small cupola shown in the left-hand view below (which, it should be explained, was taken with a telescopic lens from a distance), in order to reach the topmost platform, which is somewhere about 360 ft. above ground level.

Lying on his back upon this platform, which is only about 3 ft. wide, his feet held by two workmen, his head hanging in space, our operator made his exposure. He used a field camera with a wide angle lens, giving a shutter exposure of about one-twentieth part of a second. The camera was manipulated by hand, as it was of course impossible to erect or use a stand at this height and on such staging. A dizzy business, this! but we are glad to say that our operator safely survived it.

The extraordinary daring of the workmen (none of whom is a steeplejack) is shown in the left-hand view, one man actually standing upon an arm of the cross which is only about 16 in. wide!

It is interesting to recall that the original ball and cross, made by Andrew Niblett in 1713, weighed over 94 cwt. They were both renewed in 1821 by C. R. Cockerell, then Surveyor to the Cathedral. The present cross weighs about 3,360 lb.

Law Report

Contractors' Compensation Claim.

In the Civil Court at the Glamorgan Assizes at Swansea an action was brought by Messrs. Topham, Jones, and Railton, the well-known contractors, against Messrs. Stewarts and Lloyds, Ltd., engineers, to recover £300 paid as compensation in respect of a fatal accident to a carpenter's labourer named Graham, who was killed through the alleged negligence of defendants' workmen on October 24, 1919, during the erection of Messrs. Baldwin's new steelworks at Margam.

Mr. Villiers Meager appeared for the plaintiffs, and Mr. A. T. James for the defendants.

Mr. Meager stated that Messrs. Baldwins contracted with plaintiffs for the laying of the foundation works of the new steelworks, Messrs. Topham, Jones and Railton supplying the labour, and with the defendants for certain engineering steam piping, Messrs. Baldwins in this case supplying unskilled labour. Graham, who was employed by plaintiffs, met his death as the result of an iron pipe rolling down over him, and the negligence alleged against defendants was that the pipe was not properly secured. There was no dispute as to the payment of the £300 compensation money to the representatives of the deceased, and plaintiff's contention was that they were legally entitled to be indemnified by Messrs. Stewarts and Lloyds, who were in control of the unskilled labour supplied by Messrs. Baldwin.

Mr. Justice Coleridge, in summing up, told the jury they would have to ask themselves whether the pipes in the position they were in on the boiler casing would not have suggested to any careful workman that they were in a dangerous position and liable to shift.

The jury found for the plaintiffs for the amount claimed, and judgment was entered accordingly.

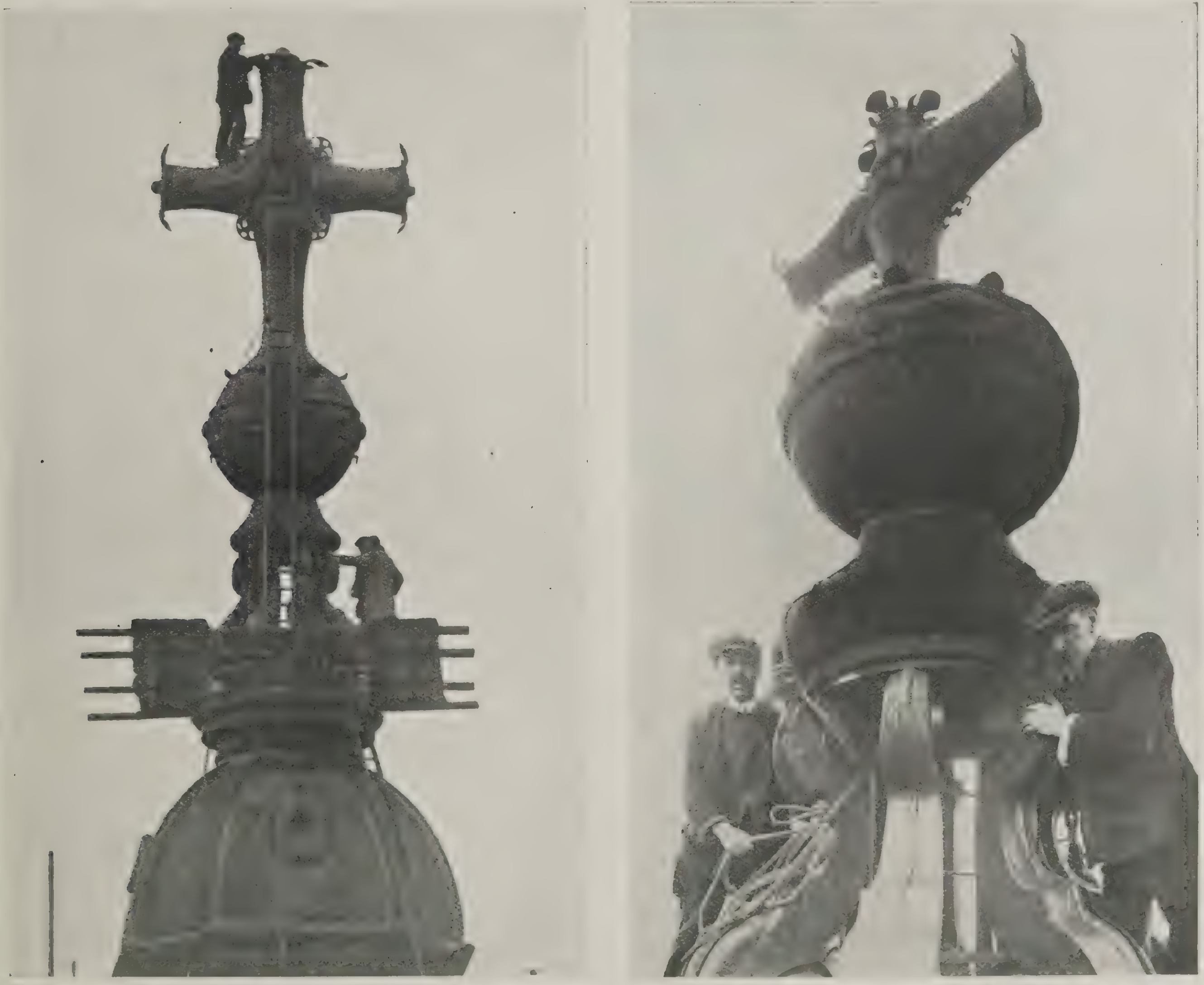

Photo: Central News. *Photo: [illegible], Ltd. (L. J. [illegible], Operator.*

THE BALL AND CROSS OF ST. PAUL'S.

The A.A. Prize-giving

The annual prize-giving and exhibition of students' work at the Architectural Association took place last Thursday; Mr. Hamp, the new president, taking the chair.

They were met, said Mr. Hamp, to do honour to the students who had completed a strenuous year's work. He was glad to announce a new Bernard Webb Scholarship, to the value of £300, to be presented every two years. It would enable the winner to spend twelve months in Rome or elsewhere at the discretion of the committee.

He hoped that there would be keen competition among the students for the various scholarships and prizes, and that they would remain the full four or five years necessary for complete training.

Sir Reginald Blomfield, addressing the students, described the development of the school system twenty-five years ago, when he and some others in consultation realized that the old pupilage system had ceased to fulfil its purpose. It was said that academic training tended to stereotyped design, but they must realize that it was only a means to an end. He emphasized the fact that too elaborate drawings were simply waste of time. Students must seek mastery of their art, and not merely endeavour to catch the eye with beautiful drawings.

The study of old buildings was of the first importance. Sketching and critical analysis of buildings enabled them to visualize their own designs, and a knowledge of antiquity would preserve them from solecisms.

Architecture was now so complicated a business that it was impossible to master all the necessary knowledge. They should co-operate with the various specialists, devoting themselves mainly to the art of architecture.

Lady Fletcher, proposing a vote of thanks in the unavoidable absence of Mrs. Wintringham, M.P., said that she was sure the students would take Sir Reginald's address as a text. He was both an artist and a logician, and had penetrated the inner meaning of French architecture, its imaginative faculty and its logical spirit. She thanked him for both his spoken and his written word.

Major Barnes, M.P., seconding the vote, said that Mrs. Wintringham had expressly charged him to express her very great regret for her unavoidable absence. She was engaged at the House on a committee where her services were indispensable.

He wished to apologize for his own presence, and could only think that he had been introduced to point the moral in the manner of Hogarth's industrious and idle apprentices. The industrious apprentice in the person of Sir Reginald Blomfield had become a member of the Royal Academy, his idle brother in the person of himself had merely become a member of Parliament. (Laughter).

The A.A. was the leading school in England, and therefore in the world, and he had the greatest respect and regard for it. The pace was getting fierce now that women were admitted as students, and only the fittest would survive. The list of prizewinners, in fact, seemed to indicate that men lacked staying power, since the highest honours had fallen to the ladies. The competitive spirit in architecture was for the benefit of the school and of the profession.

Mrs. Stanley Hamp then handed the various prizes to their recipients, and the afternoon concluded with tea in the members' dining-room. The awards were as follows :

Public School Entrance Scholarship, value £63	J. V. Hamilton (Charterhouse)
Open Entrance Scholarship, value £63	Not awarded
A.A. Essay Prize, open to all students, value £10 10s. ..	Not awarded

First Year Course.

First Prize, "Howard Colls" Travelling Studentship, value £15 15s.	R. C. Erith
Second Prize, Books, value £5 5s.	D. A. John
Art Subjects, value £3 3s. ..	M. Tha Tun
General Progress Books, value £2 2s.	D. H. Beaty-Pownall
Scolarships tenable for one year in Second Year Course, value £63	E. T. Nash W. E. Palmer

Second Year Course.

First Prize, A.A. Travelling Studentship, value £26 5s. ..	W. Lewis
Second Prize, Books, value £10 10s.	F. E. Bennett
Art Subjects, Books, value £5 5s.	F. E. Bennett
General Progress Books, value £3 3s.	F. E. Green.
Scholarship tenable for one year in Third Year Course, value £63	J. W. Wood

Third Year Course.

Holloway Scholarship, value £150	Hon. H. A. Pakington
First Prize, "Henry Florence" Travelling Studentship, value £50	R. E. Enthoven
Second Prize, Books, value £21	H. Braddock
Third Prize, Books, value £15 15s.	Miss J. E. Townsend
General Progress Books, value £5 5s.	G. Whittaker
"Alec Stanhope Forbes" Prize for best colour work during year, Books, value £5 ..	R. E. Enthoven

Graduate Courses, Fourth and Fifth Year.

R.I.B.A. "Henry Jarvis" Scholarship, value £50	J. C. Shepherd
Scholarship from Fourth Year for One Year in Fifth Year Course, value 30 Gns. ..	J. C. Shepherd
Design.—First Prize, value £6 6s.	Miss I. M. Chambers
Second Price, value £4 4s.	Miss E. G. Cooke
Decoration.—First Prize, value £6 6s.	Miss E. G. Cooke
Second Prize, value £4 4s.	Miss I. M. Chambers
Town Planning.—First Prize value £6 6s. ..	Miss E. G. Cooke
Second Prize, value £4 4s.	E. Sheppard
Construction.—First Prize, value £6 6s.	Miss E. G. Cooke
Second Prize, value £4 4s.	J. C. Shepherd
Architectural Association Diploma.—On satisfactory completion of Five Year Course ..	Miss E. G. Cooke W. A. Devereux
Medal presented annually by the Société des Architectes Diplômés par le Gouvernement to the best Diploma Student of the year	Miss E. G. Cooke

It was also announced that the first prize in the Archibald Dawnay Scholarship, £50, had been gained by E. M. Channon, and the second, £25, by C. S. White.

Reconstruction & Finance in Belgium

By May 31, 1922, out of 78,000 buildings which were destroyed, 52,000 had been rebuilt. In addition 1,150 workmen's houses have been built where there appeared to be need for them, apart from the ordinary reconstruction claims. In all, 836 public buildings have been restored. Of roads, 2,165 kilometres have been relaid, and 54,000,000 francs have been spent on the restoration of bridges, culverts, etc. By the end of 1922 Belgium will have spent approximately sixteen milliards of francs on the restoration of the country.

R.I.B.A.

Following are notes from the minutes of the Council Meeting held on July 17 :

R.I.B.A. Boards and Committees.

The Council adopted the report of the Selection and General Purposes Committee, and appointed the various Boards and Committees of the R.I.B.A. for the year 1922–1923.

International Housing Congress at Rome : September 1922.

Mr. G. Topham Forrest was appointed delegate of the R.I.B.A.

International Congress of Architects at Brussels : September 1922.

Mr. Paul Waterhouse, P.R.I.B.A., and Mr. Edward P. Warren, F.R.I.B.A., were appointed delegates of the R.I.B.A.

Mr. Maxwell Ayrton on Mural Decoration

In an interview published in "The Morning Post" Mr. Maxwell Ayrton discussed the British Pavilion at Rio, a model of which was recently exhibited in London.

"The general public took a great interest in the Pavilion and its decoration," he said, "and in most cases hope was expressed that the demand for mural painting would grow. In recent years the art schools, particularly those associated with Professor R. Anning Bell, Professor Gerald Moira, Mr. Walter Bayes, and Mr. Charles Sims, have directed the attention of students far more than they did formerly to decorative design and painting. There is, I think," continued Mr. Ayrton, "a big field open for painters if their work could be organized and brought into line with other forms of decoration, such as glass, wood, and marble work. The field should not be restricted, as it is at present, to the occasional painting of a few panels here and there in public buildings. All sorts and conditions of buildings should be included, nor should the less ambitious class of decoration be excluded. Plain surfaces relieved by stencil work, painted enrichments on door mouldings, cornices, and so on, should be considered. These simpler exercises should be included in the work undertaken by the artist.

"But before a comprehensive scheme of this kind can be effected artists must organize," said Mr. Ayrton. "They must, in short, be prepared to work on a business footing; be able to give carefully thought out estimates as to the cost of decorating a church or a chapel, a public-house, or even a pigstye. Architects have to supply such estimates. Stained-glass designers, also, have to act in similar fashion. They without the least hesitation will quote a price per superficial foot for plain lead-light glazing with small decorative panels, for coats of arms in one part of a window, and an elaborate figure scheme for the remainder.

"What I feel is that if it were known that painters were ready and able to adapt themselves to the side of art in its humbler phases, the simpler and less expensive decorative work, they would soon have more important and remunerative commissions. In conclusion," Mr. Ayrton added, "all mural decoration should, wherever possible, be actually painted in the position it is to occupy permanently."

Builders' Benevolent Institution

The seventy-fifth annual general meeting of the Builders' Benevolent Institution was held on July 25 at 48 Bedford Square, when the annual report and the accounts for the year were received and adopted. Major R. J. Holliday, M.C., F.I.O.B. (Messrs. Holliday and Greenwood, Ltd.) was elected president for the ensuing year.

Mr. Frank May, J.P. (Messrs. Holland and Hannen and Cubitts, Ltd.) was re-elected treasurer. The following were re-elected members of the Committee of Management: Mr. A. H. Adamson (Messrs. T. H. Adamson and Sons), Mr. J. T. Bolding (Messrs. John Bolding and Sons, Ltd.), Mr. Ben Carter (Messrs. Stephens and Carter, Ltd.), Mr. P. C. Culver (Messrs. Wm. Harbrow, Ltd.), Mr. H. S. Foster, Mr. F. G. Minter, Mr. J. F. Parker (Messrs. Patman and Fotheringham, Ltd.), Mr. A. Ritchie, Sir Howell J. Williams (Messrs. Howell J. Williams, Ltd.); and Mr. Sidney Gluckstein (Messrs. Bovis, Ltd.) and Mr. H. M. Lorden (Messrs. W. H. Lorden and Son, Ltd.) were elected members of the committee.

The proceedings terminated with a vote of sincere thanks to the president for the past year, Mr. A. B. H. Colls, F.I.O.B. (Messrs. Trollope and Colls, Ltd.).

The report states that the president's appeal at the annual dinner in November last was so generously responded to that the total amount contributed was a record for the Institution. The committee express their sincere thanks to the members of the family of the late Mr. Joseph Hill, who have transferred to the trustees of this Institution certain investments, the income from which is sufficient to endow a pensioner. The only conditions attached to this gift are that it shall be known as the "Joseph Hill Memorial Fund," and that one pensioner shall be identified therewith.

The Report on Adhesives

The first report of the Adhesives Research Committee of the Department of Scientific and Industrial Research is just issued; this report embodies the results of certain of the investigations initiated by the Adhesives Committee of the Conjoint Board of Scientific Societies and also the researches of a more fundamental character which have been undertaken by the Adhesives Research Committee of the Department of Scientific and Industrial Research. The report is thus a comprehensive summary of the work from its inception in 1918 up to the end of 1921. The contents of the report are arranged under the following headings: I, Introduction; II, Mechanical Tests of Adhesives for Timber; III, Casein Adhesives; IV, Gelatin Adhesives; V, Vegetable Adhesives; VI, Other Adhesives. Appendix I, Descriptive Bibliography of Gelatin. Appendix II, The Bearing of Results obtained in recent Investigations of Soap Systems upon the Structure of Gelatin Gels. The first appendix is a comprehensive survey of the scientific literature of gelatin viewed from the physico-chemical standpoint. The report is illustrated by diagrams and photographic plates.

The report is published by His Majesty's Stationery Office for the Department of Scientific and Industrial Research. Copies, price 4s. (by post 4s. 3d.) may be obtained through any bookseller, or direct from H.M. Stationery Office at the following addresses: Imperial House, Kingsway, London, W.C.2, and 28 Abingdon Street, London, S.W.1; 37 Peter Street, Manchester; 1 St. Andrew's Crescent, Cardiff; 23 Forth Street, Edinburgh.

List of Competitions Open

Date of Delivery.	COMPETITION.
Aug. 11—Jan. 31, 1923	Labour-Saving Flats, Hampstead Garden Suburb. Premiums £500, £300, and £200. Assessors: L. Rome Guthrie, F.R.I.B.A., J. C. S. Soutar, Lic.R.I.B.A., and E. J. Cooper, Secretary, Second Hampstead Tenants Ltd., to whom, at Temple Fortune House, Hampstead Way, N.W. 11, applications must be made by August 11.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8,000 francs.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
Nov. 1	New Town Hall and Municipal Offices in Victoria Park, Colombo. Cost not to exceed Rs. 1,000,000. Premiums Rs. 5,000, Rs. 3,500 and Rs. 2.000. A F.R.I.B.A. will act as assessor. Apply Secretary, Municipal Council, Colombo. Deposit Rs. 25.
No Date	Lay-out of Land at West Cliff, fronting the sea, in Promenades, Recreation Ground, Roads, and Building Plots. Premiums £300, £200, and £100. Apply Mr. A. Blasdale Clarke, Town Clerk, Albion House, Ramsgate.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
	Southend Proposed Secondary School. At the request of the Competitions Committee of the R.I.B.A., the drawings required in this Competition will be to a scale of 16 feet to the inch.

Greenock War Memorial.

The successful competitors in the above competition are Messrs. Wright and Wylie, 212 Bath Street, Glasgow.

Carnarvon War Memorial.

In the Carnarvon War Memorial competition the design of Mr. Rowland Lloyd Jones, M.S.A. (County Architect), was selected by the assessor.

New Synagogue, Southport.

In the above competition, for a synagogue to seat about 600 and to be erected in Arnside Road, Southport, Messrs. Packer and Crampton, A.R.I.B.A., Architects, Shaftesbury Buildings, Southport, have been placed first.

Weybridge War Memorial.

The War Memorial Committee has selected a design submitted by Mr. Hatchard-Smith, F.R.I.B.A. It consists of a base surmounted by a military figure, and on the base will be recorded the names of all those from Weybridge who fell in the war.

Newmarket Hotel, Bury.

The above competition is banned by the R.I.B.A. and the Society of Architects.

Hampshire Association of Architects

The Hampshire and Isle of Wight Association of Architects recently arranged an at home and exhibition of prize drawings at Wolvesey. The proceedings were attended by upwards of fifty members and friends, including the President of the Association, Sir William Portal, Bart., and also the Very Rev. the Dean. It had been arranged that Mr. Paul Waterhouse, F.R.I.B.A., President of the Institute, should come down and address the members, as he did last year, but the Hon. Secretary of the Association (Mr. R. F. Gutteridge, A.R.I.B.A.) announced that he had received a letter from Mr. Waterhouse to the effect that he was unavoidably prevented from doing so.

Following the ordinary business meeting in connection with the Association, Mr. Gutteridge conducted the party around the exhibition of prize drawings, kindly lent for the occasion by the Institute, in addition to which were several drawings by student members of the Association in connection with the competitions carried out last winter. Passing from drawing to drawing, Mr. Gutteridge quoted from the criticisms of the same by Mr. Theodore Fyfe. After tea, the Rev. G. Sampson, of Ramsdell, gave an illustrated lecture, his subject being "Chartres Cathedral." The final event in the programme was an inspection of the ancient ruins at Wolvesey.

British Engineering Standards Association

The British Engineering Standards Association has issued two new reports dealing with dimensions for malleable and soft cast-iron pipe fittings of nominal sizes from ⅛ in. to 4 in. Both the reports contain, among others, clauses relating to special sizes of reducing fittings, screw threads, and the method of specifying outlets. These are followed by tables of dimensions of British Standard Equal and British Standard Reducing Fittings, and the reports conclude with type drawings of the fittings.

British Standard Dimensions for long sweep type malleable iron pipe fittings for steam, water, and gas, are limited to fittings designed for use where the maximum "delivery head" is needed and where the question of frictional resistance is important.

British Standard Dimensions for malleable and soft cast-iron pipe fittings for steam, water, and gas include all fittings in general use.

Publications Received

"The Vandalisms of Peace." Supplementary by W. Randolph. Price 1s. net. George Routledge and Sons, Ltd., 68–74 Carter Lane, E.C.

"Builders', Plumbers', and Decorators' Pocket Book." By Arthur Seymour Jennings. Price 5s. net. Thomas Tofts, 93–94 Chancery Lane, E.C.

"The Smokeless City." By E. D. Simon and Marion Fitzgerald. Price 1s. 6d. Longmans, Green & Co., 39 Paternoster Row, London, E.C.4.

Trade and Craft

Memorial Panel, Tardebigge Church.

The models for the carving on the War Memorial Panel in Tardebigge Church (illustrated on the frontispiece and half-title page of this issue) were made by Monsieur E. Madeline, of 70 High Street, Lambeth. The contractors, who also did the carving, were Messrs. Farmer and Brindley, of 63 Westminster Bridge Road.

The London County Hall.

We are informed that the Korkoid and Ruboleum Tile Co. laid Ruboleum flooring in the lobbies east and west of the Council Chamber, the corridors north and south of the Council Chamber, and in several other lobbies and entrances. The total approximate area laid by the company was about 650 square yards.

Electrical Contractors' Staff Outing.

A very successful staff outing of Francis Polden & Co., Ltd., was held on Saturday, July 22, the party going to Brighton by charabancs. Luncheon was taken at the Clarence Hotel, and during the course of the speeches that followed congratulations were tendered to Mr. Polden that his company had now grown to a size which made such a large gathering possible, and presentations were made to him both on behalf of the outdoor staff and also the office staff, as tokens not only to mark this the first staff outing, but also to show the esteem in which he is held by the entire staff.

Bush House, Aldwych, London, W.C.

Messrs. Doulton & Co., Ltd., of Lambeth, have received the order for the sanitary fittings for the above building from the architects, Messrs. Helmle and Corbett. All the fittings are of the highest class, and an interesting departure is being made from the usual practice in that no w.c. cisterns are being used, all w.c.'s being flushed by means of Doulton's new patented "London" flushing valve. This water waste preventing valve, approved by the Metropolitan Water Board, is, it is claimed, noiseless in action, and when the expense of providing and fixing the usual flush and overflow pipes, etc., is eliminated, costs very little more than a good class cistern.

Cooking Ranges.

We have received the following communication from The London Warming Company, Ltd. :—

"We have noticed an article on cooking ranges in a recent issue of your paper, wherein comments upon trial with ranges, carried out by Professor Barker for The Fuel Research Board, are reported. While acknowledging the value of such tests, and fully appreciating the enormous work involved, there is ample room to query the efficiency figures quoted for the various functions of cooking and hot-water supply.

"We are makers of the well-known 'Kooksjoie' ranges, and are quite satisfied that, whilst agreeing with the observations and stricture on ranges generally, embodied in the report issued by the Research Committee, the figures quoted do but scant justice to our own production. We had, previous to the publication of the report, carried out trials on our ranges, and have, since its appearance, verified our figures, and are satisfied that efficiencies varying considerably in excess of those obtained by the Professor may in everyday use be attained. Our trials show that overall efficiencies, i.e. for oven, hot-plate, and hot-water supply, of from 40 to 50 per cent., depending on the rate of fuel consumption, are obtainable."

An Important Amalgamation.

Messrs. Rippers, Ltd., the well-known firm of joinery manufacturers, shop fitters, etc., of Castle Hedingham, Essex, and 165 Gray's Inn Road, London, have acquired a controlling interest in the old established firm of Geo. Evans and Sons, Ltd., timber merchants, importers, and joinery manufacturers, of Newton Heath, Manchester.

The Newton Heath business will be carried on under the same name as before, but under the direct management of Mr. H. T. Ripper, as Chairman of Directors, assisted by his two younger sons, Mr. Donald C. C. Ripper and Mr. Dennis F. A. Ripper. The leading members of the staff have been retained, including Mr. A. V. Evans and Mr. C. T. Gresham.

Every kind of joinery is manufactured, and timber suitable for all purposes can be supplied at market prices. The Newton Heath Works are being thoroughly reorganized and brought up to date, and new blood is being introduced into several departments.

Building Activity in Liverpool

Great progress is being made with the erection, from the designs of Messrs. T. Arnold Ashworth and Son, architects, of the new steel-framed building for the National Bank in James's Street, Liverpool. The erection of this building by Messrs. Wm. Moss and Sons, Ltd., of Liverpool, contractors, has followed quickly that of the new building for Barclays Bank, which has superseded the old head offices of the Cunard Steamship Company in Water Street, Liverpool. Barclays building is now being finished internally; all the scaffolding and lifting apparatus has been removed. The joint architects are Messrs. Peacock and Bewlay, and Edmund Kirby and Sons.

The larger dress and drapery companies of Liverpool have been responsible for some of the more extensive building operations carried out of late in the more central shopping district of the city.

"Lewis's," the clothing, drapery, and household stores, are extending skywards their large block of premises at the corner of Ranelagh Street and Renshaw Street. The entire scheme is not yet completed. Lifts extending to the full height of the building have been installed, and a series of spacious new floors provided. The architect is Mr. G. de C. Fraser.

The Bon Marché, a large costume, drapery, and fancy goods emporium in Church Street and Basnett Street, Liverpool, has similarly been extended by building upwards under the superintendence of the same architect.

Another large dress and ladies' goods house, that of Wm. Henderson and Sons, Church Street, has also been enlarged by additions to existing upper stories. Mr. G. de C. Fraser is also responsible for this work.

The proprietors of a large general furnishing warehouse in London Road, Liverpool, Messrs. Ray and Miles, announce that extensive alterations of their premises are about to be made.

Victoria & Albert Museum Chinese Furniture

The Victoria and Albert Museum has acquired, by gift, what may perhaps justly be described as the most important example of Chinese furniture yet seen in this country. For some weeks, the throne of the Emperor Ch'ien Lung has been on exhibition in Messrs. Spink and Son's Oriental Gallery, and the museum was given an option of purchase on favourable terms. Its resources were quite unequal to so large an undertaking; and the nation owes this splendid acquisition to the generosity of a private donor, Mr. George Swift, J.P. The throne is 3 ft. 11 in. in height, 4 ft. 1½ in. in width, and 3 ft. in depth; and the seat is still furnished with its original cushion of fine old brocade. It is now exhibited in Room 41 of the museum.

Travelling Scholarship for Textile Designers

The activities of the Federation of British Industries in organizing (in co-operation with the Board of Education) a scheme of refresher courses at the Royal College of Art for designers in industrial works, has concentrated attention upon the value of such an opportunity for the craftsman to study the finest examples of art as applied to his especial branch of industry. It is therefore of interest to note that the Royal Manchester Institution is offering a travelling scholarship of the value of £35 for the best set of designs for textile printing, and that it is expressly stipulated that the successful competitor must spend not less than three weeks visiting London or some other approved centre for the purpose of studying textile designs, and must submit a written account of his or her visit and studies.

Feodora Gleichen Memorial

At the inaugural meeting of the Feodora Gleichen Memorial Studios for Women Sculptors, held at the Royal Academy, a committee was approved to further the proposal to raise a fund to build and endow a number of studios in London, as a memorial to Lady Feodora Gleichen. The studios would be for the use of women sculptors, who, on completion of their studentship, may enter their profession equipped with the necessary facilities for the execution of large work. The committee is as follows: Earl of Plymouth, president; Sir Aston Webb, vice-president; Sir William Plender, hon. treasurer; Mr. F. W. Fladgate, hon. solicitor; Mr. W. Reynolds-Stephens, chairman of executive committee; Lord Edward Gleichen, Lady Helena Gleichen, Lady Valda Machell, Grace Countess of Wemyss, Sir W. Goscombe John, Sir John Burnet, Sir Cecil Harcourt Smith, Mr. Ernest Gillick, Mr. John Tweed, Mr. C. Hartwell, Mr. David Jaggers, and Miss Elinor Hallé, with Miss Phillpotts, secretary.

The Week's News

Stowe Palace.

The historic palace of Stowe, in Buckinghamshire, with its estate of many hundreds of acres, is again to be sold.

Harrogate Spa Rooms.

Plans have been submitted to the Council for the rebuilding of the Spa Rooms attached to the Royal Hall.

L.C.C. Building Scheme.

The London County Council is arranging for the erection of blocks of tenements on the Tabard Garden estate and the Brady Street slum area.

Ballater War Memorial.

The War Memorial at Ballater has been completed. Designed by Sir John J. Burnett, it takes the form of a Celtic Cross of Kemnay granite.

Southwark Town Hall Extension.

Southwark Borough Council has adopted a scheme for the extension of the Town Hall, Walworth Road, at a cost of £25,924.

Old Kent Road Tenements.

The City of London Corporation's original scheme for erecting eight blocks of tenements in the Old Kent Road has been reduced to three blocks.

New Church, Govanhill.

Work is proceeding with the erection of New Briggate United Free Church, Govanhill. The architects are Messrs. Thompson, Sandilands and McLeod, of Glasgow.

Golders Green Improvements.

Approximately £2,400 is to be expended on extending accommodation at Golders Green Tube Station; and, in view of the tube extension from Golders Green, road widenings in Queen's Road, Park Road, and Vivian Avenue are to be carried out.

A Brighton Improvement.

The Health Committee of the Brighton Corporation has defined a scheme for the improvement of the Paradise Street and Hereford Street area. The estimates provide for a total sum of £27,000. The area affected is an acre and a half.

New Barking Power House.

The County of London Electric Supply Company, having received the consent of the Electricity Commissioners to erect a new electric power house at Barking, propose immediately to proceed with the erection of the station.

Richmond Bridge.

Although Richmond Bridge was described by the mayor, Councillor Morrison, as dangerous and likely to lead to a fatal accident on account of its narrowness and unsuitable approaches, the Surrey County Council has refused to recommend that a new bridge be built.

Middle Temple Roof in Danger.

Fearing that the wonderful hammer-beam roof of their ancient hall is in danger owing to decay, the Benchers of the Middle Temple have closed the hall so that a thorough examination may be made. This roof is one of the extremely rare examples of the "double hammer-beam" type.

Shoreham Bridge.

The old Norfolk suspension bridge over the River Adur at Shoreham is to be pulled down and replaced by a modern structure. The reconstruction, which is to be carried out by the Unit Construction Company, will probably occupy about five months.

Architect's Housing Bill.

At the Pwllheli Town Council meeting a bill was submitted from an architect for £587 for preparing plans in connection with the abandoned housing scheme. It was decided to press the Ministry to pay the architect's bill in full, as they were responsible for the expense.

Proposed New Public Library for York.

As a result of negotiations between the York Public Library Committee and the Carnegie Trustees, the latter body have agreed to allow their offer of £12,000, made in 1916, to be used towards the proposed erection of a portion of the new library, and to increase the grant by 10 per cent.

Professional Defence in New Zealand.

The minutes of the proceedings of the New Zealand Institute of Architects annual meeting held on February 15 show that a resolution was passed calling upon the Institute to set up a Professional Defence Committee on the lines of the Society of Architects Professional Defence Organization.

Projected City Improvements.

A proposal is before the Corporation of London to widen Bishopsgate at its junction with Leadenhall Street, and Gresham Street between Basinghall Street and Coleman Street, at a cost respectively of £40,000 and £70,000, of which the London County Council will pay half.

Buckfast Abbey Church.

On Thursday the Abbey Church of the Benedictine Abbey of Buckfast is to be inaugurated by Cardinal Bourne. This has been rebuilt during the past twenty years under the direction of Mr. Fred Walters, F.S.A., architect of the Abbey buildings. The work has been executed by the monks themselves.

New Cardiff Schools.

The local education authority has recommended to the city council that the plans of the proposed new schools for Mynachty and Ely should be prepared by the city engineer. The South Wales Institute of Architects have protested to the committee concerned, and a further effort is to be made to get the matter referred back.

The Royal Northern Hospital.

It is hoped that work will shortly begin on the proposed extension to this hospital which is to form part of Islington's War Memorial. Messrs. Adams and Holden are the architects for the work, which is to consist of a complete casualty department, with observation wards. It is to be hoped that adequate funds for its rapid completion will be forthcoming at an early date.

New Conditions of Contract.

Mr. John Slater, past vice-president of the R.I.B.A. and chairman of the Practice Standing Committee, has been appointed as the architect member of the tribunal which, under the chairmanship of Sir Wm. Mackenzie, K.C., will have the deciding voice on any points on which the Conditions of Contract Conference are unable to agree.

"The Decorator."

The first number of a new volume of "The Decorator" (the twenty-first) is just issued. It contains a wealth of matter on different aspects of decorative work, including articles on Colour Decoration, the Use of Ready-mixed Paints, Wallpaper Complaints, The Decorator-Architect, Painted Woodwork and Furniture, Transfer Designs, etc.

Mander Brothers' Welfare Club.

During the recent visit of the Duke of York to Wolverhampton the members of the executive committee of Messrs. Mander Brothers' Welfare Club were specially presented to H.R.H. at the station. Owing to shortness of time the Duke was unable to visit the recreation ground laid out by the firm for their employees, which, as President of the Industrial Welfare Society, he had desired to do.

University College Medical School.

The scheme of the Rockefeller Foundation for the establishment at University College, Gower Street, of a model medical school is to be put in hand at once. The new buildings will include a large six-storied obstetric block, new operating theatres, laboratories, and other medical school buildings. The architects are Mr. Paul Waterhouse, P.R.I.B.A., and Mr. George Hornblower, the hospital's consultant.

New Criterion.

More than £200,000 is to be spent on erecting a new building and improving the Criterion Restaurant, Piccadilly Circus, W., subject to the scheme being passed by the licensing authorities. It is proposed to erect a new building on the vacant site at the corner of Regent Street, giving frontages on Piccadilly Circus, Jermyn Street, and Regent Street. Shops will occupy the ground floor, and above will be a luxurious grill-room and up-to-date business offices.

Portraits at Manchester City Art Gallery.

A series of seventeen portraits by Mr. Francis Dodd of ex-presidents of the North-western Federation of Building Trade Employers, says "The Manchester Guardian," is on view in one of the rooms of the City Art Gallery during this week. The Federation wished to mark in some suitable way the services of those who had been its presidents, and the scheme under which this uniform series of portraits has been made was adopted as a way of showing them honour. The portraits are to be hung in the board-room of the Federation, and a replica is to be given to each sitter. Mr. Francis Dodd has been chosen to carry out this very excellent idea.

Rates of Wages in the Building Trades*

The following table, which is published in the first issue of THE JOURNAL for each month, shows the rates of wages of craftsmen (bricklayers, masons, carpenters and joiners, woodcutting machinists, slaters, plumbers,* plasterers, painters †) and labourers in the building industry. The labour rates for London are given in the Table of Current Prices on pages xxi, xxii.

District.	Grade A.		Grade B.		Grade C.		Grade D.	
	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
North East Coast	1 8	1 3	—	—	—	—	—	—
Yorkshire	1 8	1 3	1 6½	1 2	1 4½	1 0½	—	—
North Western Counties‡	1 8	1 3	1 6½	1 2	1 4½	1 0½	1 4	1 0
Midland Counties	1 8	1 3	1 6½	1 2	1 5	1 0¾	1 4	1 0
Eastern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
Southern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
South Western Counties	1 8	1 3	1 6	1 1½	1 4½	1 0½	1 3½	0 11¾
South Wales	1 8	1 3	1 4	1 0	—	—	—	—
Scotland§	1 8‖	—¶	1 7	—¶	1 6	—¶	—	—

* In the case of towns printed in *italic type* below, the rates shown in the Table for craftsmen do not apply to plumbers.
† Except in Scotland, where painters are not included within the scope of the area grading scheme.
‡ Excluding Liverpool and Birkenhead, where the rates are 1s. 11d. for plumbers, 1s. 10d. for other craftsmen, and 1s. 5d. for labourers.
§ Excluding Aberdeen, where the rates remain unaltered at 1s. 7½d. for masons, joiners, and plasterers, 1s. 8d. for slaters, and 1s. 9d. for plumbers.
‖ It is reported that the Plasterers' Union in Scotland has not accepted the national reduction in June and that a large number of men have ceased work.
¶ In Scotland, labourers are not included in the general grading scheme.

Grading of Towns.

The localities in which the above rates have been reported to be in operation are as follows. In the case of localities printed in *italic type*, the rates shown in the above Table for craftsmen do not apply to plumbers.

NORTH EAST COAST :—

Annfield Plain, *Birtley*, Bishop Auckland, *Blackhill*, *Blyth*, *Chester-le-Street*, *Consett*, *Darlington*, *Durham*, *Ebchester*, *Gateshead*, *Hartlepools*, *Hebburn*, *Hexham*, *Jarrow*, *Lanchester*, *Leadgate*, Medomsley, *Middlesbrough*, *Morpeth*, *Newcastle*, *North and South Shields*, *Seaham Harbour*, *Stanley*, *Stockton*, *Sunderland*, *Thornaby*, *Tynemouth*, *Wallsend*, *Whitburn*, and *Whitley Bay*.

YORKSHIRE :—

Grade A.—*Altofts*, *Barnsley*, *Batley*, *Bingley*, *Birstall*, *Bradford*, *Brighouse*, Calder Valley, Castleford, *Cleckheaton*, *Colne Valley*, *Crosshills*, *Dewsbury*, *Doncaster*, *Gomersal*, Grimsby, *Guiseley*, *Halifax*, *Harrogate*, *Hebden Bridge*, *Heckmondwike*, Holmfirth, *Horbury*, *Hoyland*, Huddersfield, Hull. *Ilkley*, Immingham, *Keighley*, *Knottingley*, *Leeds*, *Liversedge*, *Mexborough*, *Mirfield*, *Morley*, *Normanton*, *Ossett*, *Penistone*, Pontefract, Pudsey, *Rawdon*, *Rotherham*, Scunthorpe, *Selby*, *Sheffield*, *Shipley*, *Sowerby Bridge*, *Stocksbridge*, *Wakefield*, *Wombwell*, *and Yeadon*.

Grade B.—Barnoldswick, Beverley, Bridlington, Goole, Hornsea, Scarborough, Skipton, *Whitby* (plumbers 1s. 7d.) and York.

Grade C.—Driffield, Kirby Moorside, Malton, Norton, Pickering, and Wetherby.

NORTH WESTERN COUNTIES :—

Grade A.—*Accrington*, Adlington, *Alderley Edge*, *Altrincham*, *Ashton-under-Lyne*, *Atherton*, *Bacup*, Barrow, Birkdale, Bispham, *Blackburn*, Blackpool, Blackrod, *Bolton*, Broughton (Flints), *Burnley*, *Bury*, Carlisle, Chester, Chorley, *Church*, Cleveleys, *Clitheroe*, *Colne*, Connahs Quay, Dalton-in-Furness, *Darwen*, *Denton*, *Droylesden*, *Eccles*, *Farnworth*, Fleetwood, Frodsham, *Glossop*, *Great Harwood*, *Haslingden*, Hawarden, Helsby, *Heywood*, Higher Kinnerton, *Horwich*, *Hyde*, Lancaster, *Leigh*, Leyland, *Littleborough*, Longridge, Lymm, Lytham, *Manchester*, *Middleton*, Morecambe, *Mossley*, *Nelson*, *Ormskirk*, *Oswaldtwistle*, *Oldham*, *Padiham*, *Pendlebury*, Poulton, *Preston*, *Prestwich*, Queensferry, *Radcliffe*, *Ramsbottom*, *Rawtenstall*, *Rishton*, *Rochdale*, Runcorn, St. Anne's-on-the-Sea, St. Helens, *Saddleworth*, *Sale*, *Salford*, *Shaw*, Shotton, Southport, *Stalybridge*, *Stockport*, *Swinton*, Thornton, *Todmorden*, *Tyldesley*, *Walkden*, *Warrington*, Westhoughton, *Whalley*, *Whitefield*, Widnes, Wigan, and *Wilmslow*.

Grade B.—Askam, Broughton, Buxton, Cleator Moor, Congleton, Coniston, Crewe, Distington, Egremont, Grange-over-Sands, Harrington, Knutsford, *Macclesfield*, Maryport, Market Drayton, Middlewich, Millom, Mold, Nantwich, *New Mills*, Northwich, Sandbach, Tarporley, Ulverston, Winsford and Over, Whitehaven, Workington, and Wrexham.

Grade C.—Ambleside, Bala, Bangor, Bowness-on-Windermere, Carnarvon, Colwyn Bay, Conway, Grasmere, Holyhead, Holywell, Kendal, Langdale, Llandudno, Llandudno Junction, Mostyn, Penrith, Prestatyn, Rhos, Rhyl, and Windermere.

MIDLAND COUNTIES :—

Grade A.—Alfreton, *Belper*, Bilston, *Birmingham*, *Blackheath*, *Burslem*, *Cheadle*, *Chesterfield*, Coalville, Coventry, *Derby*, *Hanley*, Heanor, Hinckley, *Ilkeston*, Kenilworth, *Leicester*, Lincoln, *Long Eaton*, *Loughborough*, *Mansfield*, Newcastle-under-Lyne, *Nottingham*, *Nuneaton*, Oldbury, Ripley, Stoke-on-Trent, *Sutton Coldfield*, *Sutton-in-Ashfield*, West Bromwich, Willenhall, and Wolverhampton.

Grade B.—Atherstone, Bewdley, Boston, Brierley Hill, Bromsgrove, Burton-on-Trent, Cannock, Coseley, *Darlaston* (plumbers 1s. 7½d.), Dudley, Gainsborough, Gornal, Grantham, Halesowen, Hednesford, Kidderminster, Knowle, Leamington, *Leek*, Lichfield, Louth, Malvern, Market Harborough, *Matlock*, Melton Mowbray, *Newark*, Northampton, Oakengates, Old Hill, Peterborough, Redditch, Retford, Rugby, *Rugeley* (plumbers 1s. 7½d.), Sedgley, Shifnal, Shrewsbury, Skegness, Sleaford, Solihull, Southwell, *Stafford*, Stamford, Stourbridge, Stourport, Stratford-on-Avon, Swadlincote, Swanwick, Tamworth, *Walsall* (plumbers 1s. 7½d.), Warwick, Wednesbury, Wellington, Worcester, and Worksop.

Grade C.—Ashbourne, Bridgnorth, Church Stretton, *Horncastle*, Kettering, Ludlow, Newport, Oakham, Oundle, Raunds, Rushden, Spalding, Thrapston, Uttoxeter, Wellingborough, and Wirksworth.

Grade D.—Buckden, Eaton Socon, Huntingdon, St. Ives, and St. Neots.

EASTERN COUNTIES :—

Grade A.—Baldock, Bedford, Berkhamsted, Biggleswade, Braintree, Brentwood, Chelmsford, Cambridge, Colchester, Halstead, Hatfield, Harpenden, Hemel Hempstead, Henlow, Hertford, Hitchin, Hoddesdon, Ingatestone, Ipswich, Letchworth, Luton, Norwich, Ongar, St. Albans, Sandy, Sawbridgeworth, Stevenage, Stotfold, Ware, Welwyn, and Witham.

Grade B.—Aldeburgh, Ampthill, Attleborough, Aylsham, Braughing, Chatteris, Cromer, Dovercourt, Dunstable, Ely, Fakenham, Felixstowe, Frinton, Gorleston, Halesworth, Harwich, King's Lynn, Leighton Buzzard, Leiston, Lowestoft, March, Much Hadham, Newmarket, North Walsham, Puckeridge, Renthem, Saxmundham, Southwold, Standon, Stowmarket, Walton-on-the-Naze, Wickham Market, Wisbech, Woodbridge, Wymondham, and Yarmouth.

Grade C.—Bungay, Coltishall, East Dereham, Royston, Saffron Walden, and Tring.

SOUTHERN COUNTIES :—

Grade A.—Abingdon, Addlestone, Amersham, Ascot, Ashford (Middlesex), Banbury, Beaconsfield, Bournemouth, Bracknell, Brighton, Byfleet, Chalfont, Chesham, Christchurch, Cremborne, Eastbourne, Eastleigh, Egham, Eton, Gerrard's Cross, Goring, Gosport, Gravesend, Guildford, Henley, Hove, Laleham, Maidenhead, Marlow, Northfleet, Oxford, Poole, Portsmouth, Reading, Southampton, Staines, Stanwell, Sunningdale, Sunninghill, Tilehurst, Tonbridge, Tunbridge Wells, Wallingford, Windsor, Winkfield, Woking, Wokingham, and Wycombe.

Grade B.—Arundel, Ashford (Kent), Aylesbury, Bagshot, Basingstoke, Bexhill, Bicester, Bletchley, Bognor, Bosham, Broadstairs, Brockenhurst, Buckingham, Burgess Hill, Camberley, Canterbury, Chatham, Chichester, Chipping Norton, Cranleigh, Deal, Dorking (plumbers 1s. 5d.), Dover, Fareham, Faringdon, Faversham, Fenny Stratford, Folkestone, Gillingham, Godalming, Hailsham, Haslemere, Hastings, Havant, Herne Bay, Horsham, Hythe, Lambourn, Liphook, Littlehampton, Lymington, Maidstone, Margate, Midhurst, Milford, Milton Regis, Newbury, New Milton, Newport Pagnell, Oxted, Pangbourne, Petworth, Ramsgate, Redhill, Reigate, Rochester, Sandgate, St. Leonards, Sevenoaks, Sittingbourne, Strood, Stony Stratford, Stow-on-the-Wold, Thame, Walmer, Wantage, Wendover, Westerham, Westgate, Whitstable, Winchester, Winslow, Witney, Wolverton, Woodstock, and Worthing.

Grade C.—Andover, Ardingley, Farnham, Godstone, Hawkhurst, Hartley Wintney,* Haywards Heath, Horley, Isle of Wight, Liss, Petersfield, Rye, Smallfield, Staplehurst, Steep, Turners Hill, and Uckfield.

[N.B.—Leatherhead :—painters, 1s. 5½d.; plumbers, 1s. 6½d.; other tradesmen, 1s. 6d.; labourers, 1s. 1½d.]

SOUTH WESTERN COUNTIES :—

Grade I.—Bristol.

Grade II.—Plymouth * and Devonport.*

Grade III.—Dartmouth,* Exeter,* Kingswear,* Newton Abbot, Paignton, Portishead, Stroud,† Taunton, and Torquay.

Grade IV.—Barnstaple, Beaminster, Povey Tracey, Bradford-on-Avon,* Bridgwater, Bridport,* Brixham, Bruton, Burnham-on-Sea, Calne,* Castle Cary, Cheddar,* Cirencester,* Clevedon, Coleford,* Corsham,* Crewkerne,* Dawlish, Dorchester,* Exmouth, Fairford,* Frome,* Glastonbury, Lydney,* Melksham,* Midsomer Norton, Minehead,* Radstock, Shepton Mallet, Street, Swanage,* Teignmouth,* Tetbury,* Thornbury,* Totnes,† Trowbridge,* Wells, Westbury,* Weston-super-Mare, Weymouth,* and Yeovil.*

[N.B.—Bath, Cheltenham, Gloucester* (except painters), Hereford,* and Swindon* :—tradesmen, 1s. 5d.; labourers, 1s. 0¾d.]

SOUTH WALES AND MONMOUTHSHIRE :—

Grade A.—Aberavon, Aberdare, Abergavenny, Ammanford, Barry, Bridgend, Briton Ferry, Brynmawr, Cardiff (plumbers, 1s. 8½d.), Chepstow, Duffryn Valley, Ebbw Vale, East Glamorganshire and Monmouthshire Valleys, Garw Valley, Gorseinon, Llanelly, Maesteg, Merthyr, Mountain Ash, Neath, Newport, Ogmore Vale, Pontardulais, Pontypool, Pontypridd, Porthcawl, Port Talbot, Rhondda and Rhymney Valleys, Sirhowy Valley, Swansea, and Tredegar.

Grade B.—Haverfordwest, Pembroke and Pembroke Dock.

[N.B.—Brecon and Carmarthen :—tradesmen, 1s. 6d.; labourers, 1s. 1½d. Llandrindod Wells :—tradesmen, 1s. 5d.; labourers, 1s. 0¾d.]

SCOTLAND :—

Grade A—Airdrie, Alloa, Alva, Armadale, Ayr, Bathgate, Bellshill, Bridge of Weir, Buckhaven, Burntisland, Clydebank, Coatbridge, Dumbarton, *Dundee*, Dunfermline, Edinburgh, Falkirk, Glasgow, *Gourock*, Grangemouth, *Greenock*, Haddington, Hamilton, Harthill, Irvine, Kennoway, Kilmarnock, Kirkcaldy, Larbert, Largs, Leith, Leslie, Leven, Markinch, Methil, Motherwell, Neilston, Newmains, Paisley, Pencaitland, Perth, *Port Glasgow*, Renfrew, Stenhousemuir, Stirling, Uddingston, Uphall, Wemyss, Whitburn, Windygates, and Wishaw.

Grade B.—Arbroath, Montrose, and Peebles.

Grade C.—*Dumfries*, Galashiels, Hawick, and *Maxwelltown*.

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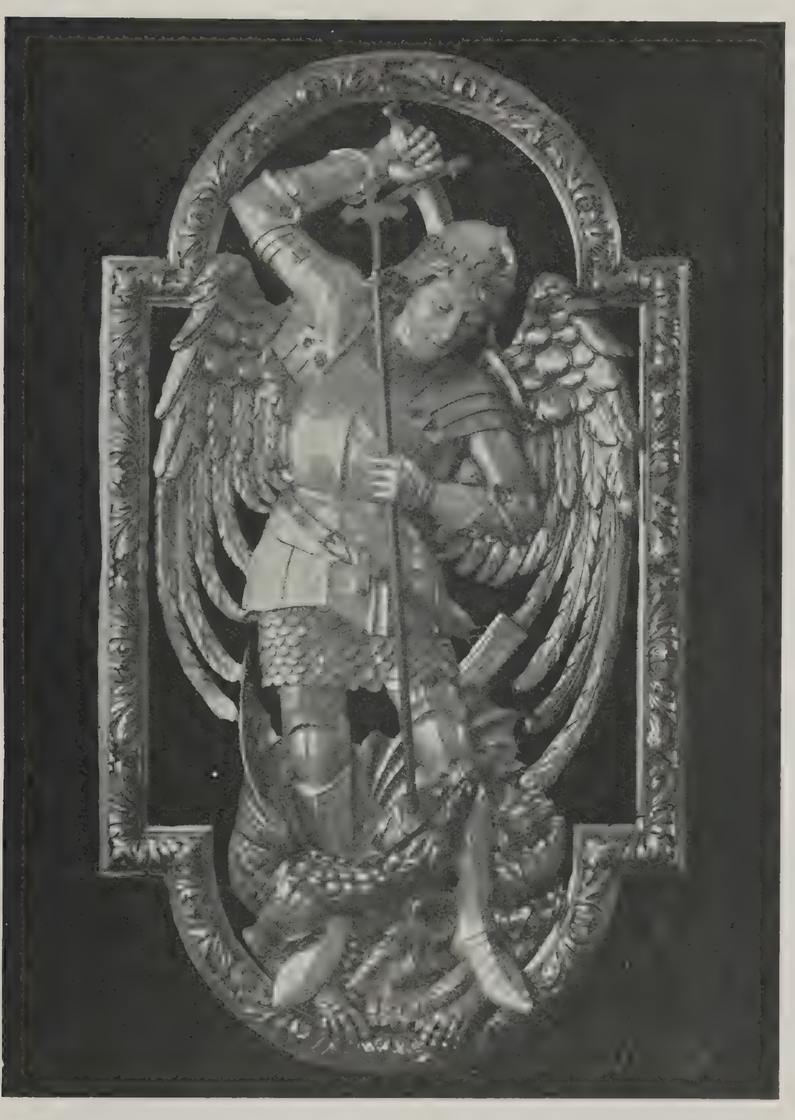
* The rate for painters is 1d. per hour less than that shown for craftsmen in the above table.
† The rate for painters is ½d. per hour less than that shown for craftsmen in the above table.

* From "The Labour Gazette."

Wednesday, August 9, 1922. Vol. LVI. No. 1440

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

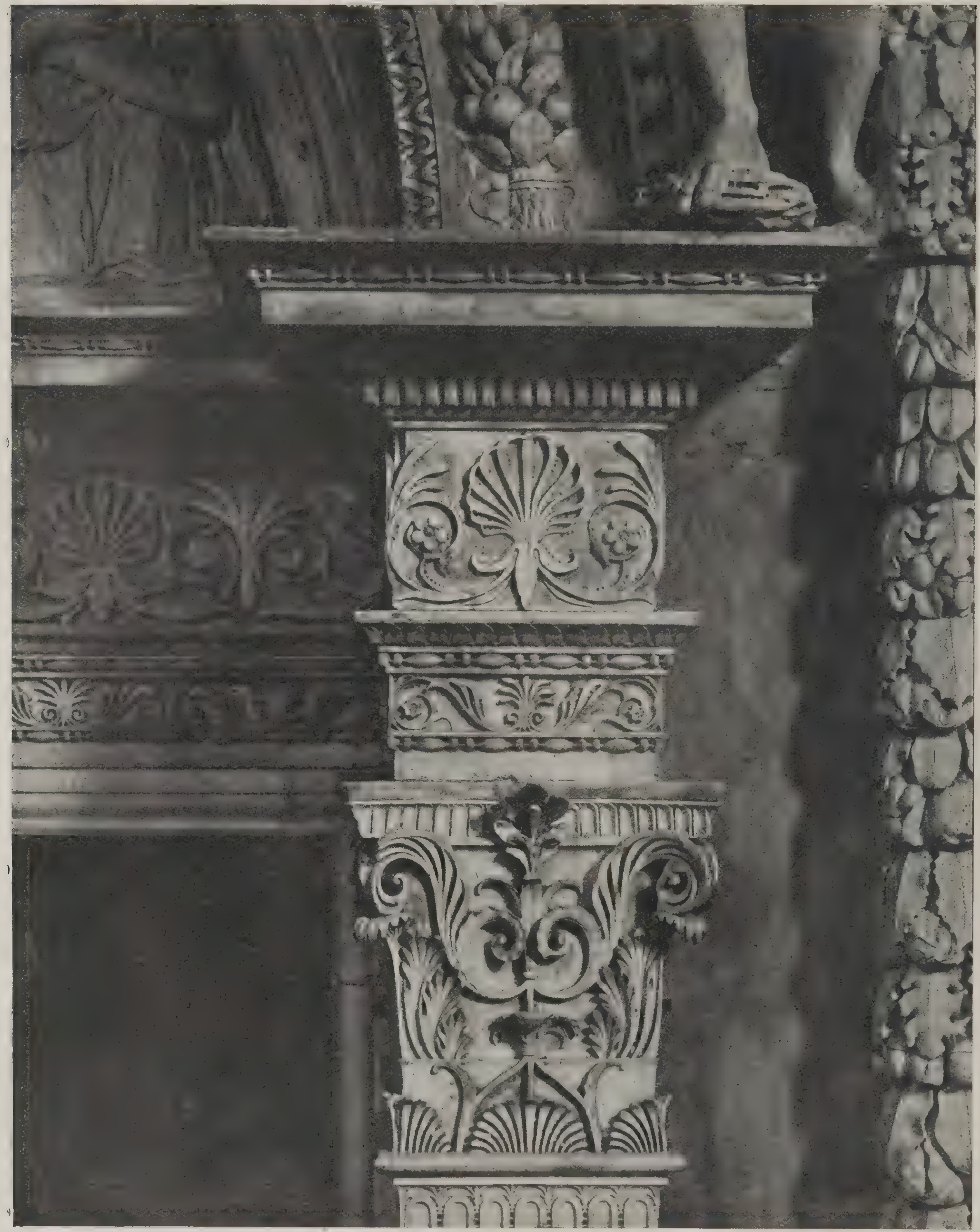


This figure of St. Michael (nearly life-size) is carved in wood, chiefly by Mr. Lewis Smallcorn of Bath, finished, coloured, and gilded by Mr. Guglielmo Tosi, of Brompton Road, London, the silver leaf work on the armour being highly effective. The two semicircular portions of the frame are eighteenth-century work, in all probability taken from a Bristol reredos. The figure is suspended from the ceiling in the north aisle of Christ Church (City) Bristol and is a thanksgiving for the preservation of Major Aubrey Du Plat Thorold Cole, O.B.E., M.C., 6th Dragoon Guards (Carabiniers), through the two wars 1899 to 1902 and 1914 to 1919. Mr. C. F. W. Dening, F.R.I.B.A., R.W.A., was the architect.

27-29 Tothill Street, Westminster, S.W. 1.

Architectural Details. 30.—Monument to Carlo Marsuppini, Florence

Desiderio da Settignano, Architect



Desiderio da Settignano was born in 1428, and became an architect and a sculptor. His most important work was the Monument to Carlo Marsuppini, Chancellor of the Florentine Republic, who died in 1453. The monument was erected in the Church of S. Croce at Florence, and this illustration gives some idea of the delicacy of its handling. Settignano died in 1464, at the early age of 35.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, August 9, 1922 Volume LVI. No. 1440

The Question of the Bank of England

THE great architectural question of the moment that is exciting layman and professional architect alike is the proposed alteration to the Bank. Further on in this issue Mr. A. R. Powys, the secretary of the Society for the Protection of Ancient Buildings, discusses the matter. To all Londoners and lovers of London the "Old Lady of Threadneedle Street" is so familiar and, we might say, beloved a landmark, that any proposal for any alteration is bound to cause a searching of hearts and an outburst of criticism. Soane's masterpiece is an integral part of the City; it is as impossible to conceive the City without the Bank as the Bank without the City.

Perhaps, without exaggeration, it may be said that it stands for far more than the City; that its low impressive walls of solid masonry symbolize the integrity of the British Empire—it looks solid and safe, and is one of our most beautiful, as well as one of our most famous buildings.

The drawings which were published in our last issue showing the proposed alterations are described "as being under the consideration of the Directors," so that it would appear that they have been put forward at this stage to test public opinion.

The critics of the proposals are divided into three camps:

1. Those who would do away with the present building entirely.

2. Those who accept the proposals put forward in their entirety.

3. Those who agree with the retention of the outer walls of the present building, but do not consider that the treatment of the new interior blocks is the best solution of an admittedly difficult problem.

The views of the first class of critics were ably set out in a leader which appeared in a recent edition of "The Westminster Gazette."

The opinion expressed was that London already suffered too much from patch-work buildings, and that it would afford a much better chance to the architect entirely to scrap the present structure and to rebuild the new bank unfettered with any of the old conditions.

We do not think that many people, except, perhaps, a few case-hardened Philistines, who really appreciate and care for London and London's architecture, will after mature consideration agree with these views. As Mr. Powys says in his article on a later page, it is worth a tremendous effort to retain as much of Soane's masterpiece as possible, provided always such retention can be accomplished without unduly hampering the effective use of the new building, and provided also that the new portion of the building shall be in harmony with, and enhance the older work.

We are, of course, assuming that the present premises are quite inadequate for their purpose, and that some solution other than of retaining the present building as it is is imperative.

The present plan, though possessing many delightful features, is a veritable rabbit-warren; but granted this, we do not think that any mere question of convenience should be considered of sufficient importance to justify any wholesale remodelling.

But assuming that the Directors of the Bank are justified in demanding greatly increased accommodation, we think that the main proposals of Messrs. Baker and Troup are on the right lines, at any rate as far as the plan is concerned.

Their scheme retains the familiar screen wall, with Soane's rooms behind it, and Taylor's Court-room. And we feel quite convinced that any successful solution of the scheme must retain these features. As we have said, generally speaking, we think the problem of the plan, with, perhaps, the exception of a few minor details which will no doubt be modified before the scheme assumes concrete expression, is on the right lines—it is when we consider the architectural treatment of the new superstructure that we do not feel quite so happy. And this brings us to the third group of critics—the second group we need not consider.

It is when we examine the drawings for the design of the superstructure that we feel that "The Westminster Gazette" had some reason for saying that the proposals were patchwork.

We like the treatment of the present walls as an outer palisade or keep, with the main block rising behind it; but unfortunately the idea is lost on the Threadneedle Street front, where a meaningless portier projects from the main block, and piles up with crushing effect on top of Soane's magnificent entrance.

We feel sure that this aeriel portico, in competition with the porticoes of the Royal Exchange and the Mansion House, would be most unfortunate, and would be a very grave error in civic design.

We are, of course, in the dark as to the exact amount of extra accommodation required by the Bank authorities. In the report accompanying the drawings it is stated: "It will be between this inner court and the outside sequence of Soane's banking halls that it is proposed to rear the new building to the fullest height which may be held to be legitimate and advisable for the architectural harmony of the building as a whole, and for the light and health of the surrounding narrow streets and buildings." Without going into the question of "the light and health of the surrounding narrow streets and buildings," we are inclined to think that the "architectural harmony of the building as a whole" would have greatly gained by the omission of the two top stories.

The introduction of the mansard roof with the dormer windows is particularly unfortunate, as it introduces a quasi-domestic note quite out of keeping with the stern simplicity of the existing building.

The present screen walls, particularly on the Threadneedle Street side, contain so much of architectural interest that it would seem that any new building should be subservient to them and not in the nature of an anti-climax.

A modern office block finished with a mansard roof rising jauntily above the old walls savours too much of dignity and impudence.

We feel, above all, that the character of the bank should be retained, that the new structure should be simple and dignified even to austerity—should suggest invulnerability and endurance.

Personally, as we have said, we should prefer to have seen the new structure finish two stories below the present proposed height, crowned with a strong cornice and flat roof, with, if possible, the corridors on the external wall, with the windows in this wall reduced to a minimum and the main rooms lighted from the central courtyard.

The new structure should in effect be a stone chest protected by an outer guard—the nation's money-box on ramparts!

Judging from what we know of Mr. Baker's work in South Africa we should say he was exactly the man to have afforded the best solution on these lines. We remember those simple square buildings with frowning cornices recalling the houses of the merchant princes in Florence, which are famous throughout South Africa, and we wish Mr. Baker could have given us something similar at the Bank.

Following the precedent of most great buildings the scheme will probably go through many changes before it is ultimately realized in masonry, and when this ultimate realization does take place we hope it will be along the lines we have indicated.

The architect who is called upon to add to a famous building is beset with difficulties, and these difficulties are increased when the addition is in a vertical instead of a lateral direction.

A building such as the Louvre or Greenwich Hospital may grow by the addition of successive wings, and each addition may add to the architectural beauty and harmony of the whole, but whether the additions take the forms of wings or are in the nature of additional stories we are sure that these additions must be planned and executed with the maximum of courage, and that to be timid is to court disaster.

Acoustics and the Architect

Architects having been, at one time or another, so roundly abused for the " defective acoustics " of buildings, it is pleasant to note an example to the contrary. Mr. Robert Jones, of Bootle, writing to " The Times " to suggest that good examples are profitable for study, instances the Philharmonic Hall, Liverpool, as being a favourable specimen. " To my certain knowledge," he says, " a whisper from a vocalist or the *pianissimo* from an instrumentalist can be heard from any seat in the hall, and there is no reverberation from the *fortissimo* playing of an orchestra." That is indeed a good hearing! It is contended, moreover, that the London County Hall case has been greatly exaggerated, and that what is really the matter is a fault that no architect can possibly correct, namely, the deplorably faulty speaking of the members, few of whom seem at all aware that public speaking is an art. Possibly the County Hall will teach them the futility of mere mumbling and grumbling.

Apotheosis of the Village Pump

A leader-writer in " The Times " has waxed dithyrambic about the Village Pump. He poetizes, however, not about the pump *per se*, which he takes as a symbol of the local pride which he would fain encourage. The local patriot is eager to descant to the visitor upon local excellences, and to display the characteristics which constitute a unique claim to admiration: the Norman church, the quaint market-cross, the far-flung panorama from the Down above, the scientific lay-out of the latest garden city. Towns are known which make a boast of their railway stations. Even this old London of ours lends herself to the prideful proliferation of man into his surroundings. But concerning that Pump, metaphorical or material. This is the moral it conveys: " Every man is fated to live within sight of this village pump or that. Let him see to it that, so far as in him lies, it is a village pump that transcends all others. However that may be, let him be ready to maintain, and to believe, that ' the whole round earth ' can show no village pump just like it." From a beautiful pump will eventually be evolved a beautiful village; and this Parable of the Pump is a very welcome incitement to the feeling that leads up to civic patriotism and beyond.

The Amenity of Brighton

A majority of one is insufficient for carrying a momentous decision. The French Academy of Letters resorts to several ballots before it declares a candidate for membership to be duly elected. Certain trade unions require what they term a "clear majority"—two-thirds of the votes recorded —before giving effect to the result of a ballot. Yet the Brighton Corporation accept a majority of one as sufficient warrant to confirm their decision to lease the Brighton Aquarium building to a motor company, for use as a motor-coach station. Many residents, however, object to this use of the old Aquarium. A large garage, they hold, would not increase the amenities of the sea-front, and the question is being referred to the Ministry of Health, who have decided to hold an inquiry. In what way the question of health arises is not quite obvious, except that it is unhealthy to be "run down," and that one consults "Dr. Brighton" with the exactly opposite object.

Amenity and the Cenotaph

All good things being doomed to abuse sooner or later, by someone or other, it is not surprising, but is nevertheless painful, to hear that the Cenotaph in Whitehall has not altogether escaped this fate. In a reply to Mr. Gilbert, in the House of Commons the other day, Sir J. Gilmour said that complaints had been received as to political inferences in certain memorial notices laid on the Cenotaph. Wreaths commemorating children and relatives of ex-soldiers have also been placed on the Cenotaph, which, Sir J. Gilmour felt compelled to reiterate, was erected as a direct memorial to those who lost their lives in connection with the Great War. Further, Sir J. Gilmour said, with very gentle rebuke, "May I add that the practice of placing permanent memorials—bronze tablets, metal wreaths, and glazed artificial flowers—seems inappropriate, as such objects are unbecoming in themselves and prevent the proper display of humbler and more transitory tributes of affection." We trust that due heed will be paid to these mild hints, lest drastic measures be taken to ensure that the memorial shall not be abused so lamentably.

The Inventor of the Telephone

So firmly established an institution is the telephone that many of the young persons who operate it must have been surprised to read, in the obituary notices of its inventor, that the first telephone came into existence no longer ago than 1875, and that the first long-distance transmission of speech dates only from August 1876. Many will have learnt with surprise, too, that Alexander Graham Bell was not primarily an electrician, nor even a physicist, but a physiologist. Like his father and grandfather, Graham Bell was keenly interested in phonetics and the mechanism of speech, and even when a pupil teacher at Elgin, in Scotland, he made the observations from which, many years afterwards, at Brantford, he developed the idea of the telephone, which, at first received with derision, is now so indispensable a feature of every architectural lay-out of any importance, business, institutional, or domestic. Who can tell whether " wireless " will ever entirely supersede it? If " wireless " were in very deed without the disfiguring transmitters, no architect would feel aggrieved at the supersession of the telephone.

Remodel or Rebuild?

The Problem of Old Buildings

By A. R. POWYS

THE proposed rebuilding of the Bank of England raises a question which is of so great importance that it interests the whole of the London public whether they have given much time to the consideration of architecture or not. This question is, when, if ever, should an acknowledged masterpiece of architecture be altered or destroyed? Everyone knows certain buildings of this class which no longer serve any purpose in the economic scheme of our present civilization, but which at the same time have other qualities of such great value that they could on no account be spared. On the other hand, there are many buildings which, either by reason of their associations or of their individual characteristics, would be hardly spared, though which, in the face of economic pressure, that is to say, of everyday public needs, might make way for others better suited to changed conditions. It is the purpose of this article to discuss this question and to discover, if possible, some guiding principle for those among us who have to balance the various aspects of such cases.

The question is further complicated by the rights of private property. It would be a fairly simple matter in actual practice to decide such questions did they relate to a straight issue affecting public welfare alone. Owners of fine buildings who are responsible to large numbers of their fellow citizens for the incomes derived from them might be legally held to be neglecting their duty did they not consider their property as a means of raising revenue to the exclusion of any other value it may possess. Indeed, it may be seen how difficult the whole matter is to the guardians and trustees of ancient buildings when we consider the conflicting claims of the City churches. There is a group of buildings endowed and erected for the services of the Church which, we are told by some churchmen, are no longer fulfilling their purpose. The majority of the citizens of London know full well that the existence of these buildings amid the money-making houses surrounding them is a real source of inspiration. Are we, then, to condemn the Church because it feels it to be its duty to release the money locked up in them and in their sites so that it may further the interests of those it represents, and this in spite of the ennobling influence they have on men's lives? Is it right to condemn the Freemasons for the destruction of Boswell's House in Great Queen Street, loved as it was by all who ever passed that way, when in the interests of that fraternity the site was more conveniently occupied by an extension of their hall, although its very existence deadens the finer perception of all who see it?

To what standard of right and wrong can we appeal in deciding questions of this sort, and, in making our decision, are we not hampered by the very certain fear that what is to take the place of buildings so destroyed will be barren, dull, and likely to blunt the senses which make the life of human beings worth the living?

It may be well to turn and see what the men did who built in times when architecture was free and not hampered by a vast knowledge of all the forms of preceding days.

There is no doubt at all that if the owner of a building in the thirteenth century had found it more convenient for his purposes to pull down and reconstruct a building, by whomsoever designed, and in whatsoever century built, he would not have hesitated to do so. Neither do we of this generation, who at least may claim to be masterly judges of the past, condemn him for that decision.

We may say, then, that there are three important reasons why fine works of architecture should not be altered or destroyed. First, it is an offence to our sense of beauty that they should go; secondly, their disappearance is a direct break with the past from which we can learn much to guide our future; and, thirdly, we hate to think—and we are so seldom disappointed in the thought—of the nature of the building which will rise so quickly from the dust of one which has moved us to feelings akin to human friendship and love. Experience has taught us that we do not get anything as good as that which we destroy.

Before condemning a proposal to alter a building of this kind it is necessary to appreciate all the circumstances of the case, both the clearly defined right of the private owner, and his vague but equally certain obligations to the public. It becomes, in fact, an appeal from conflicting human interests to our sense of abstract right and fitness.

We must apply to the consideration of the question all the faculties of personality. The application of practical reasoning is alone insufficient. The human instinct must be allowed free play; imagination and the æsthetic senses must not be neglected; the desire for order should be encouraged. The economic requirements of human life are for ever pressing; the avoidance of them creates an atmosphere of affectation.

While I have been writing these words I have had in my mind certain buildings which are universally acknowledged to be fine works; but in actual practice, unless a building has been praised in the guide books of two or three generations, the whole of one's argument is made difficult to hold by the bold assertion that it has little or no architectural merit. All who have pleaded the cause of buildings must occasionally have been faced with this disconcerting statement; and it is one which is very effective, for it is as difficult to describe in words the qualities which make a building fine as it is to convey to the mind of another by the same means the harmony of a musical composition.

I believe there are few people who are unable to feel a strong appreciation of the wall which surrounds the Bank of England, or of the halls which it contains; yet it is quite possible for those who best know its worth to feel that it would be better to remove it and build the Bank anew throughout than to preserve it and add within its walls a high building which will satisfy the requirements of a greatly increased staff. It seems to me, however, that this is quite clearly a case when no sacrifice of beauty or of usefulness will be made by the retention of the part of the existing building for which even those with no knowledge of architecture have almost insensibly acquired an affection.

A great deal of the interest that we have in the Bank is due to the fact that it is a building that has grown up bit by bit, under the guidance of different architects, each, in his own day, a leader in matters of taste. The Bank has grown as grew the great cathedrals, and I think that very much of our pleasure in contemplating these buildings is due to that very fact. It is difficult to imagine that anyone would welcome any other plan than one by which change and growth are acknowledged principles, and by which connection with the past is maintained. We may differ as to the advantages of the internal arrangements, we may even hold that it is better not to attempt to reproduce halls which were designed by Soane—indeed, the new plans indicate that this is the view taken by the architects employed by the Directors—but I think that there is no doubt at all that it is right to retain the great encircling wall. In the new design it has acquired a fresh value, owing to its relation to the tall superstructure.

Ypres

THE plan of Ypres which accompanies these notes is a careful adaptation from Popp's Cadastral plan which was published in 1853, and is, so far as we have been able to ascertain, the first detailed plan published since the war. It fairly and accurately represents the town as it stood prior to the war.

The additions after the date of Popp's plan were not important, and were almost confined to work on the outskirts of the southern area and in the vicinity of the railway station.

Ypres was, even up to March 1915, a town of infinite charm and haunting beauty, a place of profoundest quiet, and steeped in the romance of history; Laurence Binyon says "grass grew in the streets."

Since then it has become peculiarly significant to English people, and so it remains, a synonym of the great war and a place of pilgrimage.

The cult of Ypres and the "salient," the defence of which cost over 250,000 lives, is organized and fostered by the Ypres League, of which Field-Marshal Earl French of Ypres is the president.

It was during the period when the design of the hostelry, which the League proposes to establish at Ypres, was under consideration that the plan we illustrate was prepared owing to the difficulty experienced in procuring a sufficiently large scale reference plan of the sites and properties which formed the town.

The name Ypra, or Yprae, appears to have come from the little Yperlée which ran through its centre, or rather on the banks of which it grew.

The nucleus of a town was founded round a reconstructed fort by Baldwin III in the second half of the tenth century, and enlarged by Thierry d'Alsace, Ferrand Count of Flanders, and Jeanne Countess of Flanders.

Thriving on its industry of cloth-weaving, and patronized by the Counts of Flanders, the town grew daily more prosperous. Having obtained certain franchises and liberties it held an exalted position among the cities of Flanders. These privileges facilitated industrial and commercial relations not alone in the country, but also abroad. From the year 1127 the Ypres market was the resort of the merchants of Europe and the East. In the thirteenth century it may be said that Ypres was at the zenith of her power. Her population numbered 200,000; she possessed seven parish churches, and within her walls more than 8,000 trades and crafts flourished with unceasing activity. The guild of drapers, or cloth-weavers, erected out of their own funds the imposing Cloth Hall—the most remarkable civil monument of the Middle Ages.

Louis VI of France took the town by assault in 1128, when it was in part pillaged and burnt. It was taken by Phillipe Augustus in 1213, and in great part burnt in 1240 and 1297.

A siege by the Gentois aided by "les Anglois" in 1393 was abandoned after six weeks owing to the stout resistance put up by the inhabitants. Philippe le Hardi, Duke of Burgundy, newly fortified Ypres, enlarging and building a new wall round it in 1388.

As time went on, the traders, finding they were ignored and overruled by the very classes whom they had enriched, rose up in revolt, determined to assert their rights. Hence the violent strife in the fourteenth century between rulers and subjects, the great and the small. Allied to Bruges and Ghent, Ypres took up arms against the Counts of Flanders, who tried to restrict its ancient privileges, and against the Kings of France, always inimical to the Flemish nation. Among themselves, the great communes were divided by commercial rivalry. These incessant troubles and ruinous wars paralysed industry and drove away the foreign merchants who had their counting-houses here. The cloth trade declined irremediably, and Ypres gradually lost her power and greatness.

Ypres experienced a full share of the plague of religious "reform" in 1566, when her churches were pillaged and more than twenty of the priests of the diocese killed; the surrender of the town to the Prince of Parma eighteen years later put an end to this "Reformation."

Taken by the Prince of Condé in 1648; retaken in the following year by the Archduke Leopold, it submitted nine years later to Marshal Turrenne after four days "de tranchée ouverte."

Returned by the Treaty of the Pyrénées, it reverted to France under the Treaty of Nimègue in 1678, after a siege conducted in person by Louis XIV, to be surrendered once again to the Etats-Generaux by the Treaty of Utrecht in 1713.

Such, in scant outline, is the story of Ypres, the shuttlecock of the powers and factions in the centre of the "Cockpit of Europe."

Spanoghe in "Les Délices des Pays Bas," says the population in 1342 was 200,000 and "le circuit de la Ville etoit alors de 673 verges géométriques; c'est-à-dire, trois fois plus grand qu'il ne l'est aujourd'hui."

Immediately before the war in 1914 the population was between 17,000 and 18,000; last year about 10,000.

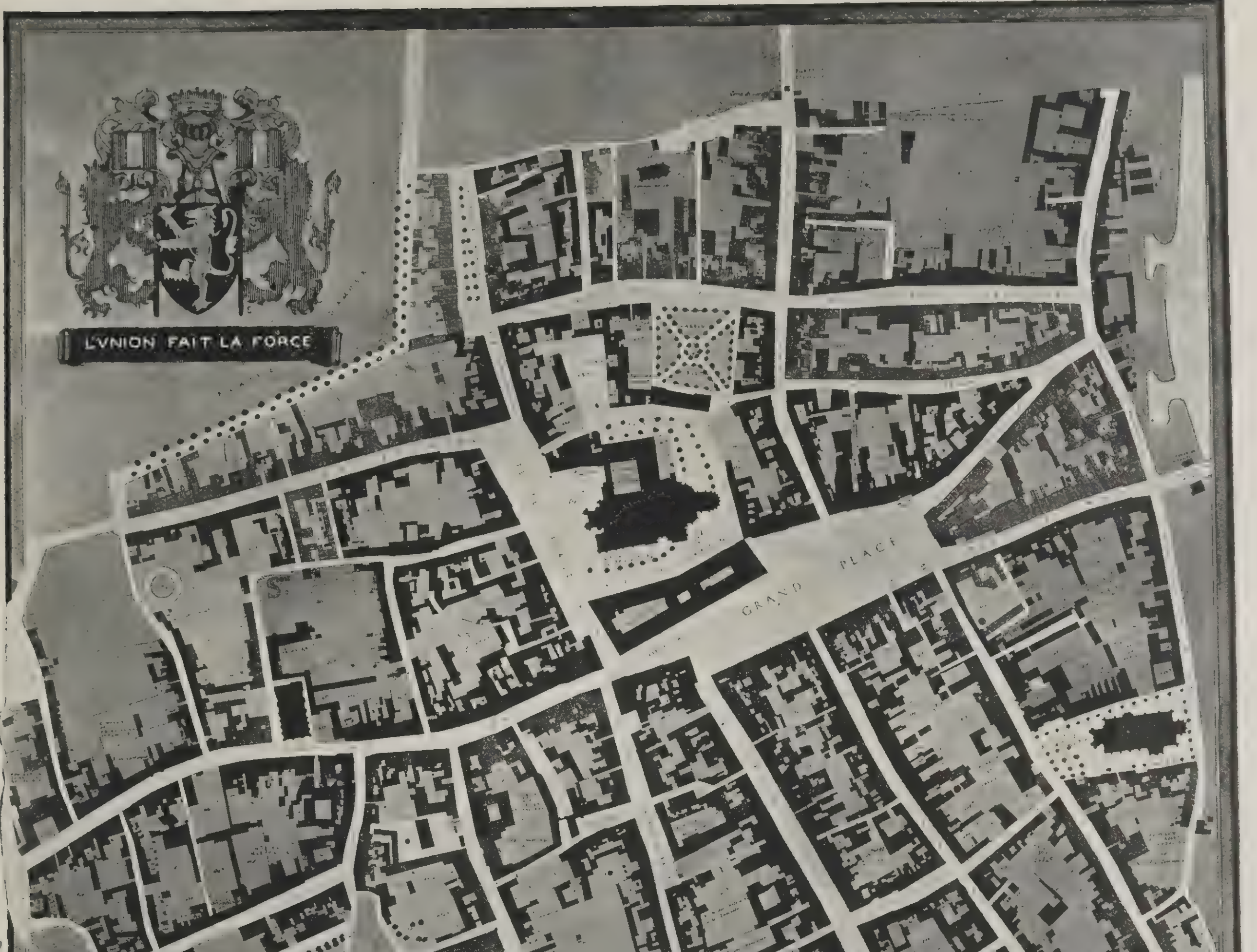
Sister Marguerite of the Sœurs de Marie has written an account of the progress of rebuilding in the "Ypres Times" of January last, and a correspondent in an article in "The Daily Mail" (February 20) says "the people are filled with a passion for reconstruction."

Camille Lemonnier, speaking of Ypres prior to the war, says: "Je ne sais pas de plus effrayant témoignage du retour des choses d'ici-bas que l'immobilité de la vie contemporaine dans la solennité et la magnificence de ce décor d'une ville autrefois grande entre toutes . . . le cadre à peine a changé parmi la mort de tout le reste . . . toute une vielle gloire continue à palpiter par dessus les pâles ombres errantes de ses places, plus semblable à des cimetières qu'à des lieux de circulation et de vie."

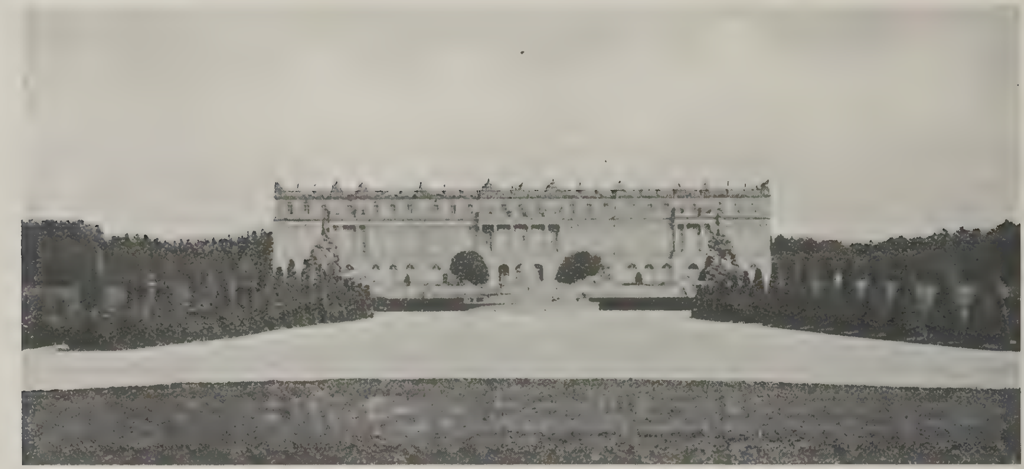
Laurence Binyon, relating a visit paid by himself and William Strang, says: "I remember well the morning we spent on the banks of the great moat that lay beneath the ramparts of Ypres. Ypres was then a town that seemed haunted by silence, and appeared to have betaken itself to a sleep that nothing would ever disturb. Grass grew in the streets. ("The Print Collector's Quarterly," December 1921.)

Says Guicciardini the Florentine, of "Iperae," in the middle of the seventeenth century:

"Dissidet Brugis novem, Gandavo vero circiter tredecim leucis, estque opidum non tam moenibus aliisve ab arte munitionibus, quam situ et loco firmissimum, ut quod non una de causa castris sit in accessum, et aegre admodum queat obsideri, caetera lautum, pulchrum, amoenum, et sic satis etiam opulentum aedificia ejus et domus bonae, etsi ob lignea magnam partem frontispicia parum spectabiles, templa coenobiaque pulchra et veneranda, et primarium quidem Divo Martino sacrum est, ac destinatum nuper Cathedrae novi Episcopatus in hac urbe instituti, qua dignitate hodie fungitur Petrus Simonius, doctus, pius et religiosus Praesul. Jactatur vulgo hoc opidum fundum habere ex plumbo, idque ob multitudinem inibi tuborum, seu fistularum plumbo ductilium, fluvialibus aliisque asquis per singulas fere domos et opportuna quaeque urbis loca varie dispensandis." NICHOLAS AND DIXON-SPAIN.



FROM A DRAWING BY NICHOLAS AND DIXON-SPAIN, FF.R.I.B.A.

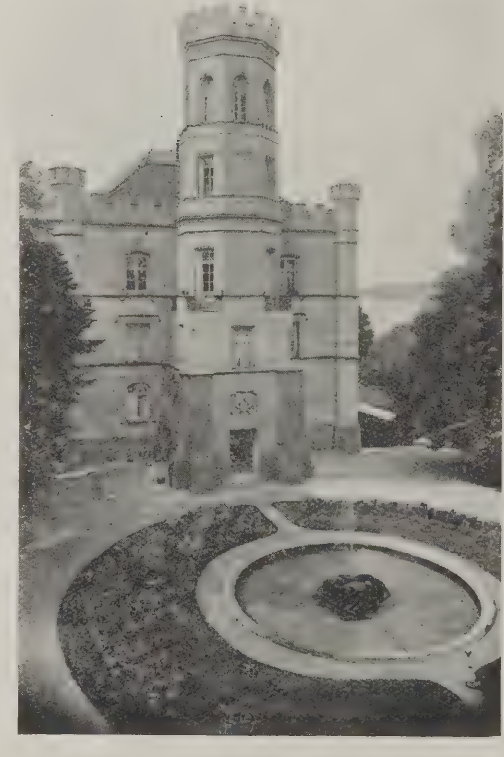


THE CASTLE, HERRENCHIEMSEE.

Two Bavarian Castles

By H. J. BIRNSTINGL, A.R.I.B.A.

THAT certain buildings seem to have received a deep personal impress which they continually radiate to the susceptible visitor, while others, at the best, can but suggest historical associations rather than a clear-cut personality, is a fact which, although its investigation falls within the province of psychology, is of particular interest to architects. The castles of Herrenchiemsee and of Berg are as different as it is possible for two royal palaces to be, yet the one in its indescribable sumptuousness and magnificence, and the other in its unadorned simplicity and parsimonious equipment, are both expressive of that great tragic figure which, beaten down in an unequal struggle against insanity, dropped out of existence into the waters of the lake of Starnberg at the end of last century.



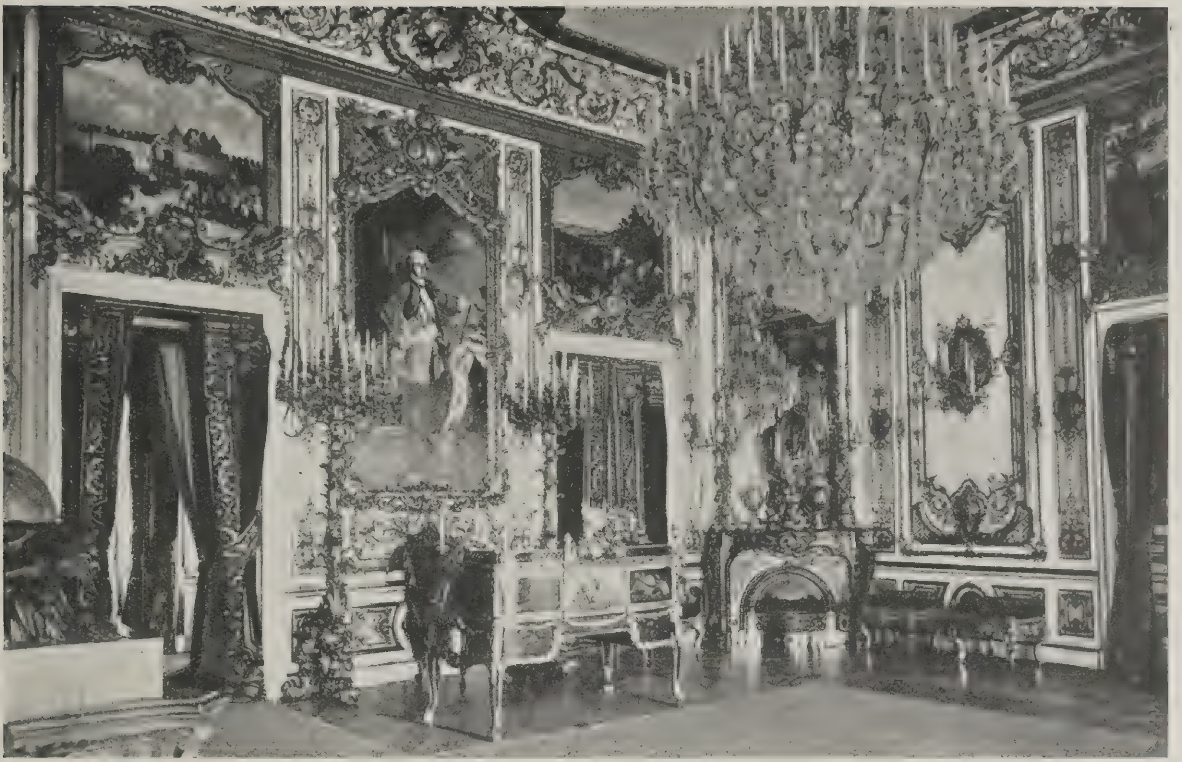
CASTLE BERG.

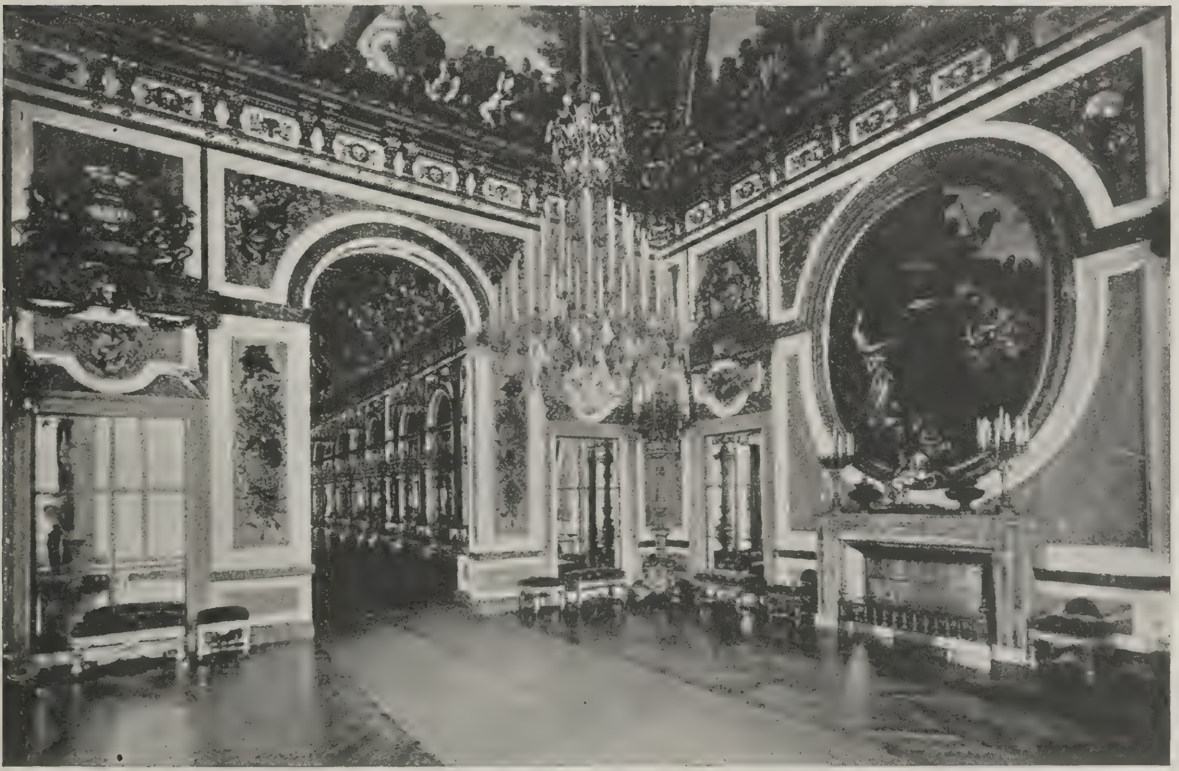
A building should always have some connection with life, in relation to which it must be considered if its real value is to be truthfully assessed. Such relationship may be intimate and personal, it may be functional, or it may be a combination of these qualities. The palace at Herrenchiemsee is at once regal, and at the same time as expressive of a certain aspect of the complex character of King Ludwig II of Bavaria as Versailles—upon which it is modelled—is expressive of Louis XIV of France; and if the significance of the building is to be understood it must be considered in connection with the life of its owner, whose personality so strangely dominates it.

In Ludwig II we have the tragic spectacle of a figure burdened with the temperament of an artist, who is yet impotent himself to create, and in whom, moreover, congenital madness insidiously spreads like a cloud which, at first no bigger than a man's hand, slowly envelops the sky, so that in the end he becomes a melancholic, shunning men's company and seeking to find solace in vast megalomaniacal schemes. If a generalization about anything so complex as a personality be permissible, it may be said that Ludwig's characteristics are threefold: a love of all the arts, a desire to project himself into the rôle of some one else, and a love of solitude. And as these traits have an important bearing on the buildings that we are considering, a slight dilation upon them is necessary.

Although the artistic urge of his personality found its completest realization in the works of Wagner, leading to a patronage and friendship that became the gossip of Europe, nevertheless Ludwig's cravings were for every art form, and particularly for architecture and painting; and so he built castles and palaces for himself all over his kingdom, filling them with priceless examples of every kind of craftsmanship. Inextricably bound up with this yearning for beautiful and rare things was the desire to identify himself with historical or mythological figures.

His pleasure in and admiration for the works of Wagner are partly to be accounted for by the eagerness with which he identified himself with such figures as Lohengrin and Parsifal. And in Louis XIV he saw the perfect type of king, reigning by a divine and absolute right, surrounded by every sort of splendour and every outward manifestation of absolute power. And as the palace of Versailles seemed to Ludwig to be the perfect setting for such an omnipotent and imposing monarch, he decided to build for himself a symbol of equal greatness. Herrenchiemsee is the visible manifestation of this desire. Striking curiously and antagonistically to this love of visible splendour was the ever-growing craving for solitude. This led to the selection of secluded spots for his castles. Castle Berg, which was an old family residence, is situated on the





APARTMENTS IN THE CASTLE HERRENCHIEMSEE, BAVARIA.

banks of the Starnberger lake. Castle Herrenchiemsee hides its magnificence on a small island in the lake of Chiem; two other of his castles, Neuschwanstein and Hohenschwangan, are comparatively inaccessibly placed in the Bavarian Highlands.

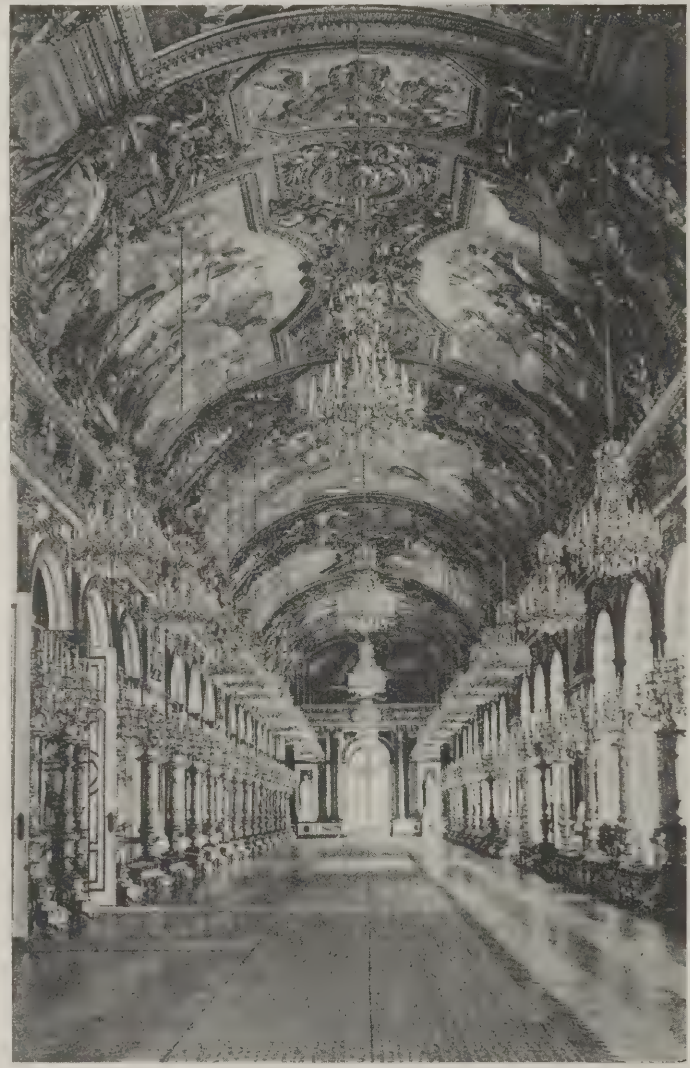
His persistency in shunning social intercourse and Court functions led to many unpopular extravagances. Command performances of operas and plays were held at the Court Theatre, at Munich, at strange hours, at which no one but the king was present. These performances were produced with the utmost pomp and attention to detail, for those were the days of realism in dramatic representation. On the roof of the Residenz at Munich he caused to be constructed a winter-garden with a lake, and exotic plants, and an ingenious mechanical moonlight effect. Here, in the most complete seclusion, he would float across the miniature lake in a swan-drawn craft garbed as Lohengrin.

These are but the briefest indications of that strange personality that emanates like a faint perfume from the tapestry-covered walls, the polished floors, the gilded appointments of the Castle Herrenchiemsee, and from the simple homely rooms of Castle Berg.

There is something particularly satisfactory in the contemplation of an old building which throughout the ages has preserved the purpose for which it was originally intended, just as there is something a little melancholy in the thought of an old building diverted from its original purpose after long years of patient service to perform some other and perhaps less dignified task. Who upon entering an old church has not at some time felt the very atmosphere to be impregnated with age-long supplications, and the dim past itself brought near by this unbroken continuity of function within its walls? And who, on the other hand, has remained unmoved at the sight of a street once lined with a stately array of houses suggestive of a life of ease and dignity, now fallen a victim to the claims of commerce, which has transformed the elegant lower story into a blatant fascia-crowned shop-front?

Something of this melancholy it is which strikes the visitor on the little island at Chiemsee. This great fabulous creation, which was built for the delectation of a king, fulfilled its royal function on only twenty-three occasions. On twenty-three nights did Ludwig seek respite from the unceasing inward struggle, in the great golden-canopied bed. He sought in vain; the very magnificence that he had created rose up and seemed to smother him; a feeling of its utter futility must have beset him so that he fled in the night to the modest Castle Berg.

This absolute newness is a powerful contributor to the impressions of Herrenchiemsee; for whereas its vaster prototype at Versailles bears the honourable scars of history, and is soiled with the passions and the comings and goings of powerful monarchs and deep enterprises, Ludwig's castle has about it the perfect freshness of a newly fashioned ring, or a sumptuous but unworn vestment fresh from the hands of the weavers. And now all this unused magnificence is turned over to satiate the curiosity of crowds that gape incredulously at such a heaping together of riches and splendour. For splendour that comes down to us from the past has about it something of the fabulous that attaches itself to past epochs, but here is a building that is almost contemporary (it was begun in 1882) and which indeed has never been finished, so that one passes, by a sudden transition, from rich rococo decoration into a vast apartment showing its bare brick walls and cornice awaiting the apparel of stuc, plaster, gold leaf, and damask hangings.



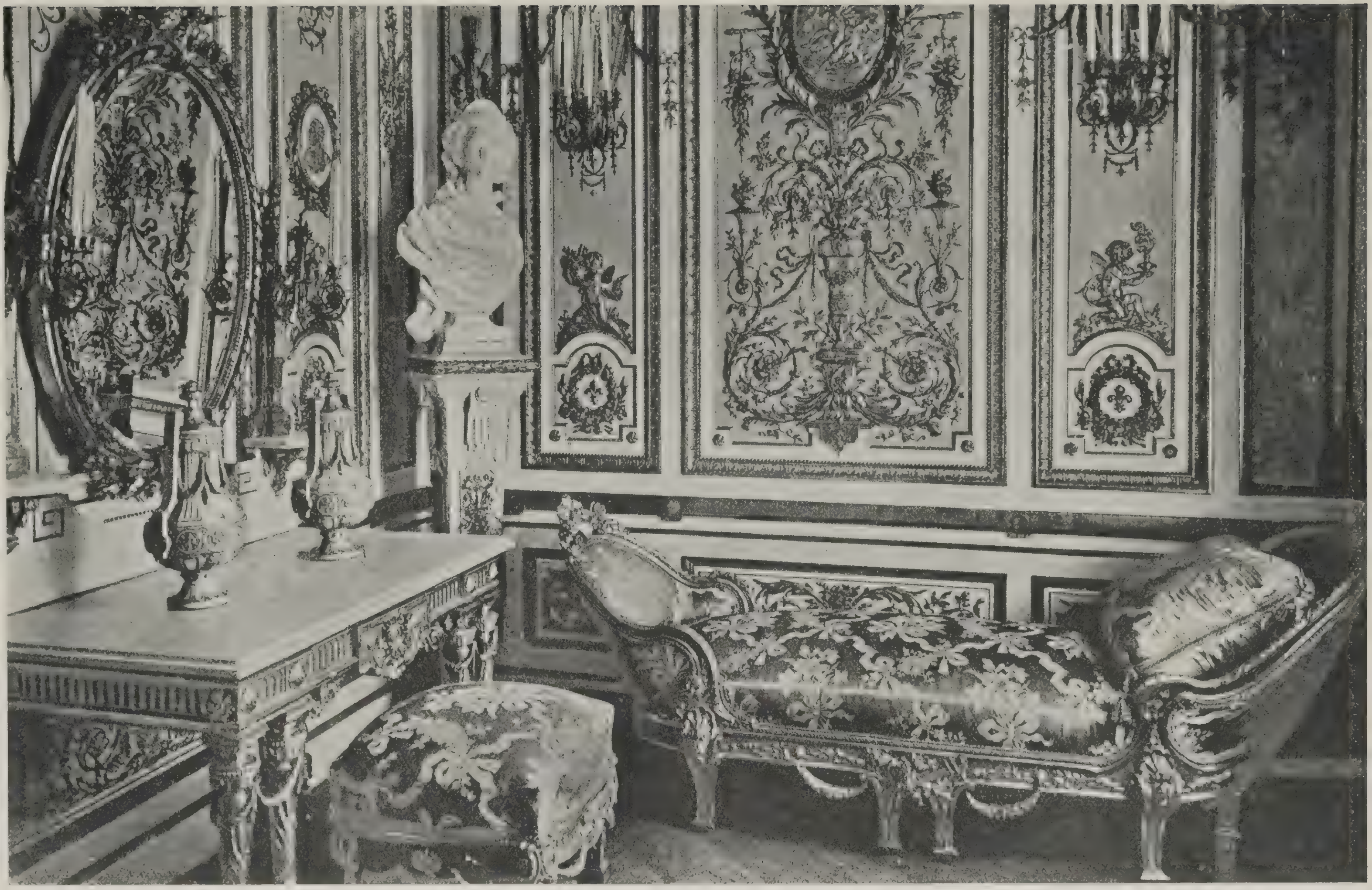
THE HALL OF MIRRORS, CASTLE HERRENCHIEMSEE

It is not possible to describe the rooms individually; their character is general rather than particular; but over all is the rich veneer of baroque decoration. As in its prototype, the rooms are arranged *en suite*, and one passes overwhelmed from magnificence to magnificence. The hangings and upholsteries are of the richest textures and embroideries, and on the massive settees in the long gallery the golden embroidered fleurs-de-lis stand up a quarter of an inch above the surrounding surface of velvet, so that an impress of some distinction would be left upon the clothes of anyone having the requisite audacity to seat himself.

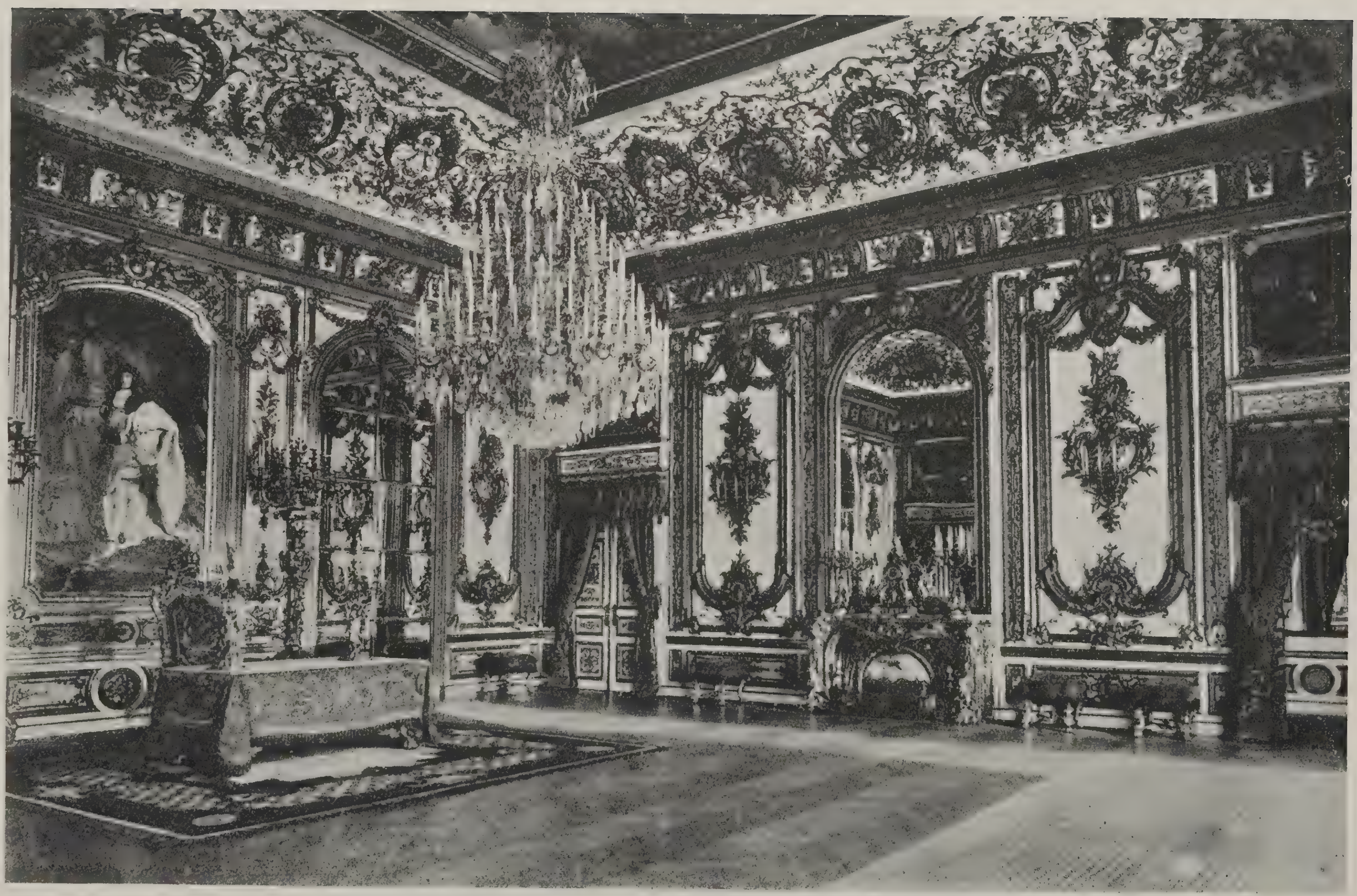
It is the function of architecture to collate the subsidiary arts and crafts, and in this respect Ludwig was an ideal patron. Painters and sculptors, clockmakers and goldsmiths, tapestry weavers and potters, furniture designers and metal workers, all have contributed to the enrichment of this palace. There is a room lined with mirrors of Venetian glass; there is another in which the whole decoration, including certain tables, is of Meissener porcelain; there are cut glass, Venetian glass, porcelain, gilded wood, and metal chandeliers of the most exquisite workmanship. There is a room containing clocks that display the utmost ingenuity of the craft; clocks that follow and register every movement of the sun, the earth, and their countless known satellites; clocks which, upon the striking of the hour, become animate with little moving figures.

Some of the ceiling paintings display that curious attempt at realism that was so common in the eighteenth century, which consists in a combination of the pictorial and plastic arts, so that here and there a three-dimensional plaster limb protrudes below the cornice merging into a painted figure, or a vast curtain is part flat and part modelled.

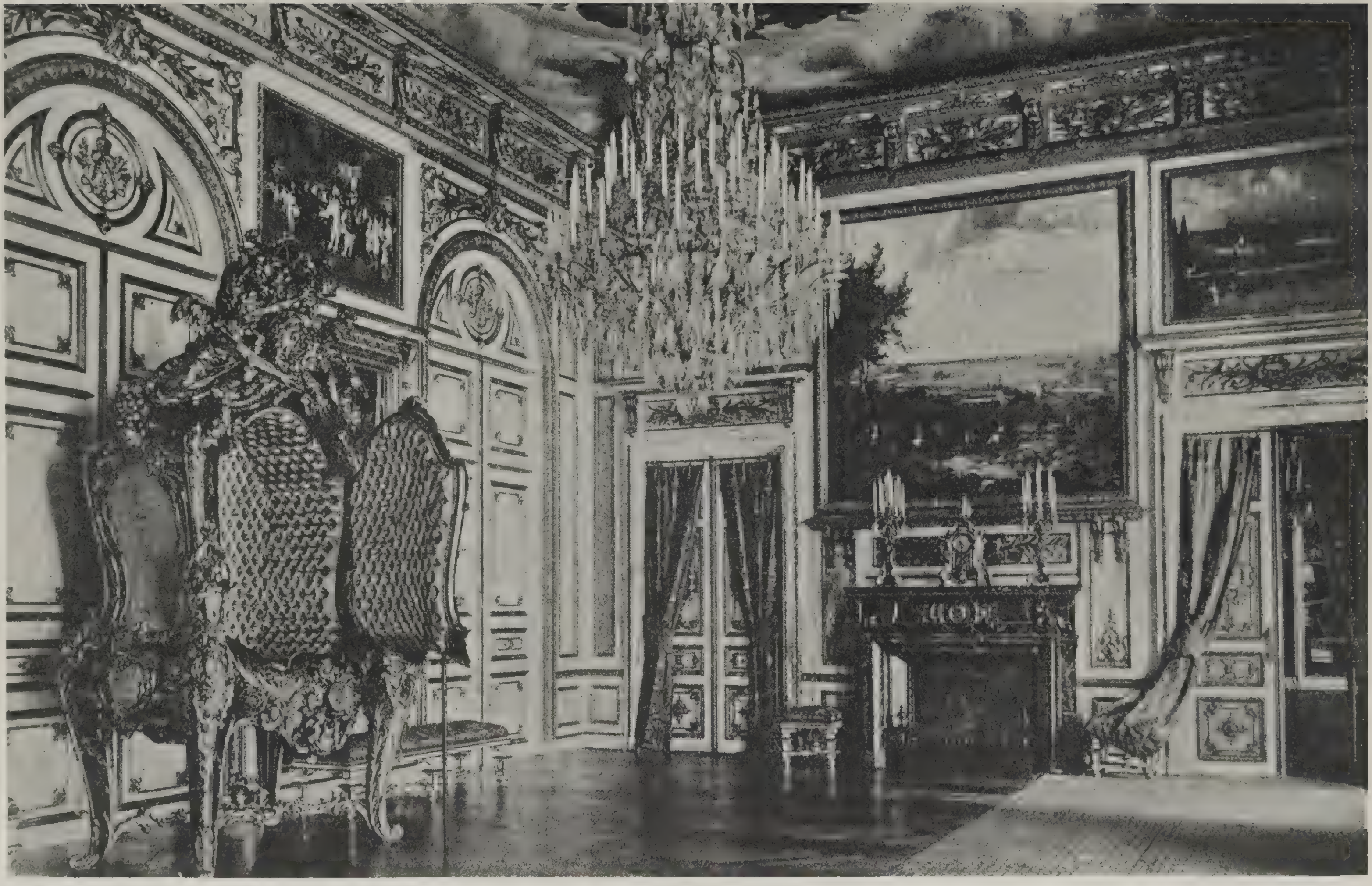
Many of the costly fittings have never been supplied, for



THE BOUDOIR OF THE CASTLE HERRENCHIEMSEE, BAVARIA.



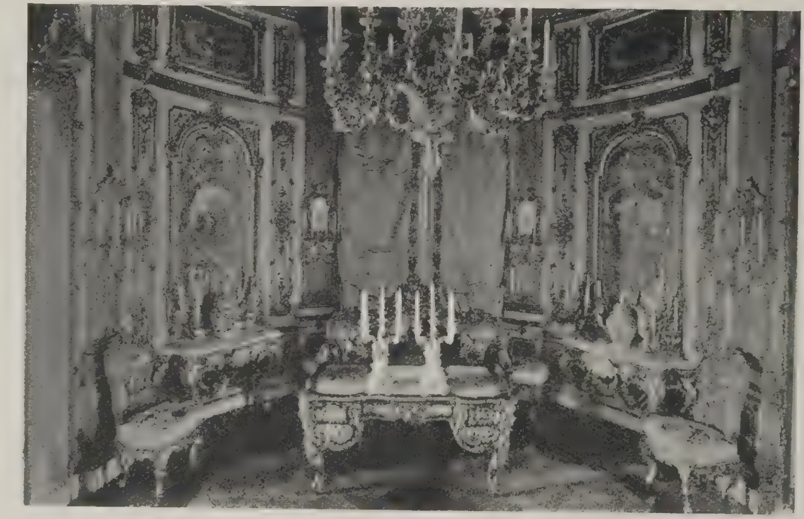
A STATE APARTMENT OF THE CASTLE HERRENCHIEMSEE, BAVARIA.



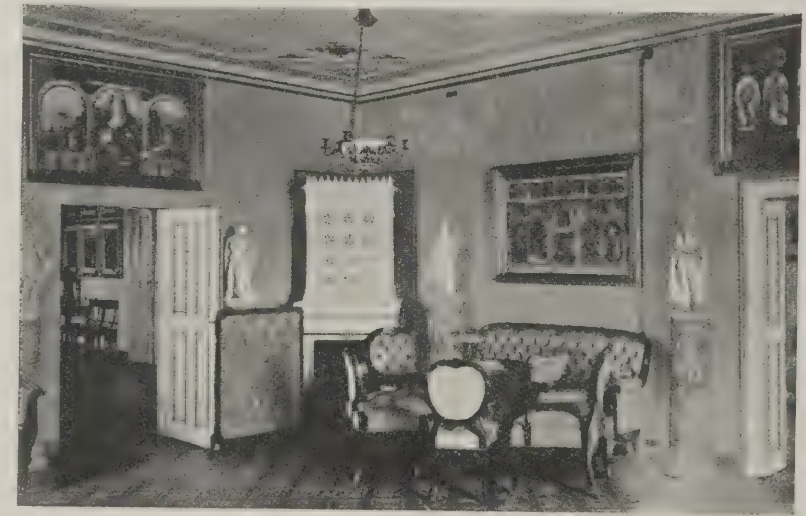
ANTE-ROOM OF THE CASTLE HERRENCHIEMSEE, BAVARIA.

the unceasing drain upon the exchequer caused by such great schemes led to the abandonment of the work before its completion. So that one comes across a trial plaster counterfeit of a sculptured group, or a chandelier whose temporary life has been unexpectedly extended. In the preparation of these fittings an impetus was given to local industries which still survives, and the interest which Ludwig took in the arts and sciences is comparable to that taken by the Prince Consort in England, whose efforts culminated in the great exhibition of 1851; for in this heaped-up splendour, by which Ludwig sought to recapture the glamour of the French Courts of Louis XIV and Louis XV, he did not search for works of the period, but caused everything to be made anew. In the painting of his castles, such artists as Aigner and Hauschild were employed, Walker and Wagmüller were his sculptors, and Dollmann and Hofmann were the architects responsible for most of his private work.

The gardens of Herrenchiemsee are laid out in the French manner with fountains and groups of statuary and formal beds, but in their long tree-lined axial avenues, at back and front, leading to the blue lake, with visions of the hilly shores beyond, there is a charm of which even Versailles in its greater splendour cannot boast. Externally the design compares unfavourably with its model. It lacks the richness of the pavilions and the broken frontage. The building is divided into three stories, the middle and chief one of which does not receive the emphasis due to its importance. The cornice is insignificant, and the surmounting balustrade, punctuated with sculptured figures is tawdry. The whole is undistinguished, and has the restlessness due to endless repetition without any massing or grouping of parts. One elevation is entirely devoid of projections, while on the other there is no differentiation between the wings and the main body from which they project.



THE PORCELAIN ROOM, CASTLE HERRENCHIEMSEE.



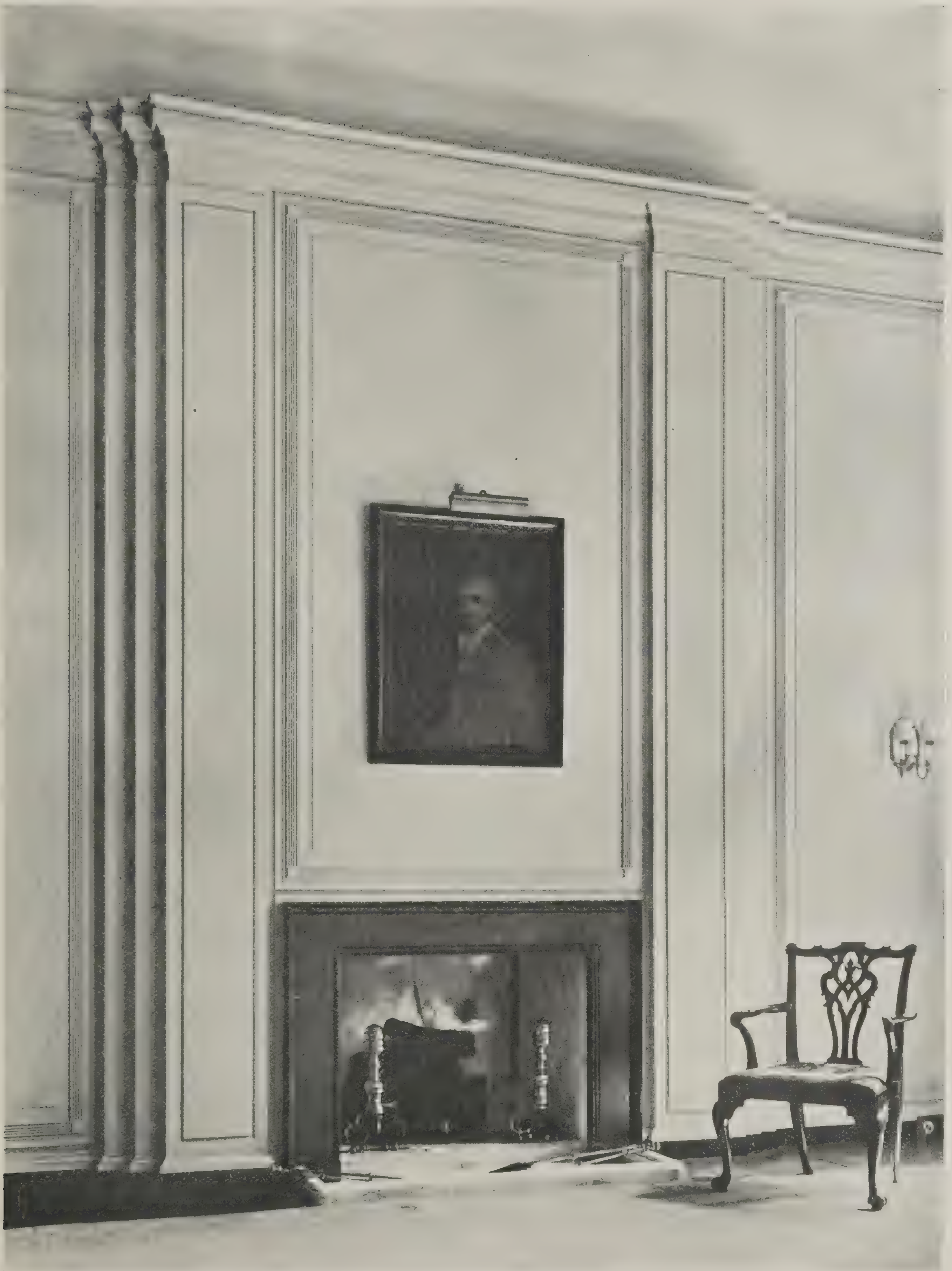
THE BLUE ROOM, CASTLE BERG.

Herrenchiemsee is a monument to magnificence at the expense of comfort. The very human body and its frailties and functions is an incongruity amidst such flamboyant opulence, where the chairs are not built to support the human frame, but to vaunt the richness of their coverings and the extravagance of their curves; where the surface of the tables is so valued and so polished that to set upon it the ordinary commodities of life would be a desecration; where there is no furniture for clothes and no place for books; where the very pen of gold must tire the hand that wields it, and where the bright-eyed cherubs in the ceilings or the marble busts of Louis on the mantelpieces look down in derision on the monarch who thus sought to recapture the past.

This is at one end of the scale, and at the other is Castle Berg, which quietly and unobtrusively stands amongst the rich foliage on the banks of Lake Starnberg. Here there was no need for a sacrifice of comfort, and Ludwig, no longer compelled to immolate himself upon the altar of emulation, was able to surround himself with the things he loved. And so Castle Berg became filled with tributes to the outstanding friendship of his life; reminders of his love for Wagner and his admiration of his works fill every room. Etchers, water-colourists, oil-painters, all were commissioned to portray scenes from the operas; these adorn the walls, while all about the rooms are sculptured groups and figures of Lohengrin, Tannhäuser, Siegfried, and the rest. These, and the bed upon which the dripping corpse was laid, with the water stains still showing, are all there is of visible interest in this castle; for the building itself, although of old foundation, is a kind of nineteenth-century Gothic, and the furniture is the German counterpart of our own mid-Victorian stolidity. The building consists of a few suites of moderate-sized rooms. It even lacks adequate sanitary arrangements. At the front and back of the house there are a couple of fountains surrounded by gay flowering borders; for the rest, there is undulating park-land extending to the water's edge. Away in the middle of the lake is a little island—the Island of Roses—on which there is a small summer pavilion. Thither, in his boat "Tristan," Ludwig would sail after sunset to dine with Elizabeth of Austria. And the little island would be bright with Chinese lanterns, and on the shore fireworks would illumine the sky.

Modern Domestic Architecture. 43.—The Chimneypiece, 4 St. James's Square, London

Milne and Phipps, FF.R.I.B.A., Architects



This chimneypiece belongs to the dining-room of 4 St. James's Square. The mantelpiece itself is of black marble, while the panelling is tinted a warm cream colour. A striking effect is got in the simplest possible way by a judicious handling of shadows and colours.

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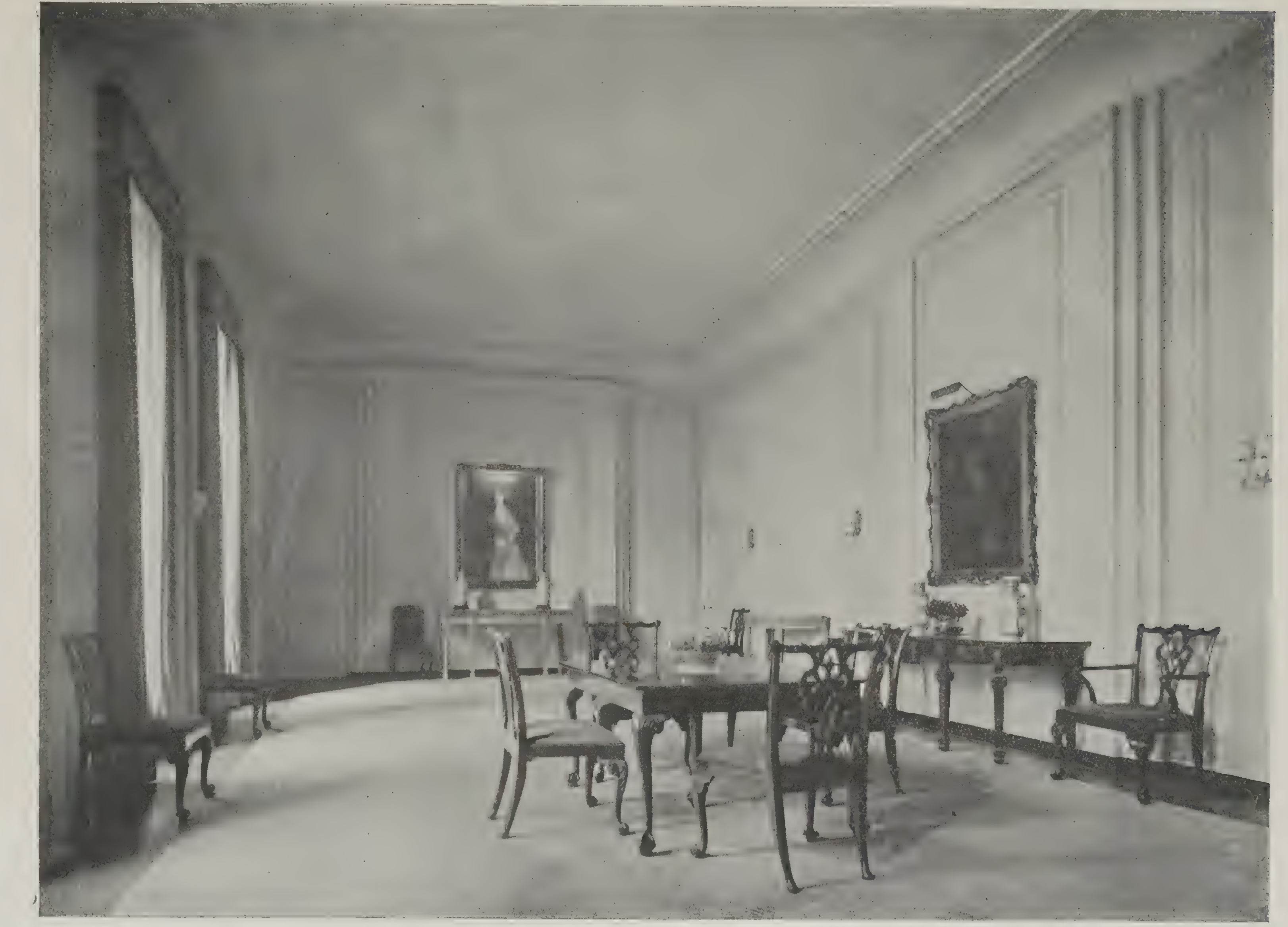
Modern Domestic Architecture. 44.—The Dining-Room, 4 St. James's Square, London

Milne and Phipps, FF.R.I.B.A., Architects



This room is panelled in plaster. The plaster is cream-coloured, and the panels are outlined with grey-blue lines which are in tone with the carpet and curtains. A black skirting acts as a border line between the walls and the floor.

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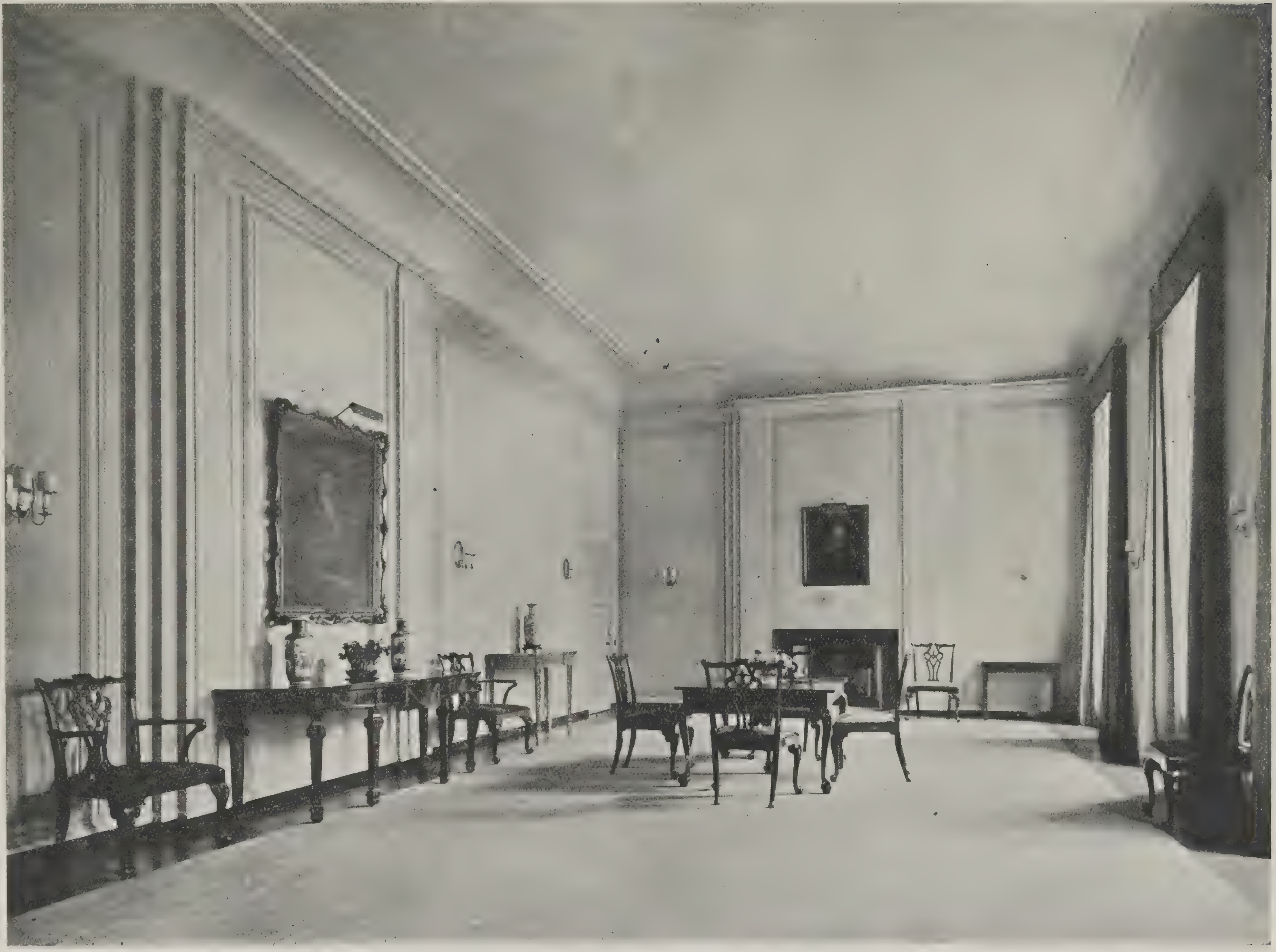
Modern Domestic Architecture. 45.—The Dining-room, 4 St. James's Square, London

Milne and Phipps, FF.R.I.B.A., Architects



Another view of the dining-room, looking towards the fireplace. This illustration shows in rather a striking way how effective interior decoration can be when the architect treats it simply as a setting for fine furniture.

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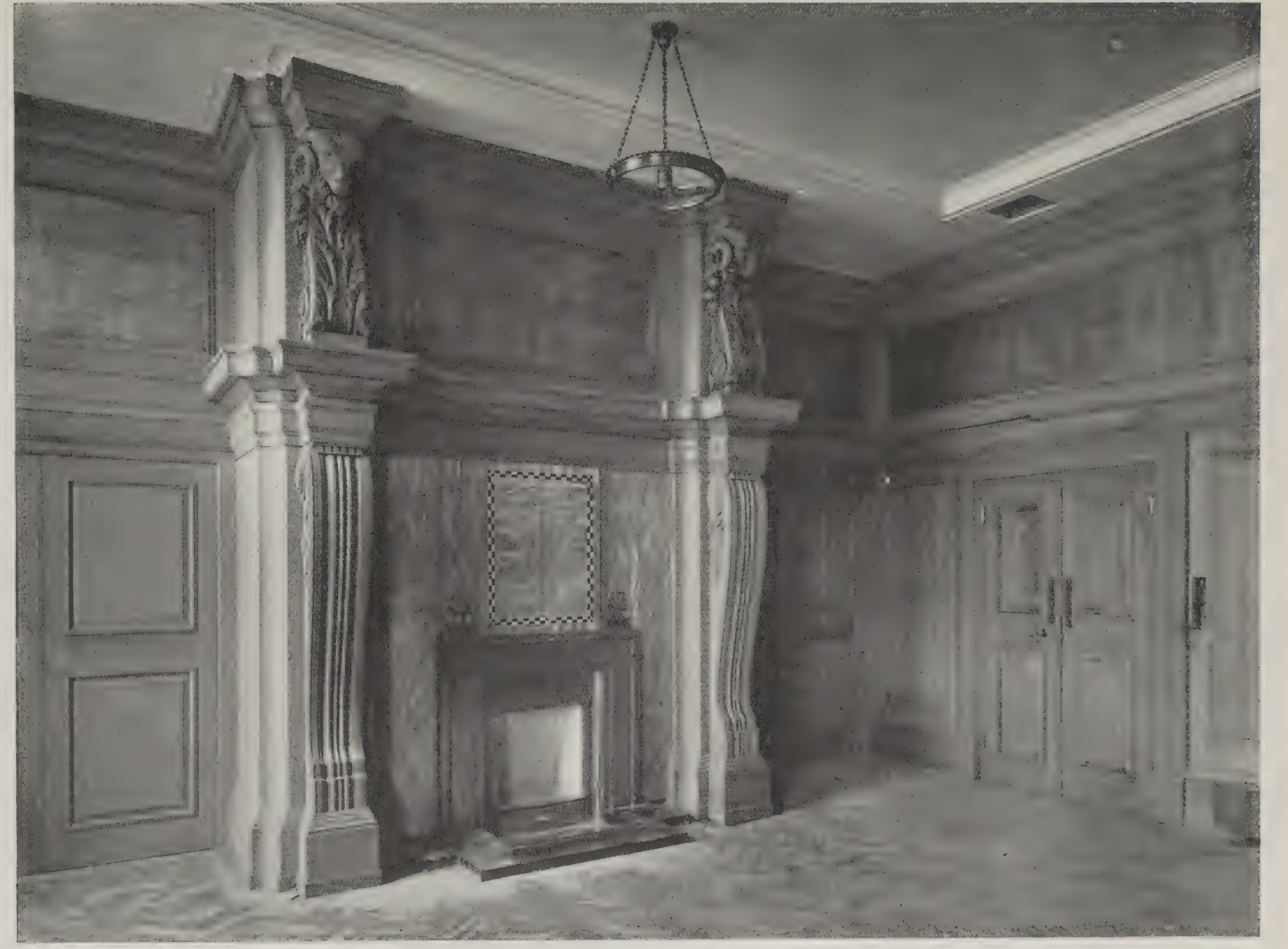
Current Architecture. 163.—The London County Hall: Chimneypiece in the Lady Members' Room

Ralph Knott, F.R.I.B.A., Architect



The chimneypiece in the Lady Members' Room, an unconventional though remarkably effective piece of design, is notable for the employment of what may be termed elongated consoles, the upper pair being richly carved and terminated with rams' heads. The panelling is of deal, covered with stamped silk in plum colour.

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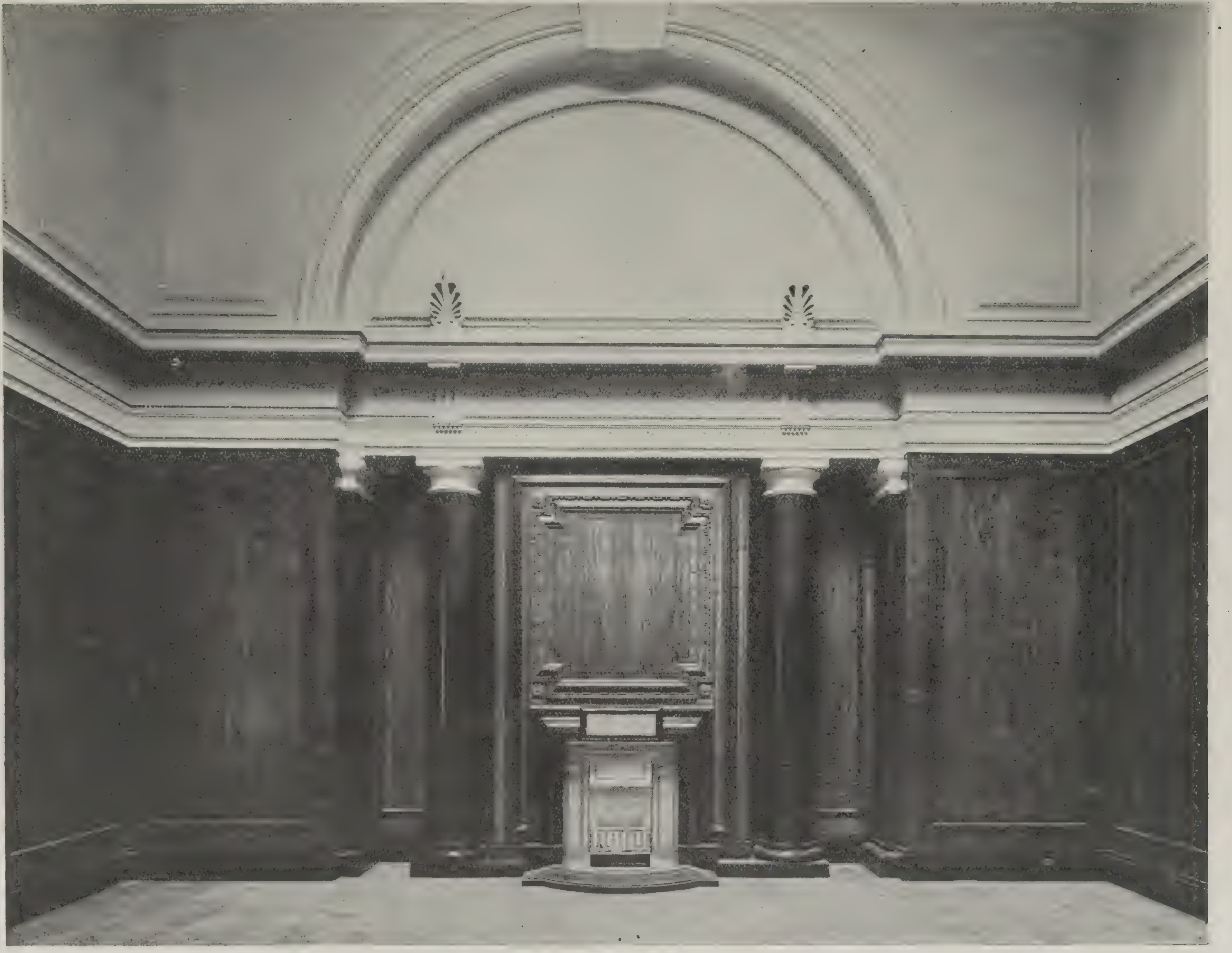
Current Architecture. 164.—The London County Hall: Chimneypiece in Voting Lobby

Ralph Knott, F.R.I.B.A., Architect



The voting lobby is distinguished by a bold if rather severe architectural treatment, the chimneypiece being set between Doric columns and pilasters which support an entablature with an arched recess above. The room is panelled with Indian laurel veneered on mahogany.

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New Coptic General Hospital, Cairo

THIS hospital, the foundation-stone of which has just been laid, is being erected in Cairo at Sharia Abbas, near Pont Limoun Station, on a piece of land nearly 4,000 metres square, or about one acre. It will replace a small general hospital which the Coptic Benevolent Society established temporarily some fifteen years ago in an old house at Sharia Abbas, close by the new site.

The new hospital is surrounded on all sides by streets. Sharia Abbas, on the north, is a wide avenue 22 metres wide, alongside an open space on which pass the Heliopolis tram and the Mataria railway line.

Sharia Kobbesy, on the south, is about 1.60 metres below Sharia Abbas, and the hospital ground will be on a level with it.

The outpatients' department is accommodated in the ground floor and has a special entrance near the S.E. corner; the outpatients, after being examined, will leave the hospital by the iron stairs (being supplied on their way with medicines at the pharmacy) at the N.W. corner.

The admission unit is placed on the left wing of the ground floor of the administration block. It is close to the outpatients' department, but has a special carriage entrance for ambulance cases.

The suspect or observation cases are dealt with in a special unit placed on the first floor, exactly above the admission unit. This unit has a special access from without through an iron staircase. Thus no communication exists with the rest of the hospital except by a door to be used only by the doctors.

On the first floor of the admission block are placed the principal offices and the waiting-rooms, with direct access through the entrance stairs from Sharia Abbas. The Society's board rooms, offices, etc., are placed on the right wing of the same floor and have a special entrance. This part is entirely separated from the rest of the building.

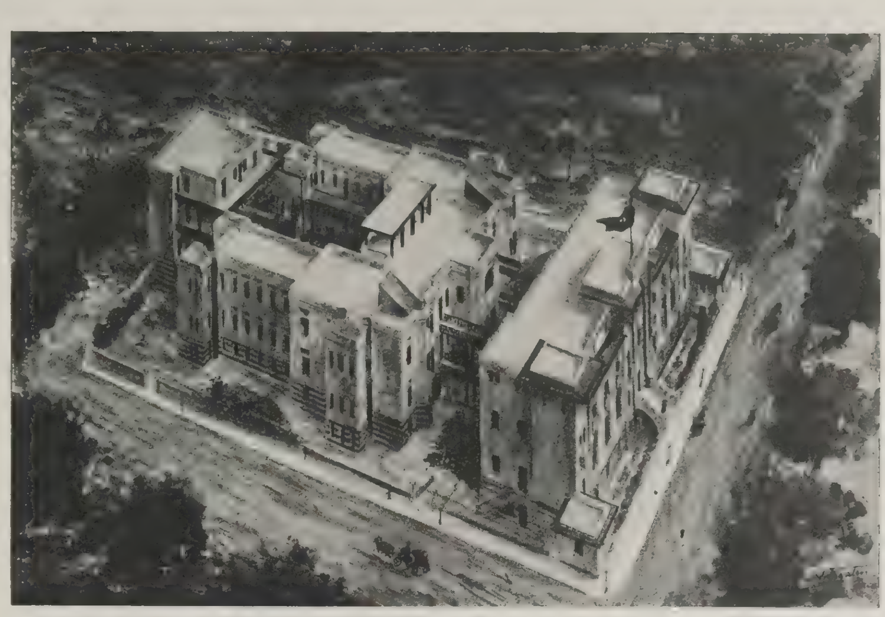
On the second floor of the admission block, facing due north (the most advantageous position for all kinds of building in Egypt) are placed twelve rooms for the use of first-class patients.

The third floor of this building is used for the sisters' and nurses' rooms.

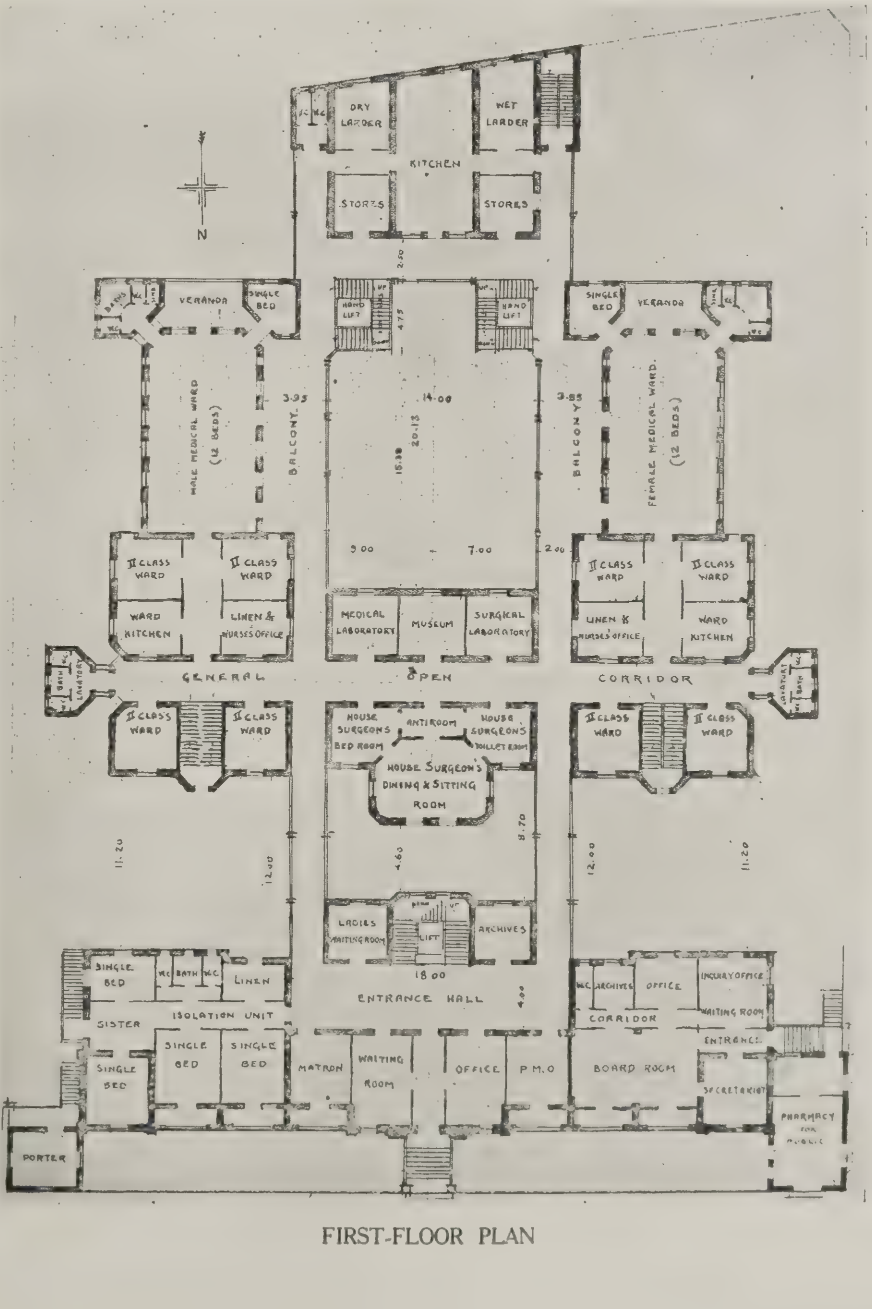
The operating unit, with the two pavilions on either side, form the central block of the hospital. Two iron footbridges connect this block with the administration on the first and second floors. The two pavilions have, besides, each a special staircase which gives on to an open corridor. The first floor of the pavilions is for the medical and the second for the surgical cases.

In the operating unit block the first floor is used for the private accommodation of the house surgeon. In this floor there are also three spare rooms used as surgical and medical laboratories and a museum. The operating theatre with all its accessories is placed on the second floor, where plenty of light and air can be easily obtained.

Of the four wards for general patients two are for male and two for female patients. All wards are identical. Each



A BIRD'S-EYE VIEW OF THE HOSPITAL. CH. BOUGATSOS, Lic.R.I.B.A., ARCHITECT.



FIRST-FLOOR PLAN

contains twelve beds for third-class patients, with a single bedroom for the serious cases, and four two-bed rooms for second-class patients. Each ward has a sectional kitchen, a nurses' linen room, and two disconnected lavatory blocks, one for the general ward and the other for the second-class patients.

Outside each pavilion are provided two verandas for the use of the patients. The convalescent can also use, during the summer, a part of the terrace as a rest place and promenade. Access to this is obtained by means of the ward staircases.

Two open iron staircases are placed on the south end of the central quadrangle, for emergency access to the ward. Each staircase is fitted with a heavy load hand lift.

The kitchen block, with all its accessories, is placed in a separate block on the south end of the site. Thus, smells and other nuisances are avoided, being blown away from the hospital by the prevailing wind, which in Egypt is generally from the N.N.W.

The ground floor of the kitchen block has a large room for boilers and one for fuel storage. A part of this floor is used as sleeping accommodation for the native male servants.

The kitchen, with its dry and wet larders, two stores, etc., is placed on the first floor. The second floor is occupied by the housekeeper, who has a working room, three stores for linen, and her private rooms. The third floor is used entirely as a laundry. To this are attached two disinfection and two ironing rooms.

A special semi-detached staircase and a separate exit are entirely for the service of this block. Separate hand lifts are also placed for the conveyance of the dirty and clean clothes to and from the laundry rooms.

The drying space is provided on the terrace of the two wards. The mortuary, with the necessary coffin room and a waiting-room attached, is placed at the S.W. corner. This unit has also a separate exit.

The lowest tenders for the construction of the building complete, except electric, water, and sanitary installations, amounted to about £30,000. Reinforced concrete is used for floors and roof.

Parliamentary Notes

BY OUR SPECIAL REPRESENTATIVE.

In the House of Commons last week, Sir A. Mond, replying to Sir R. Clough, said that during the current year 144 local authorities in various parts of the country had been authorized to obtain tenders covering 4,169 houses. The maximum and minimum price per house approved during the year was £696 and £299 respectively; the highest price sanctioned since the operation of the State assisted scheme was £1,240. 1,432 houses had not yet been definitely allocated under the scheme.

In answer to Major Barnes, who asked the total number of houses required to replace other houses which, although they could not at present be regarded as unfit for human habitation, fell definitely below a reasonable standard, as given by the local authorities under Section II (e) of the Form of Survey under the Housing, Town Planning, etc., Act, 1919, Sir A. Mond said that the figures required were 104,442.

Sir A. Mond, replying to Mr. L. Lyle, said he was aware that a number of local authorities in addition to Northampton were at present considering the question of erecting houses without financial assistance from the Government, and he had expressed his readiness to give favourable consideration to such proposals. Definite particulars as to the estimated cost of the houses and the rents proposed to be charged were not yet available.

Sir A. Mond informed Mr. A. M. Samuel that houses complying with certain prescribed conditions and completed by June 23, 1922, were eligible for the Government subsidy and there was no obligation or undertaking to subsidize further building. A certain number of certificates by local authorities of the proper completion of houses by June 23 were outstanding, and it was estimated that sums amounting to £400,000 still remained to be paid.

Royal Society of Arts: "Owen Jones" and "Mulready" Prizes

Following are the awards in the above competitions :—

Architecture.

Prize : Rex W. Woods, School of Art, Norwich (Marble Memorial Tablet). Commended : James E. Connor, Ryland Memorial School of Art, West Bromwich; Lot Ramsden, School of Art, Leeds.

Mosaic.

Medal and Special Mulready Prize of £20 : Miss C. Honor A. Howard-Mercer, L.C.C. School of Arts and Crafts, Hammersmith (Design for Mosaic with full size detail). Commended : Catherine M. Pargeter, School of Art, Watford.

Wood Work and Cabinet Work.

Prize : Henry W. Keil, School of Art, Guildford (Looking Glass and Stand—Design and Work). Commended : Arthur Clegg, School of Art, Cavendish Street, Manchester.

Textiles.

Prize : F. Smith, Municipal Technical College, Blackburn (Woven Tapestry Work). Commended : John Burgess, School of Art, Macclesfield; Fred Wright, School of Art, Macclesfield; Hilda Morfett, School of Art, Sunderland.

Carpets.

Prize : Walter J. Bartrum, L.C.C. School of Art, Oxford Road, Putney, S.W. (Design for Wilton Carpet and Border for same). Commended : George Kershaw, School of Art, Macclesfield.

Linoleum.

Commended : Ivan Stanway, School of Art, Macclesfield (Design for a Printed Linoleum).

Arrangements have been made for the exhibition to the public of the competing designs as in previous years. They will be on view until September 17 from 10 a.m. to 5 p.m. (on Sundays from 2.30 to 6 p.m.) in Room 132, Department of Textiles, Victoria and Albert Museum, South Kensington, S.W.

Town Planning Institute: Meeting at Manchester

The fourth annual country meeting of the Town Planning Institute is to be held at Manchester, from October 12 to 15. Manchester is providing a splendid welcome and a most interesting programme, and it is hoped that as many members and their friends as possible will be able to attend. In order that arrangements may be completed, and because hotel accommodation is limited, it is important that those intending to be present should inform the Secretary, Mr. A. R. Potter, 4 Arundel Street, Strand, W.C.2, not later than August 12.

The meeting will coincide with an important Town Planning Conference and Exhibition that is being held at the Town Hall during that week, when the following members of the Institute will, among others, read papers : Messrs. Abercrombie, Adams, Gibbon, and Pepler. The Institute morning and afternoon meetings on the Friday will form part of that conference.

Provisional Programme.

Thursday, October 12.—Reception by the Lord Mayor at the Town Hall at 7.30 p.m. (evening dress).

Friday, October 13.—Town Planning Exhibition will be on view at the Town Hall and meetings will be held there. In the morning : Professor S. D. Adshead, M.A. (Past President), will read a paper entitled "Architecture, Town Ornaments and Amenities." In the afternoon : Alderman Col. Turnbull, Chairman of the Manchester and District Joint Town Planning Advisory Committee, will give an account of the work of that committee. In the evening : Dinner at the Grand Hotel and discussion regarding establishing branches of the Institute.

Saturday, October 14.—In the morning : Visit to the Docks and Ship Canal and trip on the Canal. Inspection of Trafford Park industrial area. In the afternoon : Inspection of arterial roads being constructed by the Manchester Corporation. In the evening : Dinner at the Town Hall, by kind invitation of the Lord Mayor.

Sunday, October 15.—If a sufficient number notify that they desire it, a motor char-à-banc trip to Buxton, returning in time to catch evening train to London, can be arranged.

The Manchester and District Joint Town Planning Advisory Committee, which is representative of over seventy local authorities adjacent to the city of Manchester, will show in the Town Hall a large and interesting exhibition of maps, drawings, diagrams, and models illustrating town-planning work, civic and regional development, public services, etc.

A very interesting series of maps is now being prepared by the Joint Committee for the area within a fifteen miles radius of Manchester, indicating traffic movement; gas, water, and electricity areas and supplies; drainage areas, town-planning schemes, parks and open spaces, unhealthy areas, rainfall and population maps, etc., and it is also intended to exhibit maps and models from many towns in various parts of the country.

Efforts are being made also to obtain a series of maps from American and Continental cities.

Cubic Content Estimates

A Criticism and a Suggestion

By W. PARRY-JONES

When a preliminary or approximate estimate of the cost of a building is required, the traditional method is to ascertain its cubic content in feet and to multiply this by the price suggested by experience.

The reliability of this result, therefore, depends on the truth of two sets of figures: the number of units the building contains, and the price per unit. It is to be observed, however, that the data for the latter are obtained from calculations based on the former. In other words, the price per cubic foot is obtained by dividing the known cost of completed buildings by their cubic content.

Hence, it is clear that the cubic content is the foundation of the whole process. The character of this foundation is, I find, open to criticism.

For a description of the method of measurement I quote from Leaning's "Quantity Surveying" (1897):—"The most usual practice is to multiply the outside length of the building by the breadth and the result by the height from the bottom of the footings to half way up the roof." This is, I believe, still the most usual practice, if not the only one used to-day. On what principle it is based I have been unable to discover; it does not partake of the character of a mathematical constant, neither does it appear to follow any precedent. To measure a group of enclosed voids as solid, seems to me as absurd as cubing up a stack of empty boxes of all sizes, thicknesses, and qualities and estimating their cost on this basis.

In the case of buildings this absurdity is intensified. For instance you may have several structures all providing equivalent accommodation, but owing to the fact that one has 18 in. rubble walls, another 9 in. brick walls, and a third 4 in. timber skeleton-framed partition walls, the cubic content of each is different. Also the roofs may be flat or pitched to slopes to suit tiles or slates; the foundations, shallow or deep, or a concrete raft; each in varying degree causing a still greater diversity in the cubic content. These variations of the cubic content destroy its value. It is impossible on so unstable a basis to gauge from the price the relative cost of different types of buildings. The present system of cubing is irrational and can be, with little trouble, replaced with a better.

The better method here suggested is what may be called the *void* method in contradistinction to the *solid* method above described.

The basis of the idea is that the architect's problem is — from this restricted point of view—to enclose certain voids with floor, walls, and ceiling or roof, and to group these in the most economical and convenient manner. This at once suggests the void content as the rational foundation upon which to base our cubic content estimates. It at least has the merit of being constant in quantity and does not vary with the alternative methods of construction, except in so far as the thickness of the internal walls will affect the length of the corridors, which is as it should be, and a recommendation rather than otherwise.

To ensure consistency in the calculations I append rules for measurement:—

1. The cubic content shall be the sum of the internal voids throughout the building, including bay windows, oriel windows and similar features that increase the floor area.
2. The height shall be measured from the floor to the ceiling, and where there is no ceiling (such as in open timber roofs) the height shall be taken to that point where a ceiling would have been, if one had been provided.
3. No deduction to be made for piers, chimney breasts, or other internal projections.
4. No addition to be made for dormers, recesses, or other small voids.

On these lines data for the price per foot cube will more truly reflect the cost of different types of buildings. Furthermore, assessors will be better able to judge the economic merit of designs submitted in competition, by comparing the void cubic content as well as the price per unit.

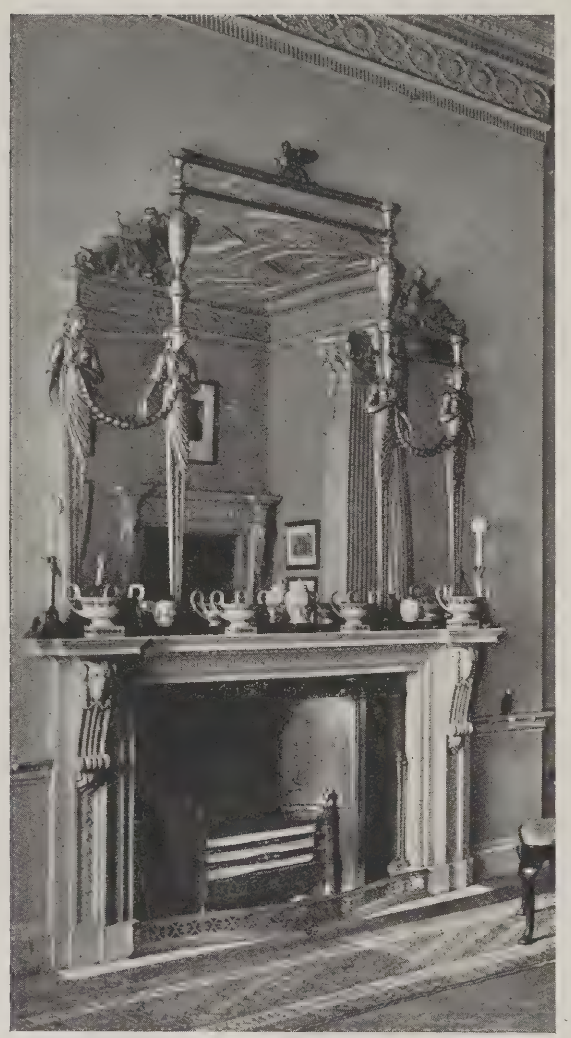
The adoption of this system will necessitate the collection of fresh prices, a simple matter, and one, moreover, that offers a good opportunity for classifying prices on a more informative and useful basis. For example, the price per unit of one or more storied buildings could be tabulated separately, and other groups formed as they suggest themselves.

The table hereunder is based on figures from actual practice last autumn. It will be observed that the price per unit of each method of construction as given under the solid system is identical, or nearly so; whereas, under the void system the relative cost is clearly indicated.

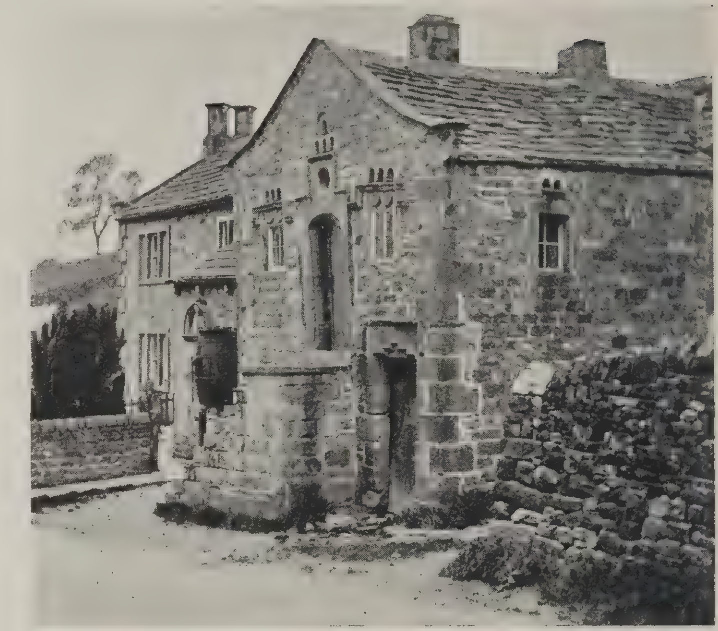
Type of Building. Sketch Plan.	Cube content.	Price per unit.	Amount.	Actual cost.
	Void system—			
	Cu. ft.	s. d.	£ s. d.	£
4 in. Stud partition walls	31,620	1 5	2,239 15 0	2,236
9 in. Brick walls	31,740*	1 8½	2,711 2 6	2,715
	Solid system—			
	Cu. ft.	s. d.	£ s. d.	£
4 in. Stud partition walls	45,150	1 0	2,257 10 0	2,236
9 in. Brick walls	52,600	1 0	2,630 0 0	2,715

* The small increase here is due to the longer length of the corridor caused by the thicker division walls.

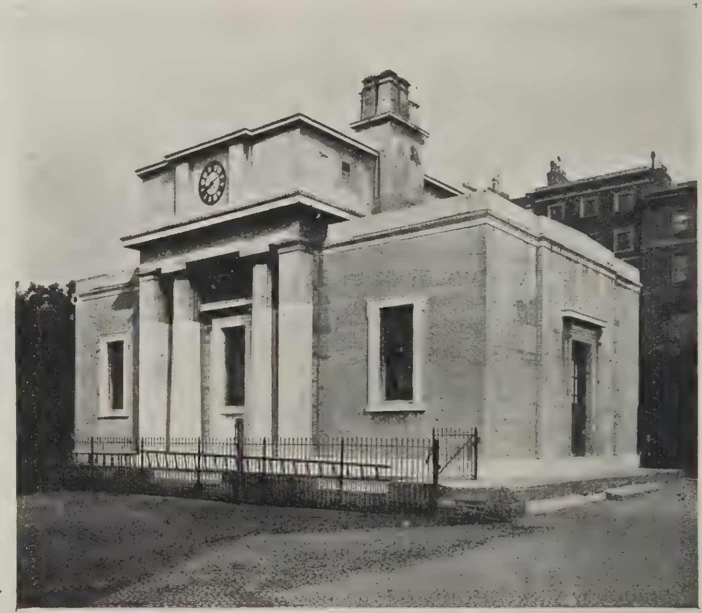
A Pictorial Review



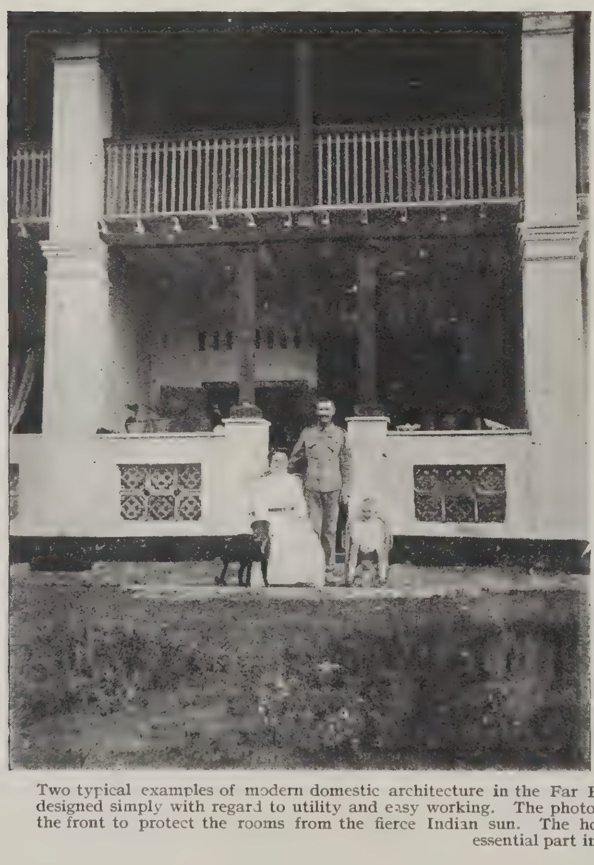
A chimneypiece from a house in St. James's Square, London, showing Robert Adam at his most sumptuous. The favourite ram's-head ornament appears in the brackets supporting the shelf, and upon the doorway reflected in the mirror.—L. H. ST. J.

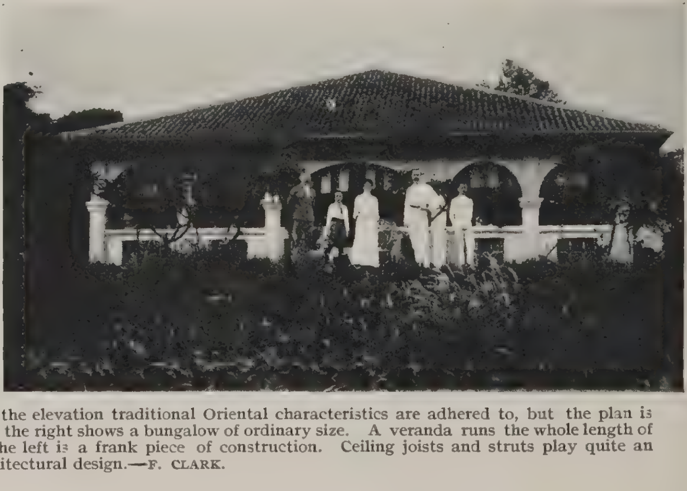


An old house, now a farm-building, at Appletrewich, Yorkshire. Notice the delightful way in which the ends of the gable are finished and the curious openings above the door and windows. The date of the house is about 1670.—E. L. GAUNT.

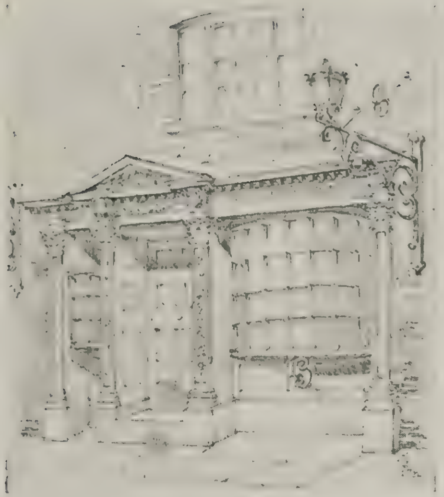


Besides designing the screen at Hyde Park Corner and the Arch at the top of Constitution Hill, Decimus Burton was also responsible for the various lodges in Hyde Park. The one shown in my photograph is near the Marble Arch. A Classic gate lodge with heavy Doric columns is a thing for the laughter of the gods. But how typical of the early nineteenth century !—P. T.

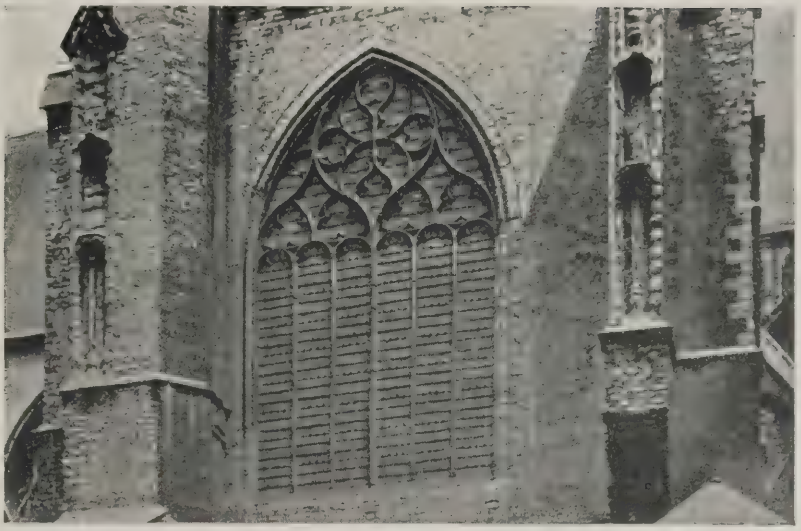




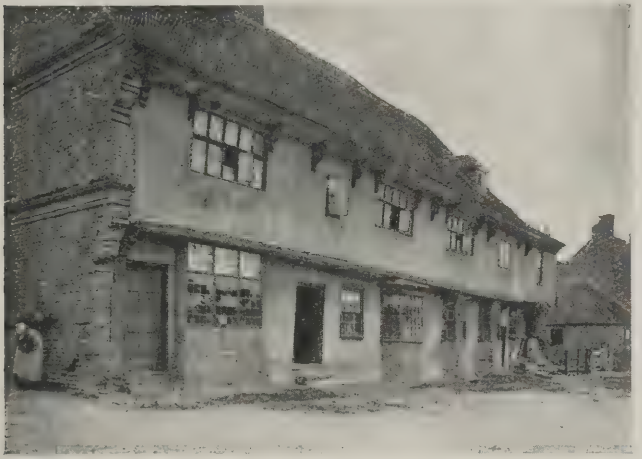
Two typical examples of modern domestic architecture in the Far East. In the elevation traditional Oriental characteristics are adhered to, but the plan is designed simply with regard to utility and easy working. The photograph on the right shows a bungalow of ordinary size. A veranda runs the whole length of the front to protect the rooms from the fierce Indian sun. The house on the left is a frank piece of construction. Ceiling joists and struts play quite an essential part in the architectural design.—F. CLARK.



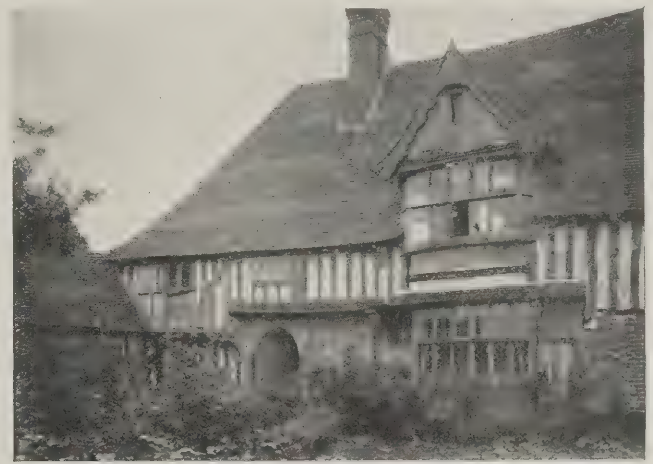
This little shop-front has recently been erected at the rear of the premises of Messrs. Levett, Frank, and Son, Ltd., in the Borough High Street. The oak door, carved pilasters, panelled reveals, and over-door were purchased by Mr. Frank in Holland, and the shield in the gable is dated 1636. The rest of the work is modern. The architect was Mr. A. W. Cooksey, F.R.I.B.A.—F. K. G. PAIN.



A window from the church of St. Pierre at Louvain, containing the most exquisite tracery I have ever seen. The church, though founded earlier, was entirely reconstructed in the fifteenth century, the date of the window being about 1440. It was gutted by fire, however, when the Germans sacked Louvain in 1914.—A. E. M. KERR.

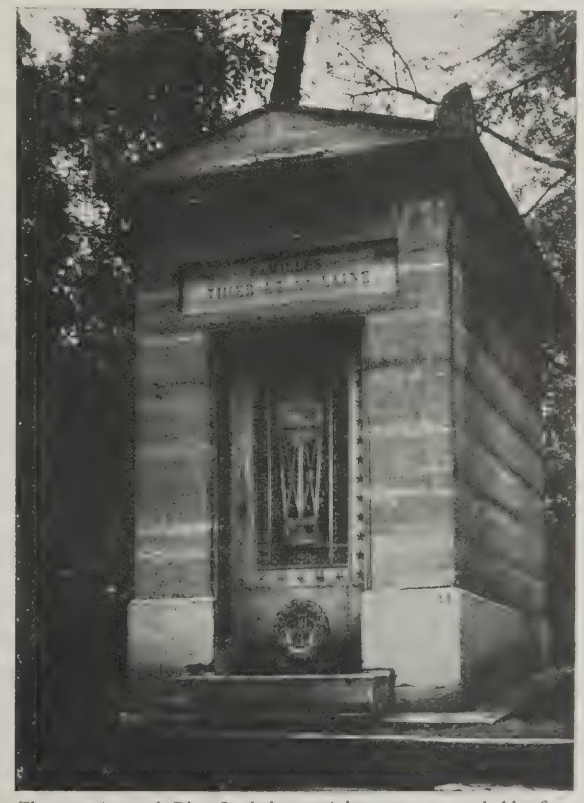


These old cottages at Eleham, Kent, date from Tudor times, and show the accretions of succeeding centuries. Note the bold eaves cornice supported on carved consoles, and the manner in which the end wall follows the contour of the front.—J. D.



This house is at Broadstreet, near Sellinge, Kent. Delightfully picturesque in general effect, it shows all the charm of Tudor work—good brickwork in combination with half-timber, fine casement and gabled windows, and a deep tiled roof.—J. D.

The American Institute of Architects held their banquet in the Old Fine Arts Building, at Chicago, on June 9. The setting under the dome was distinctly architectural, and served to focus attention on the efforts of the Illinois chapter to restore and preserve C. B. Atwood's classic masterpiece.



The cemetery of Père Lachaise contains many remarkably fine architectural compositions in the form of mausoleums, but none, I think, finer in monumental simplicity than this to the memory of the Thiébalt and Laine families.—F. P. R.

The Acoustics of the London County Hall

Those who complain of the acoustics of the Council Chamber in the new County Hall are, we suspect, focusing the blame in the wrong quarter. We recently heard part of a debate there, and were forced to the conclusion that the alleged difficulty was due to the faulty diction of the speakers rather than to the room itself. A voice that is properly produced is clearly audible in every corner of the Chamber; the mumbling or shrieking speaker naturally fails to make himself heard, as he would fail in any other hall of equal size. As a matter of fact, things are steadily improving as members become accustomed to the pitch of the Chamber, and the architects are confident that it is only a matter of time before difficulties vanish altogether.

Curtains are being tried over the Press gallery with success, and it should not be forgotten that curtains round the back row of the seating in the body of the Chamber were part of the architect's original plan. These were omitted at the wish of the Chairman, but they may possibly be hung if complaints should continue.

Cottages with Country House Equipment

To-day one of the difficulties of those who are giving up their country houses is to find a small place in which to live a life simpler yet not too far removed from their former one. One of the sharp stings of having given their best for the Empire is the difficulty of carrying on old standards and traditions. A red-brick villa with cramped rooms or a farmhouse with no modern conveniences is impossible. The need is a house of few rooms which does not entail much service, and which has no sordid surroundings.

It occurred to a woman that something on the lines of an Oxford Quad might help; a place where one could sport one's oak "when sick or sorry," and where acquaintance with one's neighbours need not necessarily be more intimate than in a block of London flats. With this thought some fifty acres of beautiful Sussex woodland, 400 ft. up, and within nine miles of Lewes, was bought, and a group of cottages erected, having the modern necessities of central heating, electric light, constant hot water, and a telephone; in fact the equipment of a good country house. Each cottage has a big living-room, long and low, with panelled walls and oak floors, and wide mullioned casement windows. There is also a tiny dining-room, a kitchenette, and three or four small bedrooms. The separate servants' quarters and servants' hall which serve the group are another country-house feature, and a few guest rooms help to solve one of the difficulties of small-house hospitality. Social life is possible in the club house or on the tennis courts, for a meeting-place apart from one's own little cottage makes for companionship and for privacy as well.

The wood is the attraction of the place; there are oak, chestnut, sycamore, and pine, and a thick undergrowth in which birds nest. A few acres may be reserved for a bird sanctuary.

It is hoped to attract as tenants Service men, especially naval, retired Indian Civil Servants, Varsity and literary men needing quiet; people who love the country and country life.

ANNABEL DOTT.

Government Lands

"All professional surveying and valuing staffs in the departments, with the exception of the Ministry of Agriculture and Scottish Board of Agriculture, should be completely amalgamated in a Central Lands Department, under a board of management responsible to the Treasury." This opinion is expressed in the report of the Committee, of which Sir Howard Frank was chairman, appointed by the Government to examine the question of concentrating in one department all Government purchases and sales of land and buildings and the management of the estates of the Crown and Government property.

The board of management, in the opinion of the Committee, should consist of a Treasury chairman, representatives of the Inland Revenue and the Office of Woods, and one representative of Government departments generally. All professional work in connection with the valuation, purchase, and sale of land and buildings should be undertaken by the Central Lands Department, acting as the agent for the purchasing and selling department.

The Committee recommends that the management of Government lands, so far as it consists of estate management in the usual sense of the term, should be entrusted to the Central Lands Department, and that the whole of the organization of the Office of Woods and Forests should be absorbed in the new department, the management of the principal agricultural lands being continued on the present basis. It is suggested that consideration should be given to a policy of gradual sale, as favourable opportunities occur, of the whole of the Crown agricultural properties, except where, for special reasons of national sentiment or expediency, the retention of a particular estate may be desirable, the proceeds of sale being utilized in the purchase of freehold town investments.

It is also recommended that the Central Lands Department, under the directions of the Treasury, should, in consultation with the departments concerned, investigate all Government holdings of property with a view to disposing of properties which it may be no longer necessary to retain for Government purposes, or which can with economy be replaced by alternative accommodation equally suitable for the purpose in view.

At least 1,200,000 acres of land in Great Britain and Ireland are administered by Government departments. Professional staffs, large and small, are maintained by several departments, not only at headquarters, but in the country. It is pointed out that the lands directorate of the War Department has a staff of land agents attached to each of the seven army commands in Great Britain, the valuation office of the Inland Revenue maintains 111 district officers distributed throughout Great Britain and staffed by professional valuers, and these are in turn controlled through thirteen divisional offices; and, similarly, the Office of Works, the Ministry of Agriculture, and the Commissioners of Woods have considerable professional staffs. The Committee "regard it as axiomatic that a qualified professional staff should be available for advising departments in regard to valuations, purchases, and sales, etc., of real property, and for the actual conduct of operations, and we cannot adopt any suggestion that valuations should or can be separated from purchases and sales (i.e. actual negotiations)."

The Central Lands Department would, in the opinion of the Committee, be the professional advisers and agents for each and every department, and departments should be instructed to ask for its assistance whenever occasion arises. "We regard it as cardinal that this rearrangement of professional staffs should result in a decrease in expenditure. It is clear that a certain immediate economy should result from the elimination of the several reserves of man-power which must necessarily have been created under the present system of maintaining professional staffs in several different departments. We feel confident also that the rearrangement will lead to more practical results in actual negotiations." The problem of concentrating the management of Crown and Government lands presents greater difficulties, but the Committee think the new organization which they have proposed should be entrusted with this work, as estate management is admittedly a function of a qualified surveyor and valuer.

With regard to the management work for the service departments, the Committee recommend that officers should be seconded from the Central Lands Department to the service departments so far as may be necessary. The total area of lands held permanently by the War Department is 219,480 acres, principally sites of barracks and camps, fortifications, training areas, and rifle ranges. It is obvious that many of these properties cannot be utilized in such a way as to produce revenue, and in these circumstances the control and management are to a great extent concerned with questions of maintenance, a matter chiefly for the works branch of the War Department. The Committee suggest that while the land agents in the commands should be absorbed in the Central Lands Department, that department should second such staff as may be necessary to carry out the local work of the commands.

As regards the management of Crown lands, the Committee are "strongly of opinion that the transfer of the work to the officers of the Central Lands Department will lead to an improvement of relations as between landlord and tenant, and will ultimately benefit the Crown revenues." They do not, however, contemplate that absorption in the central body will in the case of the agricultural lands necessarily involve a departure from the present system of management by outside professional agents and receivers, a system which, in their opinion, has worked well and is economical.

List of Competitions Open

Date of Delivery.	Competition.
Aug. 11—Jan. 31, 1923	Labour-Saving Flats, Hampstead Garden Suburb. Premiums £500, £300, and £200. Assessors: L. Rome Guthrie, F.R.I.B.A., J. C. S. Soutar, Lic.R.I.B.A., and E. J. Cooper, Secretary, Second Hampstead Tenants, Ltd., to whom, at Temple Fortune House, Hampstead Way, N.W.11, applications must be made by August 11.
Aug. 31	Lay-out of Land at West Cliff, fronting the sea, in Promenades, Recreation Ground, Roads, and Building Plots. Premiums £300, £200, and £100. Apply Mr. A. Blasdale Clarke, Town Clerk, Albion House, Ramsgate.
Sept. 16	Nurses' Home, Chelsea Hospital for Women. Premiums: £150, £100, and £50. Assessor, Mr. H. V. Ashley, F.R.I.B.A. Names by above date to Mr. H. H. Jennings, Secretary, Chelsea Hospital for Women, Arthur Street, Chelsea, S.W.3.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8,000 francs.
Nov. 1	Labour-saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C.4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Pavilion to cost £100,000 at Bournemouth. Premiums £300, £200, £100. Apply Town Clerk.

Competition News

Raffles College, Singapore.

The President of the R.I.B.A. has appointed Mr. John Begg, F.R.I.B.A., as assessor in this competition.

Town Hall and Municipal Offices Competition, Colombo.

The Secretary of the R.I.B.A. has been nformed that the above competition is imited to architects practising in the East. British architects should not, therefore, trouble to write for the conditions.

New "Daily Mail" Bungalow Competition.

"The Daily Mail" offers £500 in prizes to architects for designs for ideal labour-saving bungalows suitable for erection in the country or in the suburbs of a large town. The first prize will be £300; the econd prize, £125; and the third prize, £75.

The accommodation called for is: dining-room, drawing-room, four bedooms, maid's sitting-room, kitchen, and he usual domestic offices. The kitchen must not exceed 7 ft. by 8 ft. in size.

The total floor area of the bungalow must not exceed 1,500 sq. ft., including walls. The area of the rooms, with the xception of the kitchen, is left to the ompetitor.

Anyone practising as an architect, or in he employ of a practising architect, or in partnership or conjunction with a practising architect, is eligible to enter his competition. Engineers or others who wish to compete should arrange to ollaborate with an architect.

It is possible that the prize-winning design in the competition will be erected at the Ideal Home Exhibition at Olympia next March. In this case the prize-winning architect will be paid, in addition to his prize, the usual fees for superintending its erection. In any event substantial models will be on exhibition.

The last date for receiving entries for the competition is November 1, 1922. Full particulars, together with conditions of entry, are contained in a booklet which is now in the press. A copy of the booklet will be sent post free on application to "Ideal Bungalow," "The Daily Mail," 130 Fleet Street, London, E.C.4.

Chelsea Hospital for Women.

The Council of the Chelsea Hospital for Women propose to invite not more than twelve architects to submit designs, in competition, for their proposed nurses' home (some 100 bedrooms, etc.) to be erected in the hospital grounds.

Premiums of £150, £100 and £50 will be paid to the authors of the designs placed first, second and third respectively.

The Council have appointed Mr. Henry V. Ashley, F.R.I.B.A., to draw up the conditions and instructions of the competition, and to adjudicate thereon.

Architects willing to compete are requested to send in their names on or before September 16, together with their qualifications, to Herbert H. Jennings, Secretary, Chelsea Hospital for Women, Arthur Street, Chelsea, S.W.3.

Ramsgate Front Extension Competition.

It has been pointed out by the R.I.B.A. that the plan of the site of the West Cliff Estates submitted to competitors in the lay-out scheme does not mark the levels to enable architects competing properly to develop their schemes.

In consequence of this, the Borough Engineer went over the site with the assessor, who suggested that the levels should be supplied to competitors, and remarked that it would be necessary to extend the time for the delivery of designs.

The Council have decided to fall in with the suggestion made, and to extend the time of delivery of plans until August 31.

A Bank of England Exhibition

A special exhibition of the sketch models used by Sir John Soane, R.A., in the building of the Bank has been arranged by the Curator in the students' room on the ground floor of the Sir John Soane Museum, 13 Lincoln's Inn Fields. Among special features of the famous interiors of the Bank, too little known to the general public, are here shown the Princes Street entrance vestibule, the open loggia to the waiting room court, the accountants' hall, with a noble barrel vault, the Lothbury court, on the lines of Palladio's villa designs, the Bank Stock Office and the Consols Office, both of striking originality of design. There are in addition models and photographs of the Tivoli Corner and other parts of the exterior and interior of Sir John Soane's masterpiece. The museum is open free throughout August on Tuesdays, Wednesdays, Thursdays, and Fridays, 10.30 a.m. to 5 p.m.

Law Report

Light and Air Dispute

Slack v. Leeds Industrial Co-operative Society, Ltd.

July 11–14. Chancery Division.
Before Mr. Justice Romer.

This was an action by Mr. Charles H. Slack, of 23 and 24 Albion Square, Leeds, against the Leeds Industrial Co-operative Society, Ltd., of 10 Albion Street, Leeds, for an injunction restraining the defendants from erecting a new building in or near Albion Square so as to cause a nuisance by the obstruction of his ancient windows, as they existed before the pulling down by the defendants of the building, 15 Albion Square, or so as to obstruct or interfere with the roadway of Albion Square and the free use and enjoyment by the plaintiff of that right of way.

Mr. Hughes, K.C., and Mr. Harman appeared for the plaintiff, and Mr. Cunliffe, K.C., and Mr. Vernon for the defendants.

Mr. Hughes stated that the action related chiefly to ancient lights, but there were subsidiary points with respect to air and right of way. The defendants had paid £300 into court in full satisfaction of all plaintiff's claims and with a denial of liability. Mr. Slack's business was a very old-established one, and he had been there himself for nearly thirty years. Albion Square could be better described as a passage or a court. The only light Mr. Slack had was from the windows of his premises looking into Albion Square. The defendants were in a very large way of business. No. 15 Albion Square had been a low building, but the defendants were rebuilding it to a height which relatively was considerable. They were also building over Albion Square to the north of the plaintiff's premises, leaving a tunnel underneath 64 ft. long which, it was claimed, seriously obstructed the roadway over which the plaintiff had a right of way.

The hearing was continued on several days. Amongst the witnesses for the plaintiff were Lieut.-Col. H. M. Kirkby, consulting engineer, Westminster; Mr. Wm. Corby Hall, architect and surveyor, of Leeds; and Mr. Wm. Watson, of Messrs. Chadwick, Watson & Co., architects and surveyors, Crown Chambers, Albion Street, Leeds.

Mr. Cunliffe, for the defence, said the submission of the defendants with regard to the light was that while there would be a small diminution of sky area if the building was completed, there would be no material reduction in the light coming to the plaintiff's premises. With the white glazed bricks which the defendants proposed to use there would, in fact, be a substantial addition to the light. He said that the Court could not now grant an injunction or damages if the effect of what was done was to leave the plaintiff in a better position than he was before.

Mr. Percy James Waldram, consulting engineer, and expert on illumination, gave evidence on behalf of defendants.

At the conclusion of the legal arguments his lordship reserved judgment until after the long vacation.

The Week's News

Lambeth Bridge Reconstruction.

Reconstruction of Lambeth Bridge is to be considered by the L.C.C.

Torquay Roads.

A scheme of road widening in various parts of the district, involving an expenditure of over £20,000, is under consideration by the Torquay Town Council.

Reconstructing Teddington Weir.

Payment of £3,750 towards the cost of the reconstruction of Teddington Weir has been authorized by the Metropolitan Water Board.

New Dwellings in Lanarkshire.

The District Committee of the Lower Ward of Lanarkshire have authorized the erection of twenty-eight dwellings at Gartcosh. The architects are Messrs. Lennox and Macmath, Glasgow.

Bournemouth Improvements.

The Corporation are considering a proposal to erect cliff works, terraces, and groynes from Boscombe Pier to a point 100 yards east of Boscombe Manor steps at an estimated cost of £53,000.

Proposed New Tenements.

The Housing Committee of the London County Council urge that arrangements should now be made for the erection of the last two blocks of tenement buildings to be provided on the Tabard Garden Estate.

Hamilton Palace Grounds.

The grounds of Hamilton Palace, extending from Bothwell Bridge to Motherwell Bridge, and including a mausoleum and several lodges, have been purchased by the Hamilton Corporation for £20,250.

Australia's New House of Parliament.

It is the intention of the Federal Government to transfer Parliament at an early date to Canberra, where it will sit in about three and a half years. Architects are now preparing the plans of the Parliament House.

The Late Mr. A. Mackenzie.

The death is announced of Mr. A. Mackenzie, architect, Kingussie, in his sixty-seventh year. He was well known in the Highlands as an architect, having designed many buildings, including several of the largest distilleries on Speyside.

43–44 Albemarle Street.

In connection with the illustrations of the F.I.A.T. shop-front published in our issue for July 26, it should have been stated that the building 43–44 Albemarle Street, other than the shop-front, was planned and designed by Mr. Delissa Joseph, F.R.I.B.A.

Brooklyn Bridge in Danger.

One of the main cables of the Brooklyn Bridge connecting Manhattan (New York) with Brooklyn has shifted a short distance from its correct position on the summit of one of the towers, and the whole structure of the bridge has thereby been gravely weakened.

Church House Improvements.

It has been decided to make considerable alterations in the Great Hall and West Block. Arrangements to improve the lighting and general appearance of the Upper House of Convocation, and the arrangements for a restaurant in the West Block basement (part of which will be open to the public) have been approved.

Another London University Site.

A new suggestion is to build the university on both sides of the river by the Lambeth Bridge, where there are some twenty-eight acres of land available. A new bridge would unite the university buildings, which on one side would adjoin Lambeth Palace and on the other Millbank Barracks and the Tate Gallery.

St. Anne's, Soho.

The condition of the great east window in St. Anne's Church, Soho, is stated to be serious, if not dangerous, and it is suggested that the window should be put into thorough repair as a permanent memorial to the late rector, Prebendary Cardwell. The cost of a new iron frame and releading will be about £500.

Architect's Change of Address.

Mr. Alfred A. Ospalak, M.S.A., is removing from his present offices to more commodious premises at 25 Victoria Street, S.W.1. All communications and enquiries to be addressed to new offices. Telegraphic address: "Gavelskill." Telephone number as heretofore: "Victoria 5970."

New Richmond Bridge.

It is proposed to build a new bridge over the Thames at Richmond. The surveyors suggest leaving the old bridge for local needs and building a new bridge north of the railway river bridge, with an eastern approach nearly opposite the junction of the Kew and Lower Richmond roads and a western approach near St. Margaret's Railway Station.

Baths in the Parks.

The L.C.C. Parks Committee have reported in favour of the provision of open-air swimming baths in the parks. They recommend that application be made to Parliament in the session of 1923 for authority to construct at the parks and open spaces, under the control of the Council, open-air swimming baths, with the necessary dressing accommodation.

The Design of Schools.

A letter from the South Wales Institute of Architects has been read at a meeting of the Cardiff Council asking that the work of designing and executing the proposed new elementary schools at Cardiff should be taken out of the hands of the City Engineer, and that the architects for the buildings should be selected as a result of open competition. It was decided that the work should be done in the City Engineer's office.

White City for Sale.

Shepherd's Bush Exhibition Estate is offered for sale by private treaty. It is over 100 acres in extent and contains 35,000,000 cubic feet of buildings, all of which are now being repaired and redecorated. All the larger buildings and most of the smaller ones are constructed in an almost permanent manner, consisting of steel framework, with corrugated iron roof, breeze concrete walls reinforced with steel and concrete, and cement floors.

Mr. George Beaumont.

We regret to announce the death of Mr. George Beaumont, A.R.I.B.A., in America. He was a Leeds man, and at one time was well known in Yorkshire architectural circles. Mr. Beaumont won the gold medal of the Leeds and Yorkshire Architectural Society for a drawing of the beautiful chancel arch in Adel Church, and later on went to Chicago, where he practised very successfully and became the president of the architectural society in that city. Mr. Beaumont was about seventy years of age.

Greenhill Wood Estate, Otford, near Sevenoaks, Kent.

The above estate, comprising over 70 acres of good building land, is to be opened up for development, and roads will be formed. A feature is to be made of tennis and bowls courts for special use of the estate. The situation is a very fine one adjoining Greenhill Wood, Hilly Deal Wood, Otford Mount, and Flatdeal Wood, and water and gas are to be available. The surveyor to the estate is Mr. Sydney E. Castle, 28 Duke Street, St. James's, S.W.1.

Incorporated Church Building Society.

At the monthly meeting of the Incorporated Church Building Society, held recently, the Hon. Sir E. P. Thesiger, K.C.B., in the chair, grants were made towards building the church of All Saints, Luton, and rebuilding St. John's Church, Walthamstow. Grants were also made towards enlarging or repairing eleven other churches. As evidencing the increase in church building and repair, the number of applications dealt with at the meeting is the largest since the beginning of the war.

R.I.B.A. Archibald Dawnay Scholarships 1922.

In accordance with the terms of the Will of the late Sir Archibald Dawnay, the R.I.B.A. have awarded, for the first time, two scholarships, each of £50 per annum for two years, to Mr. E. U. Channon, Architectural Association, and Mr. D. J. A. Ross, Robert Gordon's Technical College, Aberdeen; and one scholarship of £25 per annum for two years, to Mr. C. S. White, Architectural Association. The scholarships are intended to foster the advanced study of construction and the improvement generally of constructional methods and materials and their influence on design.

Westminster Cathedral Addition.

Preparations are being made for the development of the land adjacent to the Roman Catholic Cathedral at Westminster. At the west and south sides of the oblong space outside the Cathedral bounded by Ashley Place and Morpeth Terrace a high monumental wall is to be built. The flank of the Cathedral will form the north side, while the east side will be almost closed in by an entirely new block of buildings in which it is intended to provide a song school, a chapter room, a large room for general purposes, and enough new classrooms to allow for more day boys being brought into the choir school.

Wednesday, August 16, 1922.

Vol. LVI. No. 1441

THE ARCHITECTS' JOURNAL & Architectural Engineer

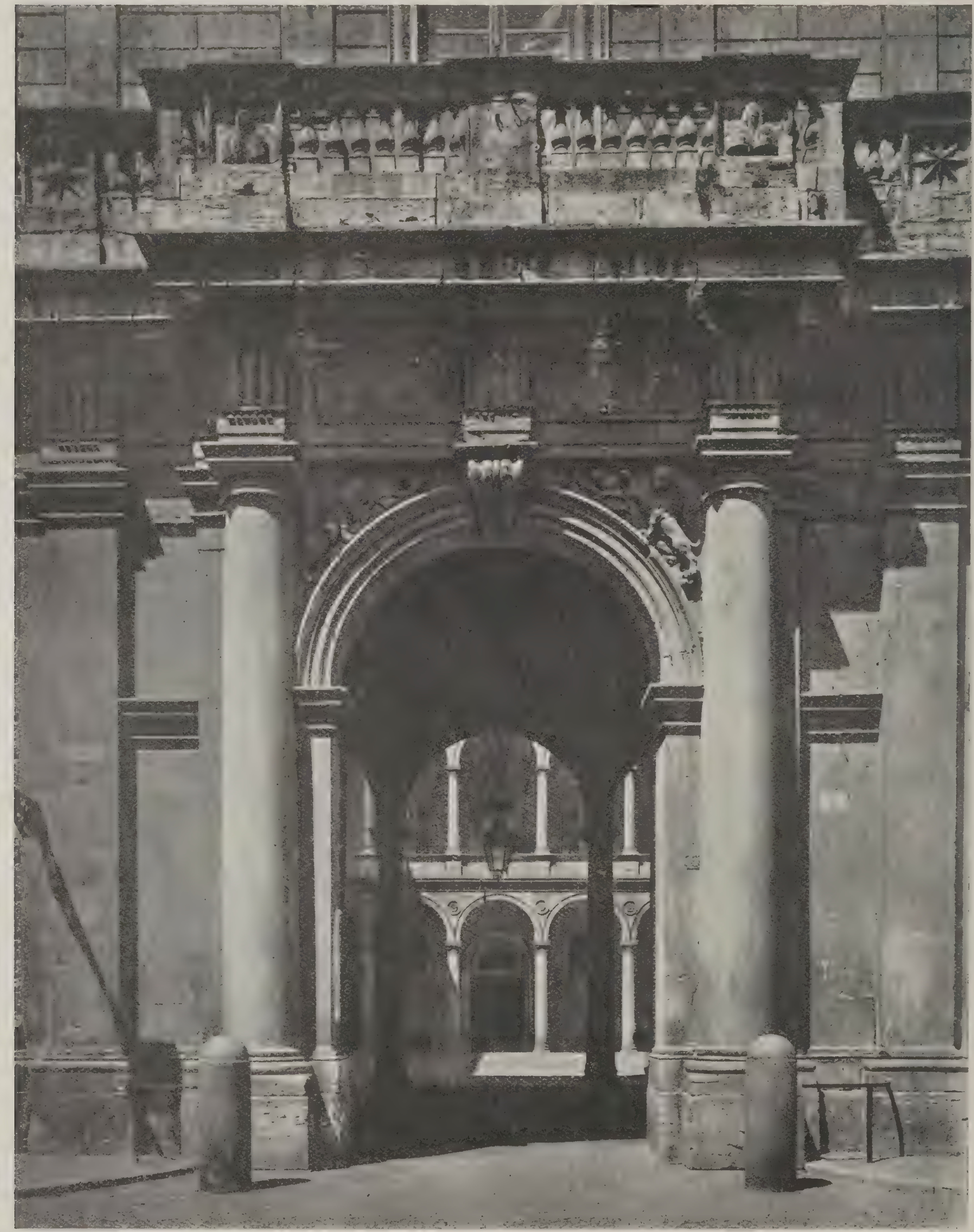
With which is incorporated "The Builders' Journal"

THE PALAZZO DELLA CANCELLERIA, ROME: THE CORTILE.
BRAMANTE, ARCHITECT.

27-29 Tothill Street, Westminster, S.W. 1.

Architecture of the Italian Renaissance. 18.—The Entrance Gateway, Palazzo della Cancelleria, Rome

Bramante, Architect



The Cancelleria Palace was built by Bramante between 1495 and 1505, but it was probably begun earlier by another architect. The gateway itself is of a later date, and has been ascribed to Domenico Fontana. Through the archway can be seen Bramante's cortile, the slender columns standing out with dazzling brightness from the shadows thrown by the arcade. Bramante himself was born about 1444, and died in 1514. He began as a painter, and studied under Piero della Francesca and Mantegna. He settled in Rome about 1499.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, August 16, 1922

Volume LVI. No. 1441

Notes and Comments

Architecture and the Lay Press

THE architectural horizon is expanding visibly. Like several other architectural educationists, Mr. W. S. Purchon, principal of the architectural department of the Technical College, Cardiff, is extending his sphere of influence far beyond the college walls by diligently writing for the lay press. We trust that the architectural professors will keep it up, and that they will be strongly reinforced by architects who are not professors, but are, nevertheless, competent to treat an inherently attractive subject in an appropriately attractive style. For many years we have advocated the more extended use of the Press for the popularization of architecture as a subject of interest to "the general reader," and at last the editors of the lay newspapers seem to be quite convinced of the fact. We note with pleasure that "The Times Literary Supplement," which has always given much evidence of its recognition of architecture as a fascinating subject of study by readers of cultured tastes, gives in its current issue a column of "Architectural Studies"; and the fact is one on which we take leave to congratulate both the editor and the author, but more especially the readers of the Supplement, and of similarly fortunate newspapers, in being offered a comparatively unfamiliar means of combining pleasure and profit in their reading.

Timber from Germany

Germany is such a confirmed laggard in reparation that her default in respect of timber is not surprising except in its impudent extent. In the House of Commons on August 3, Mr. Hilton Young, Financial Secretary to the Treasury, answering a question put by Sir W. Davison, made the remarkable statement that the maximum deliveries of timber by Germany in payment of reparations to this country should, in 1922, amount to 2,000 standards, of the value of £3,500,000, but that owing to delays it was not expected that more than a fourth of that quantity would be delivered within the stipulated time. Sir W. Davison thereupon very properly asked "whether the hon. gentleman could explain why so very paltry an amount of timber was being delivered by Germany, considering the fact that a fourth of the country was under scientifically planted timber." Mr. Hilton Young intimated that he should prefer to explain this matter carefully, and would then communicate with the member who raised the question. Mr. Young said that in 1923 the deliveries would be larger, but he did not state the grounds for this statement, which must be taken as hopeful rather than sanguine. Allowance must be made, no doubt, for certain difficulties of transport, but, nevertheless, Germany has only herself to blame if her notorious slackness all round in the matter of reparations suggests a sinister application of the proverb that "where there's a will there's a way." Unfulfilled expectations will have much the same kind of adverse effect on the timber market as on the money market, with an even more direct effect on building. Germany should, therefore, be pressed to deliver the timber supplies that, when they become plentiful, cannot fail to give an impetus to building. Yet it would be by no means wise to await that contingency. Full deliveries may not be confidently expected before the Greek Kalends; which is the more regrettable seeing that timber shortage in England is a serious menace to building by the ordinary methods; and there is much work for which other methods are for the moment impracticable.

The British Empire Exhibition

The underwriters of Lloyd's have very strikingly confirmed their high reputation for astuteness and enterprise. Having sent a representative party of delegates to the British Empire Exhibition at Wembley Park, they acted promptly and with fine chivalry on their delegates' report. The visiting party were so struck by the progress made in construction, and by the accessibility of the site, that they determined to do all in their power to assist the undertaking, and their efforts were enthusiastically backed at the Royal Exchange. The certificate guaranteeing the contribution, with the signatures of many hundreds of underwriters, was enclosed in a handsome album bound in blue morocco, with the Prince of Wales's feathers on one side and the arms of Lloyd's on the other, and presented to H.R.H. the President of the General Committee of the Exhibition with the accompanying loyal message: "The following underwriting members of Lloyd's present their loyal duty to H.R.H. the Prince of Wales, and request his acceptance from them of a contribution of £100,000 to the Guarantee Fund of the British Empire Exhibition, as a slight recognition of His Royal Highness's great services to the Empire." The Prince sent a very gracious reply; and his unfailing tact and unexampled popularity must insure for the British Empire Exhibition the greatest possible measure of success; and as, humanly speaking, that success implies national prosperity in full flood-tide, the underwriters at Lloyd's are to be congratulated on their patriotism and foresight in setting so fine an example to the rest of the business community, who now realize beyond a shadow of a doubt the British Empire Exhibition ranks "A1 at Lloyd's."

Scheme to End the House Famine

In an interview with a representative of "The Westminster Gazette," Mr. H. S. Abrahamson has prescribed a panacea to cure the house famine. He proposes that five hundred thousand houses shall be built at a cost not exceeding £350 per house, including cost of land. "The gross capital expenditure would, therefore, amount to £175,000,000, representing, at 4 per cent.—at which rate the State would be able to raise money—an annual outlay of seven millions. The entire programme," he suggests, "would either be undertaken by a firm of contractors, or, alternatively, administered by the Ministry of Health." Neither alternative is sound, the one savouring of monopoly, the other of incompetency; and there has been surely abundant experience to condemn both on sight; and, on the principle of "once bit, twice shy," the public are not likely to lend an attentive ear to any scheme that depends for success on Government interference in matters of which it has already made so glorious a muddle. Nor will Mr. Abrahamson's figures bear close scrutiny. A freehold house for £350 does not suggest "houses for heroes." Mr. Abrahamson's scheme is altogether too sanguine, and is not at all likely to commend itself to people made callous and sceptical through bitter disappointments. The builder's path is strewn with the wreckage of optimistic housing schemes.

Provision Against Abnormal Weather Conditions

Such violent storms as those experienced in various parts of England within the past few days can rarely have happened in this country during the first week of August, and the accompanying floods were exceptional for this time of year. At Sheffield the roads became rivers, flooding basements and cellars, and stopping the tramways; while the rainfall at Leeds was 3·44 inches, the highest ever recorded in that city. In the Ravensthorpe reservoir—the chief source of supply for Northampton, where a water famine had been feared, and consumers were rationed—the water rose eighteen and a half inches, equivalent, says "The Times'" correspondent, to thirty-five million gallons, or eighteen days' supply, but is still only half full. In such extraordinary conditions, street-flooding seems inevitable and complaint futile, drainage systems being planned to meet normal conditions only—the average steady English rainfall, not the sudden and violent downpour that is more common in the tropics. Still, if we are likely, as some meteorologists suppose, to become increasingly subject to alternations of drought and flood, such phenomena must be studied rather more intensively than the conditions have hitherto demanded. Against drought the only provision that has been suggested is the rather fantastic and impracticable one of digging moats and ditches about a building to keep the moisture constant in its foundations, thus to prevent shrinkage; but against flooding the only remedy short of enlarging the sewers and increasing the number of inlets seems to be that adopted in Paris against the rising of the Seine, and against abnormally high tides at some of our own seaside resorts—that of protecting the basement with stormboards.

Our New Literary Feature

It will be seen that this week we introduce a new literary feature. It is to appear once a month, under the title "Joking Apart," which will be recognized as an idiomatic phrase to which more than one interpretation can be given. What meaning the author intends it to convey may be best inferred from the series of articles as they successively appear. From them it will be seen that, as a rule, an occasional soupçon of Attic salt seasons a substantial dish, serving to redeem excellent common-sense fare from an insipidity that, for want of this condiment, is unappetizing and therefore falls short of full nutritive value. Let it not be for a moment surmised that "Joking Apart" will at any time warrant such an invidious construction as joking apart from solid sense. The cap-and-bells and gibbering-stick of the perfunctory professional jester are no part of his equipment. His peculiar vein of delicate humour—and he has elsewhere achieved high reputation in it—is never laboured, but always spontaneous and unforced, arising naturally, as all true humour does, from a swift yet penetrating perception of inconsistencies and incongruities, from a keen scent for life's little ironies and big hypocrisies, and from a firm determination to try always to discriminate truth from error, and to restate pointedly, if casually, with many a vivifying if sometimes jocose touch, truths and principles that are apt to fall flat on dull ears when dully and flatly expressed. Wholesome humour is always exhilarating when it bubbles up spontaneously and iridescently. What is so infinitely distressing about the spurious imitation known to Mark Twain—that most honest and earnest of moralists—as "alleged humour," is its ghastly and persistent irrelevancy. Here will be found none of the humour falsely so called "that for a tricksy word defies the matter." No silly irrelevancy, no word that is merely frivolous and insincere, no joking for joking's sake, or to "tickle the ears of the groundlings but make the judicious grieve," will ever find a place under "Joking Apart." That this new feature of the JOURNAL will be always marked by entire sanity and irreproachable taste, our contributor's threefold reputation as architect, humorist, and humanist is an ample guarantee. His humour is always good-humour, as genuine humour must ever be. And it will never stray far, if at all, from the many and various interests that are persistently uppermost in the architect's mind.

Stained Glass Collecting

Is there any class of object that has escaped the attentions of the collector? "Collecting old stained-glass windows" is, according to Mr. Maurice Drake—than whom nobody knows more about stained glass in all its bearings—"a hobby for millionaires." In support of this curious statement, he cites, in "The Daily Mail," some truly staggering figures. "A simple window of the type most frequently painted in the fifteenth century, with, perhaps, three figures on backgrounds of the diamond-shaped panes known as quarries, would be fairly cheap at £5,000." He cites a still more stupendous price. A thirteenth-century panel, containing only the head and shoulders of a saint, was bought by a dealer for £17,500. Mr Drake warns the embryo collector against stained-glass forgers, yet adds the reassuring statement that the holes or "shallow pits," like those found in York Minster windows, cannot be successfully imitated. Such holes, due to corrosion, while they attest the genuineness of the glass, depreciate its price, however. The presence of Mr. Drake's interesting and informative little article in "The Daily Mail" is a further gratifying proof of the growing attraction of art of all kinds for the "general reader," if only the subject be treated in a sufficiently popular style. Mr. Maurice Drake's interest in painted glass has descended to him even unto the third and fourth generation from ancestors who were noted experts in stained-glass manufacture; and to his high reputation in the gentle art of making painted windows he adds that of a writer of distinction, whether as the author of a standard treatise on stained glass or as the author of several successful novels.

Additions to Westminster Cathedral

It is intended to build, on the oblong space bounded by Ashley Place and Morpeth Terrace, an addition to Westminster Cathedral. A song school is among the new projects, and a high monumental wall is to be built, "possibly with alcoves or cloister-like arcaded corridors." A chapter-room, a large room for general purposes, and new classrooms for more day-boys for the choir school, are in contemplation, with a wide processional path and an "enclosure ending in a clump of trees, which should help to bring out strongly the picturesque roofs and galleries and buttresses of the cathedral apse." A great altar is to be erected at the east end of the enclosure. One would like an explicit assurance that this scheme is in strict accordance with Bentley's ideas, as we have no reason to doubt that it is.

Joking Apart

(A Monthly Causerie)

Two Post-mortem Examinations

LAURENCE OLIPHANT, in the opening paragraph of his memorable "Piccadilly," says that after reading the "History of Civilization" by his late lamented friend Mr. Buckle, it had occurred to him also to write a history of civilization—"*but after having seen the world, instead of before doing so, as was the case with that gifted philosopher.*" This strikes me as good sense and, on the ground that the proper time to discuss pictures is after people have seen them, and not before, justifies, I think, a reference to the late exhibition at Burlington House. Moreover, a true estimate of pictures is possible only on a full acquaintance with them: a man may go to an agricultural show, push his chin over the shoulder of the person in front of him, and from that position determine on the spot the rival merits of competitive turnips; but a work of art cannot properly be so disposed of. The fact is that the weightiness of the accredited art critic's opinion relies upon the completeness of his inability to do anything but criticize art; his authority, that is to say, depends on his limitations. I am not qualified by such limitations, but I make no apology for saying what I think about the pictures, for I pretend to no superior knowledge, and, as most of those who will read these lines make no such pretensions either, we can meet on easy terms of common understanding and mutual sympathy. It was, we may remember, a person pretending to superior knowledge of pictures who, visiting a London friend at her country house during the hey-dey of the cubists and saying, "What a charming portrait that is of your husband in the hall!" was informed that the picture was not a portrait of anyone's husband, but a plan of the drains.

* * * * * * *

There is a right and a wrong way to view pictures, whether at Burlington House or elsewhere. The wrong way is to gaze at them till nature rebels and we can endure the sight of them no longer. This is not getting one's money's worth, but getting *more* than one's money's worth. It produces "Academy headache," and is the usual method of the visitor to the summer exhibition, who frequently goes there not as a picture-lover, but in pursuit of sensation. It explains also why the chirping question "Have you been to the Academy yet?" is uttered in exactly the tone of one who during an influenza epidemic asks, "Have you been inoculated?" The right way to view pictures is to pay them short visits. The Royal Academy show this year justified many such visits, and the experience of dropping in at Burlington House eight or ten times in as many weeks to see how the pictures were getting on, was instructive. Some of the paintings got on well, but some pined away; some, that is, gained vigour, while others lost vitality and fell into an almost moribund condition. It was specially remarkable to note how the slick, startling, masterful portraitures of certain eminent painters soon fell into the background, and how the work of others—who, having reached pinnacles of popular recognition, are content to cling there with fingers and toes in denial of all further advance or adventure, like maiden ladies waiting for the undertaker—quickly became inconspicuous. The two notable portraits of Lady Rocksavage fully expressed themselves as advertisements of an accession to the aristocracy, but one speedily tired of Mr. Sims's picture, and Mr. John's "Mrs. Valentine Fleming" somehow drew away one's attention from Mr. Sargent's version of her Ladyship. What was it these pictures lacked? They certainly did not fail in mastery of the painter's craft; nor did Sir John Lavery's, yet of these last it can only be said that if the insolent pride, cruelty, arrogance, and sensuality which are the characteristics this painter seems to find in many of his fair sitters is as true to modern life as we like to imagine the dignity, gentle reserve, sensibility, and graciousness which Gainsborough depicted was to his times—why, then, God help us! Mr. Walter Russell, however, reassures us. He portrays women—not their vanities; and he has other business than to show how clever he can be. His portrait of his wife—the little lady in the black hat adorned with red and yellow fruit—grew, on acquaintance, to entirely possess the wall upon which it was hung, and remained one of the most memorable pictures in the exhibition. There were others besides Mr. Russell who redeemed the position; but, in their absence, any man might have found, in the array of feminine portraiture—including almost all the more conspicuous and important canvases—plausible justification for being a woman-hater.

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It was no less remarkable to observe the increasing respect which, in the light of familiarity, was claimed by even the most quaint and extravagant of the works shown in the room called by the irreverent the "jazz room," but known officially as No. XI. When I first saw these pictures I was seized with the idea of committing a canvas myself and sending it up next year. That ambition, however, soon cooled, and I realized that even if my work were to be fraudulently ascribed to Mr. Paul Nash (not represented at the exhibition this year), it might yet be refused admission. After several visits one began clearly to perceive that here, among the most bizarre and challenging exploits of the "jazz room," were ideas genuinely trying to get themselves expressed, and deserving the study by which alone a message conveyed through the medium of a new convention may be read. I gradually came to have a friendly liking even for the family grouped on the pink rush-woven hearth mat, which had, at the first encounter, repulsed me—the young father in black velvet jacket and basque cap, the gouty-looking mother, and the wooden child with its dirty, time-worn, debauched face. The picture grew on me; it was full of meaning, and replete with a subtle expressiveness; the difficulty was to understand its meaning and identify the sensations it awakened. Part of its expressiveness lay in the abject, workman's-dwelling mantelpiece with its deplorable "draped" hanging border, in the impossible perspective of the pink rush mat above referred to, and in the effect of structural dislocation it gave to the floor. It is, however, an exasperating futility to try to render one art in terms of another, and I will merely say that I began—so to speak—to smell a rat. The work, it seemed to me, was a complete picture, and with others of like genre was, in its reaching out, worlds removed from the complacent puppy-dog-and-Christmas-berry performances which afflicted the walls of Burlington House like a chicken-pox in the summer shows of twenty years ago. I became thoroughly interested in the work and, had I ever found myself alone with it, would have turned and viewed it through my legs with one eye shut in the hope of further sounding its depths.

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If the justification for autopsy may be considered to apply to yet another exhibition which has lately slipped away into the past it may be said of the International

Theatre Exhibition that in parts it was far too commonplace, and in parts not nearly commonplace enough. After more than one visit, "Herr Luckhardt's" two models revealed their latent idea, which was duly weighed in these balances and found wanting; but the stage settings of Mr. Gordon Craig, even when regarded in the light of the stage setting of himself in a photograph of such very soft focus as to suggest that Mr. Craig has begun to de-materialize and is already half way to heaven, remained inexplicable. I have, however, too much respect for the artist and too little esteem for my own vanity to condemn a work of art because I cannot understand it; but the preciousness of leaving everything to the imagination, so that you logically arrive at perfection with a white sheet as a back cloth and a row of tallow candles for foot-lights, involves, not the art of stage setting, but the art of explaining a theory. The theory, however, was not anywhere explained at the exhibition, and for all I know remains a secret in Mr. Craig's heart.

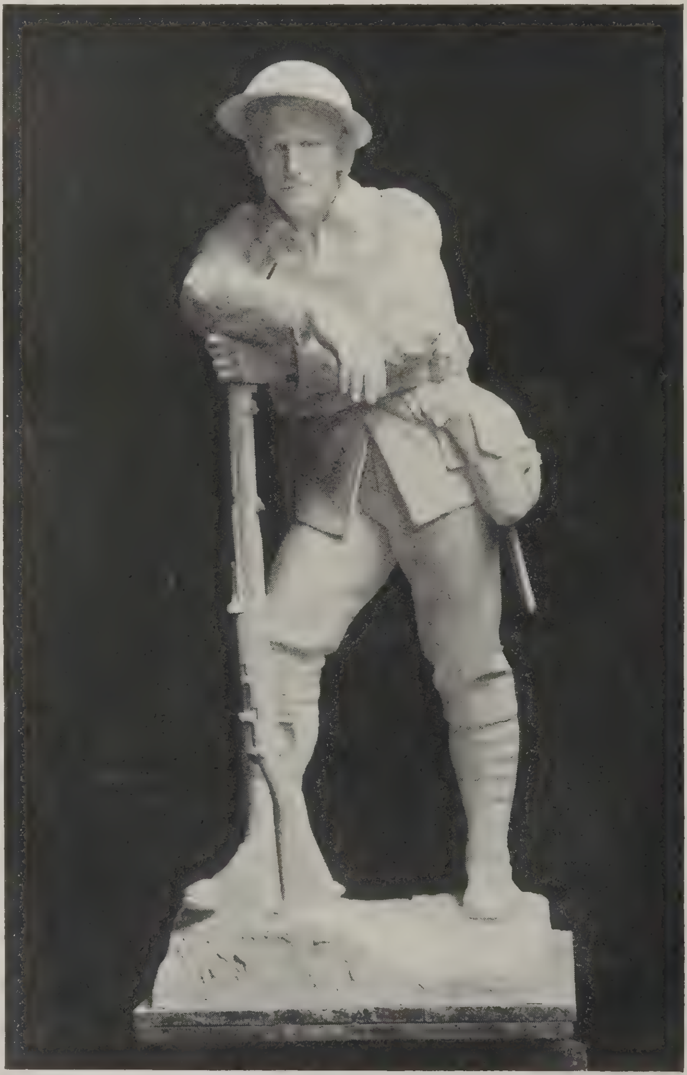
There is one respect, however, in which the stage settings exhibited seemed to commit an error, or repeat an oversight, which we all have frequent cause to regret when attending theatrical performances in which the spectacle—the scenic illusion—plays an important part. I refer to the omission to pay any regard to the floor of the stage. This neglect amounts to an eye-sore in contrast with such lovely settings and dress designs as those of the Russian Ballet. The proper position from which to view a ballet is the circle or balcony, so that the floor of the stage is seen in a perspective which reveals the pattern of the various measures. From the circle the visible area of the stage usually equals that of the back scene; from the balcony it far exceeds it, and the wide, dingy expanse of prosaic boarding mottled with discolourations and marked with the seatings of ring-bolts, traps, socket holes, and other contrivances of the stage carpenter, destroys the illusion of the glorious imagery of Bakst, Massine, and Stravinsky. It is not my business to tell Messrs. Diaghlieff, Butt, Moss, and Cochran how this defect is to be remedied, but I point out to these gentlemen that the matter calls for their immediate attention, and I hope they will not put me to the trouble of mentioning the subject again.

KARSISH.

The Sculpture of Gilbert Ledward

THE charm of Gilbert Ledward's sculpture lies in the fact that it has a future—a future which is shrouded in mystery. Of almost any other sculptor to-day it is possible to predict that he will go so far, and no farther; not because there are no other sculptors who have capabilities, but because it is hard to find, even in Mr. Ledward's generation, a sculptor who has not revealed his own limitations. Ledward's executed works are in the nature of experiments carried out under the influence of various powerful emotions. The artist, conscious of his strength, has taken up whatever modes of expression lay nearest to his hand, and has expressed himself through their medium, practising his skill much as a master-musician might practise his musical powers upon different instruments. And in his works carried out under these conditions there exists always a reserve of strength which leads one to say that Ledward has not yet discovered the limit of his powers.

Broadly speaking, his art, as far as it has yet gone, can be divided into three phases: The academical and student phase, of which the "Diana and Endymion" and the Figure of a Woman are examples; the Italian phase, which is illustrated by the Equestrian Statue; and the War phase, which includes his figures of soldiers and the Imperial War Museum friezes.



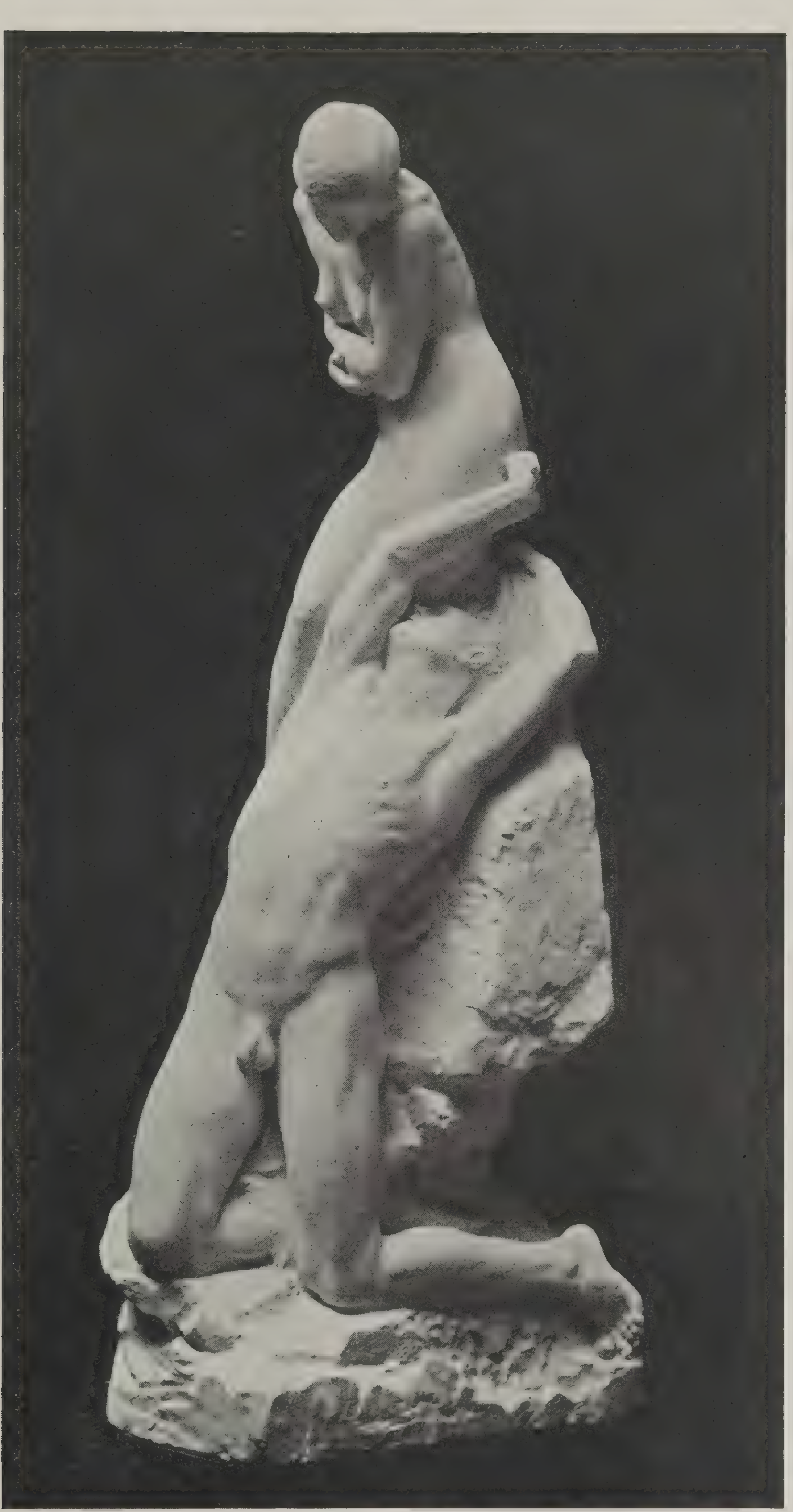
A FIGURE OF A SOLDIER.

With the "Diana and Endymion" Ledward won the R.A. Travelling Studentship in 1914. This is his earliest sculpture group; nor could anything display better the character of his work, for it contains a fusion of his two rarest qualities—power and a sense of grace. The unfettered action, the interplay of powerful and gracious lines, produce an effect which is at once lyrical and dramatic. The two figures in the group have the supple beauties of wild animals. Their actions are transitory, and change with the suddenness of light upon water. They flash into activity, and at the moment of the artist's inspiration they hover in a stillness quick with action.

The figure of the woman is powerful and graceful in the same way. This is done in plaster, and though simply a study of form, expresses by an exquisite flow of lines the same restless and hidden energy of life. Indeed, try as he will to confine himself to the abstract contemplation of form, Ledward cannot keep out of his creations that abundance of vitality which gives them realism and dramatic force—which, untapped as it is, and existing latently in the artist himself, induces the conclusion set forth above that he has not yet

Sculpture. 7.—Diana and Endymion

Gilbert Ledward, Sculptor

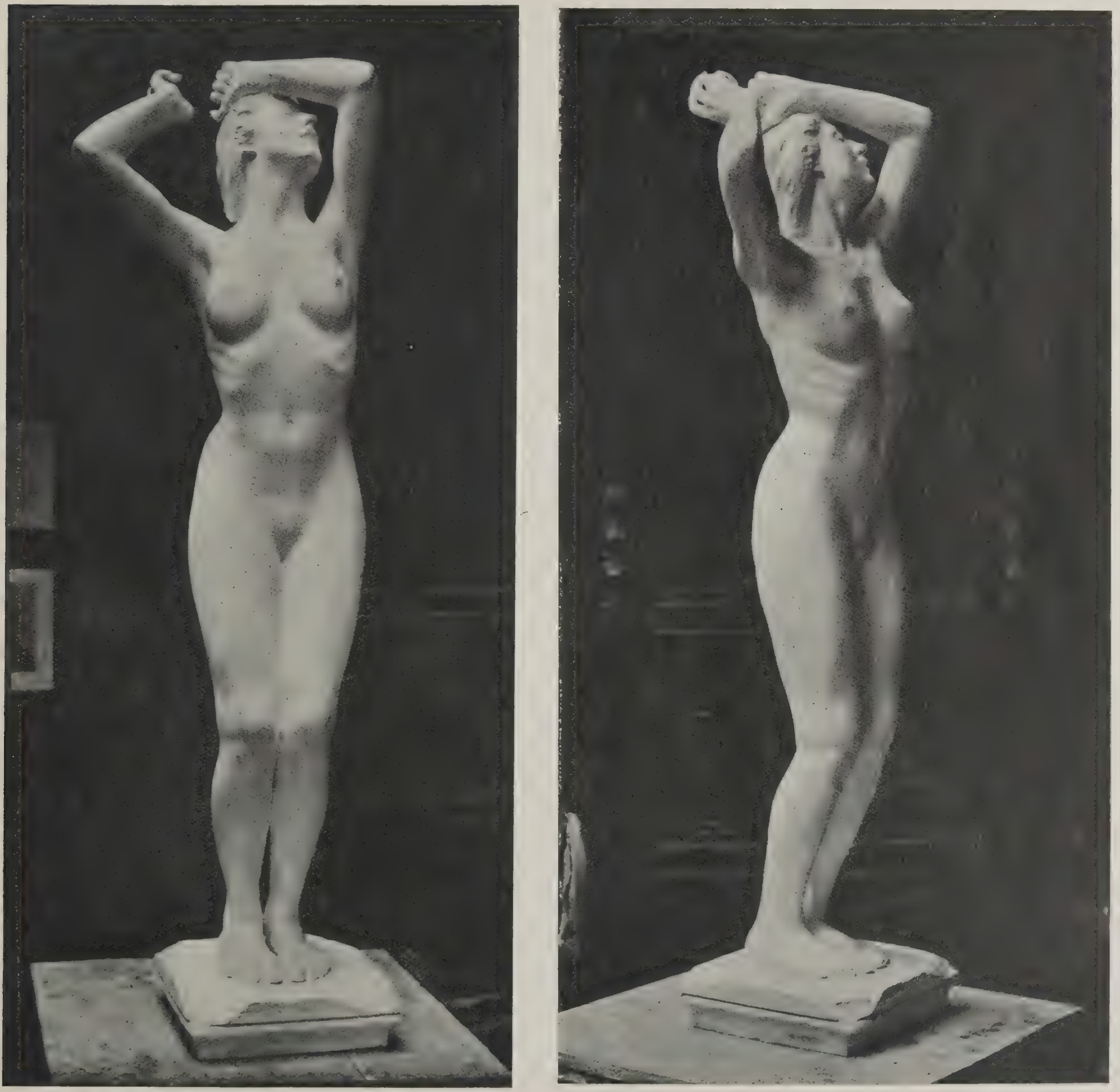


This group was awarded the Royal Academy Gold Medal and Travelling Studentship in Sculpture in 1914. Even at this early stage, the artist reveals a strongly developed sense of rhythm and power of expression. The play of line carried down from the figure of Diana through the arm to the body of Endymion is highly satisfying, and displays a sensitive feeling for the lyrical qualities of sculpture.

discovered the limit of his powers because he has not yet exerted his full strength.

In the Equestrian Statue—a sketch study in plaster—he perhaps approaches most nearly to an exercise in pure form, but here what is of primary importance in the study of Ledward's work is rather obscured. That is Ledward himself. This statue shows the artist under the spell of the Italian influence; and his drawing from the cast in the Bargello indicates the source of his inspiration. (It is, by the way, a beautiful drawing full of sensitive observation.) He is "all mazed" by the magnificence and the sumptuousness of the Renaissance Civilization as manifested in Italian art, and has wrought his subject while the ardency of his enthusiasm is still hot upon him. Stevens was inflamed in a like manner by Michelangelo, but what to Stevens was a constant source of inspiration and emulation, to Ledward—partly by force of circumstances—is merely a temporary infatuation. He profits by it to the extent of developing a passion for sumptuous forms, and passes on. Henceforth it becomes part of the artist, and mixes indistinguishably with the other influences which have moulded him.

The third and most recent phase in Ledward's art belongs to the period of the war—a phase which is equally unmistakable and clearly defined. His soldiers and battle groups are distinct from his other work, not simply in subject, but in the spirit in which they are carried out. And it is curious that this influence of war should follow so close upon the heels of the earlier influence exerted by his discovery of Italian art, for there could be no two forces more diametrically opposed. On the one hand you get the elevating and refining passion with which Italian art has kindled the heart of the artist, and on the other the coarsening effect of war with its emphasis upon fundamentals, upon the simplicity of life, and upon its brutalities. In the Equestrian Statue you find the artist toasting heaven, as it were, for the discovery of beauties beyond dreams, and in the next work of his hand—the Imperial War Museum friezes—you surprise him recording with equal intensity the brutality of war, its coarseness and shapelessness. With a sincerity which is

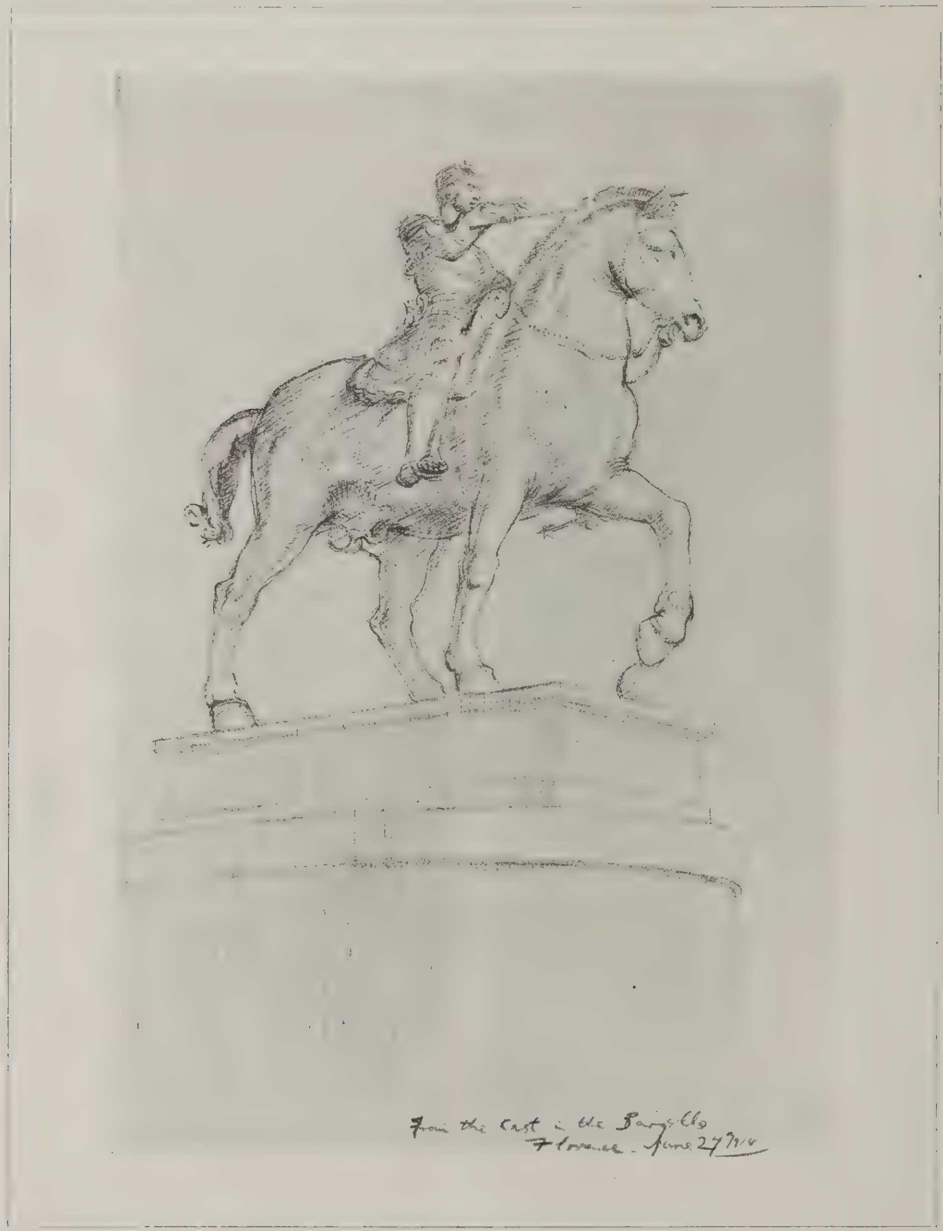


A LIFE-SIZE! STUDY OF A WOMAN. GILBERT LEDWARD, SCULPTOR.

essentially modern—even perhaps partly the outcome of the war—he prefers to express the disagreeable thing in a disagreeable way rather than to sentimentalize it by refinement. This is not a peculiar virtue of Mr. Ledward's. Nearly every artist who has tried to express the war has tried to express it with brutal truth. But where Mr. Ledward has succeeded above most others is in the fact that he has had the power at his command to express it. If his thraldom to Italian art has enlarged his faculties of perception, his thraldom to a soldier's tunic has enlarged his faculties of expression. If Italy has imbued him with grace, France has provided him with the occasion to exert his strength.

His figure of a soldier displays a warlike spirit which has nothing in common with the let-me-like-a-soldier-fall spirit that you see in most monuments of this sort. It is essentially the expression of the spirit of war, and not the replica of a soldier. It is symbolical, not imitative. One is immediately arrested by its personality. The sculptor has created a living thing, and the ruthlessness which peers out of the face comes from the personality within. In nearly every similar figure you will find that the features have been twisted by the sculptor to express what is his opinion of tragedy or war or whatever it is, whereas here the power is such as to give one the impression that the face has involuntarily assumed this expression as a reflection of the dark thoughts behind it. This is the most dramatic and the least conventional of any of his works, because he considers it impossible to conventionalize such a subject as a soldier.

For this very reason the fragments of the Imperial War Museum frieze are possibly not so satisfactory as the figure of the soldier. The artist is here forced to work in a convention—the very nature of a frieze determines it—but at the same time he endeavours to preserve the dramatic truth of the situation, with the result that a not altogether satisfactory compromise is effected. The composition of these two groups, however, is admirably handled.


From the cast in the Bargello
Florence - June 27th

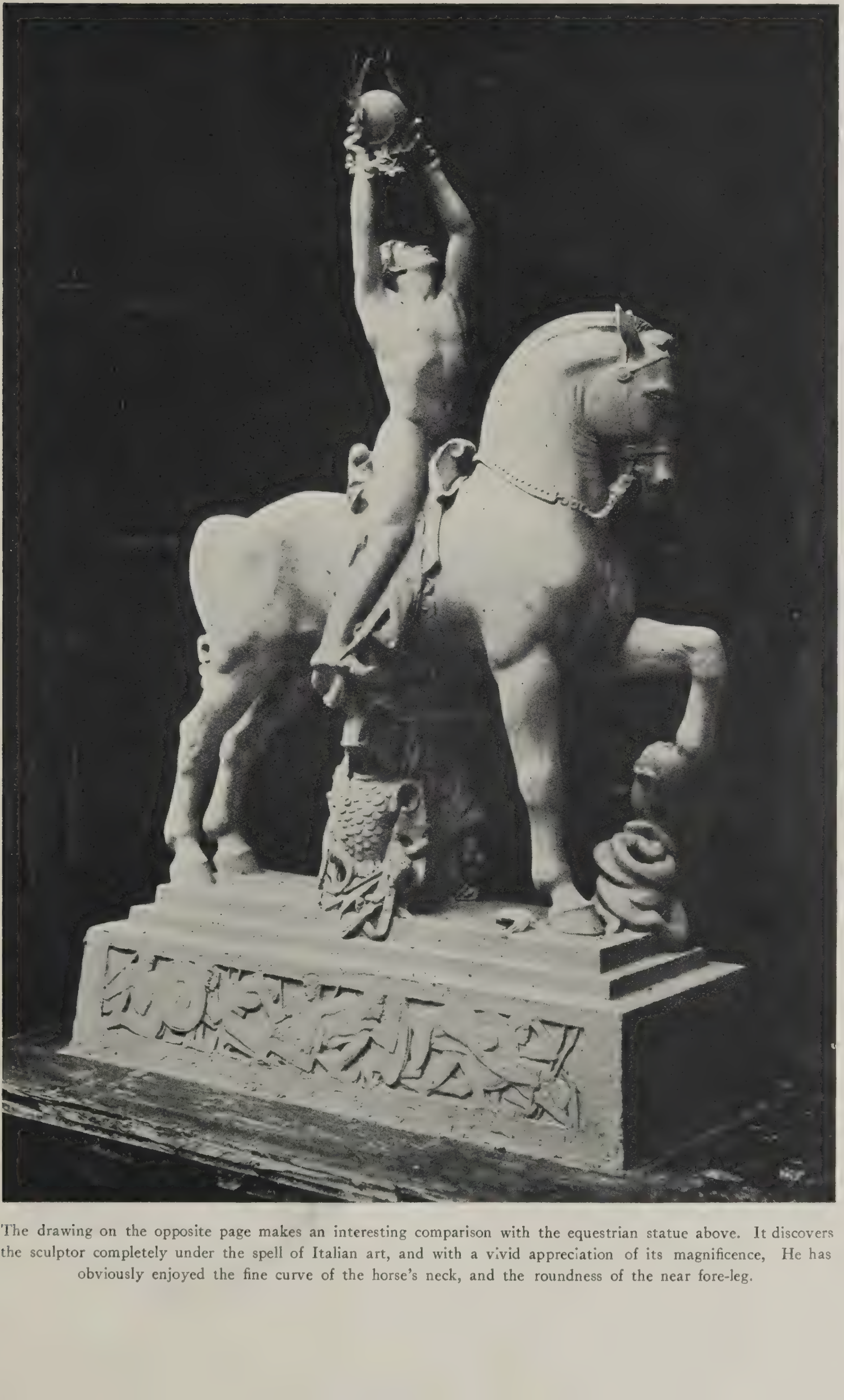
A DRAWING FROM THE CAST IN THE BARGELLO, FLORENCE.

Ledward's latest work in connection with the war is, of course, the Guards Memorial, which is composed of five figures of Guardsmen representing the five brigades of Guards. These are not yet completed, and one wonders how Ledward will handle this difficult problem. After that we hope that there will be no more war monuments, but that the new beauties the artist found in Italy and the new strength he discovered as a result of the war will be combined in some final post-war phase in which he will bring to perfection his qualities of power and grace.

H. DE C.

Sculpture. 8.—A Sketch Design for an Equestrian Statue

Gilbert Ledward, Sculptor



The drawing on the opposite page makes an interesting comparison with the equestrian statue above. It discovers the sculptor completely under the spell of Italian art, and with a vivid appreciation of its magnificence, He has obviously enjoyed the fine curve of the horse's neck, and the roundness of the near fore-leg.

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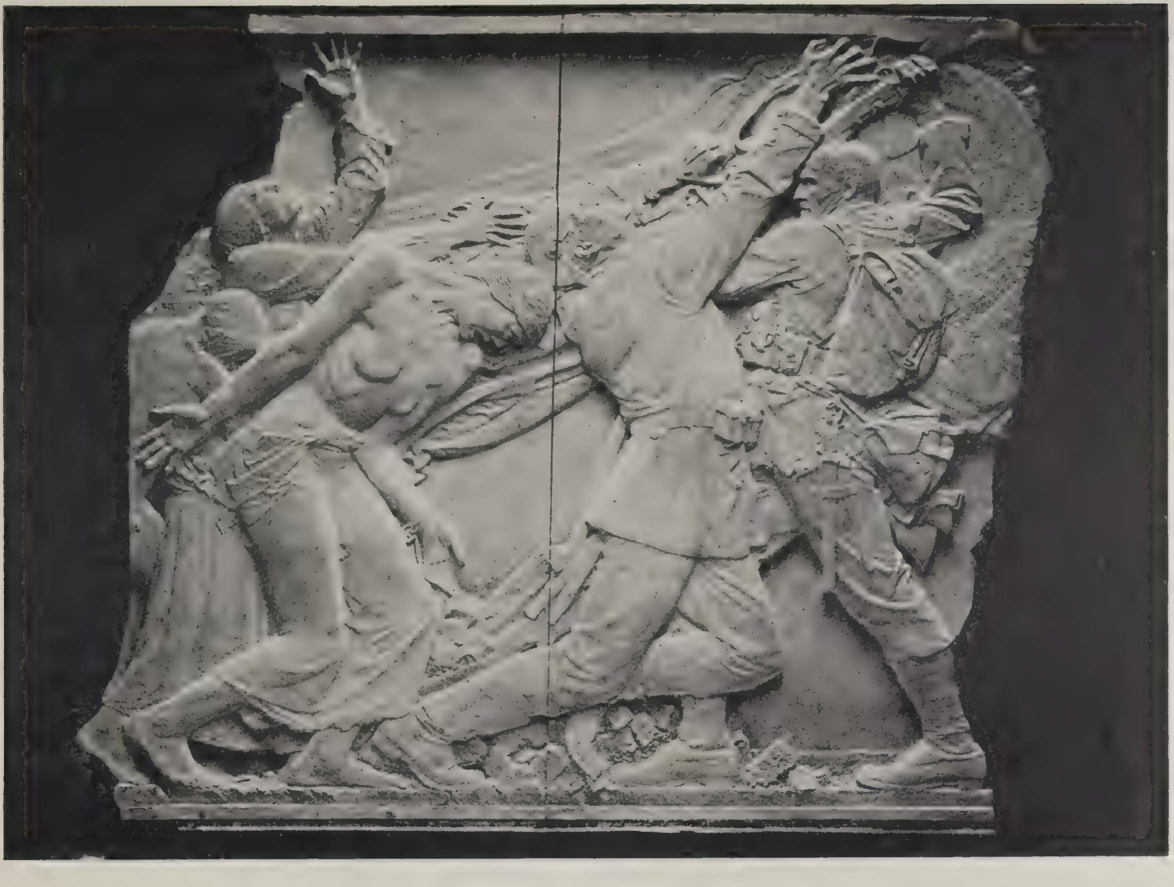
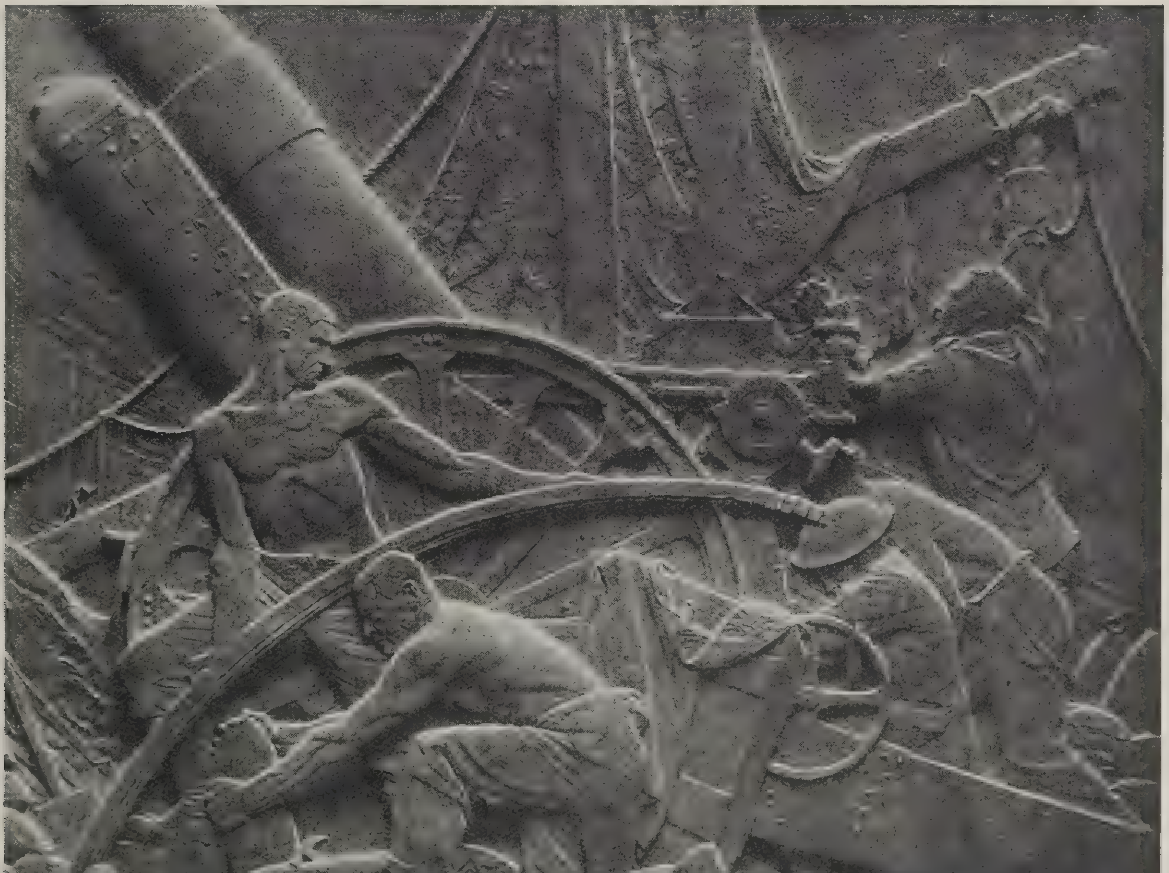


THE ENTRY OF BRITAIN INTO THE WAR.



GUNNERS. 8-INCH HOWITZER.

TWO DETAILS OF A FRIEZE COMMISSIONED BY THE IMPERIAL WAR MUSEUM.
GILBERT LEDWARD, SCULPTOR.

Some Recent Domestic Work by H. S. Goodhart-Rendel

IN the following pages are shown some recent examples of domestic design by Mr. H. S. Goodhart-Rendel. The drawing on page 217 illustrates the proposed conversion into a villa of an old farmhouse which remains in the midst of the residential quarter at Cannes.

The farmhouse probably owes its survival to its having been used as the butler's house of the Château de Thorenc, an old property completely rebuilt in the last century.

The small plans differentiate between the old and the new work—of the former the loggia is the most recent bit.

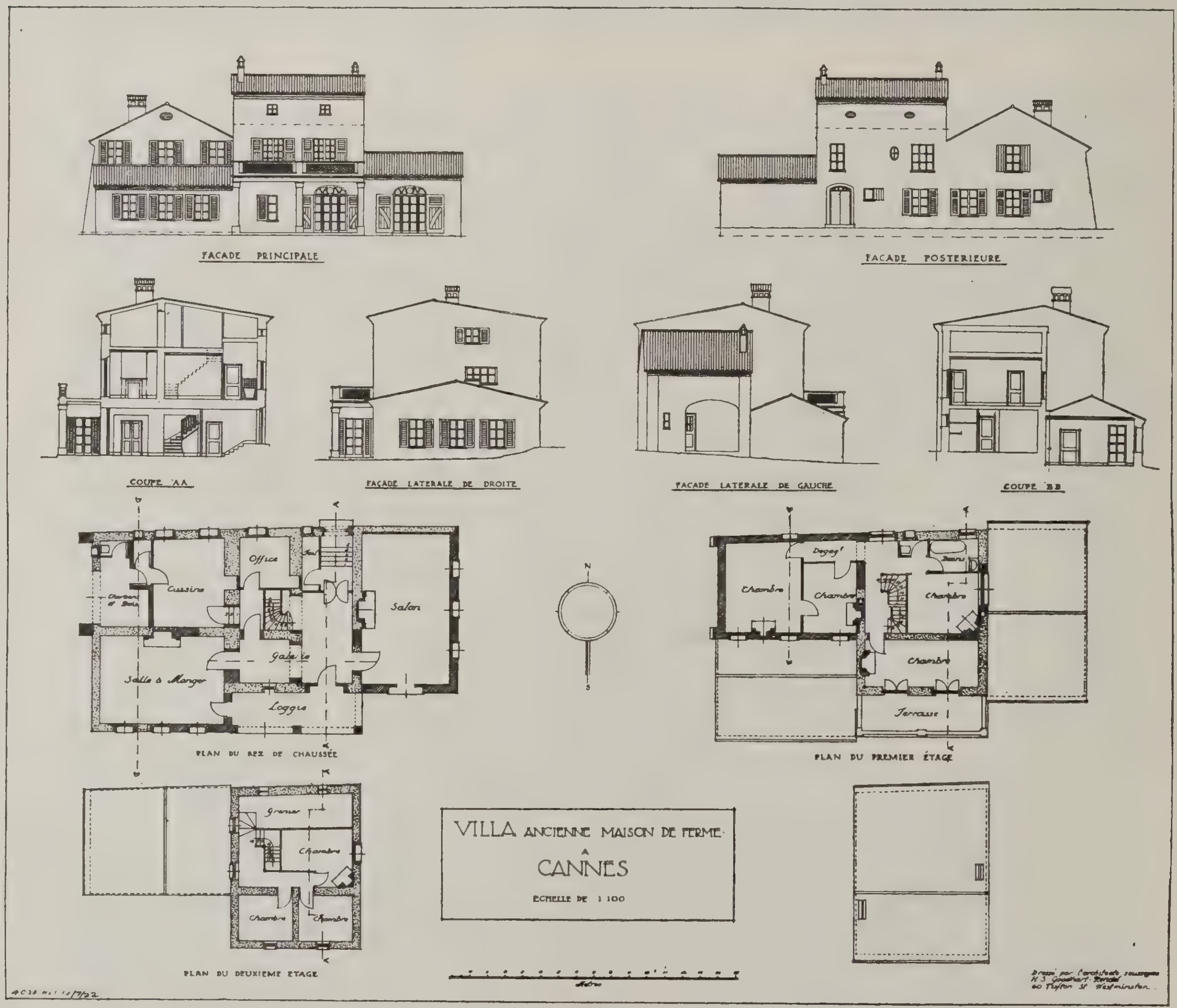
The scheme at present is in abeyance, the sale of the property having fallen through, but it is hoped that a new purchaser may be readily found who will undertake to acquire the house when completed, at a pre-arranged price.

The style of the alterations is strictly that of the old house and of all old buildings in the district. The materials of the exterior will be rough plaster and straw-coloured Roman tiles mottled with red. The tile balustrade above the loggia is to replace a crazy and ill-designed wooden railing.

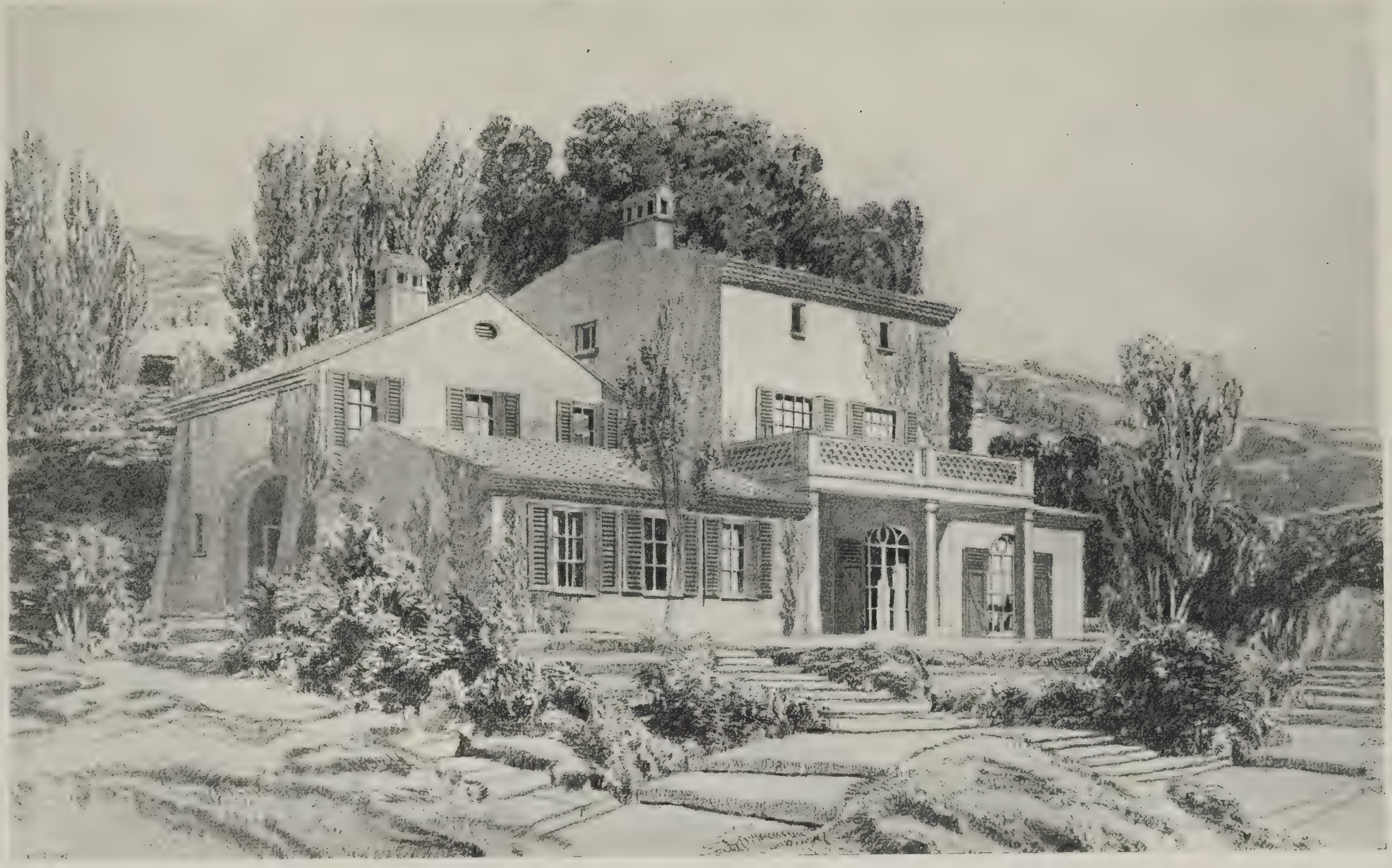
The drawing on page 219 shows the result of recent alterations and additions to an old farmhouse near Hertford.

The old house originally had two light wooden windows glazed in lead. Two of these are visible on the entrance front. The house was subsequently sashed, the cornice was reduced and partially destroyed, and offices were added, of wood.

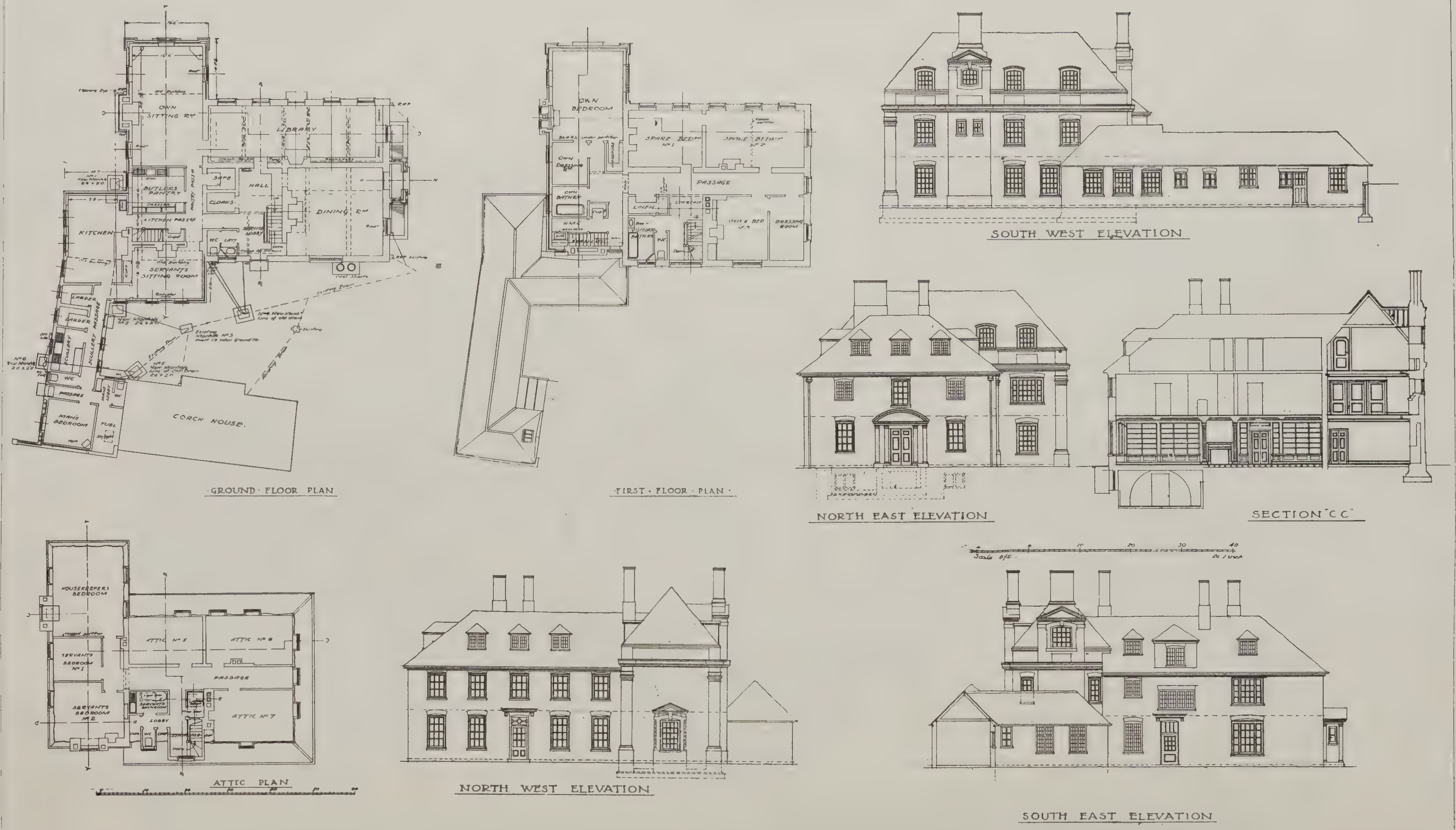
Comparison of the plans will show what changes have been made; the fact that the house faces very nearly north accounts for the arrangement of windows in the projecting wing. In the new part the roof is tiled, the porch and the dormers are covered with copper, and the walls are built hollow in imitation Flemish bond of red bricks with grey headers.



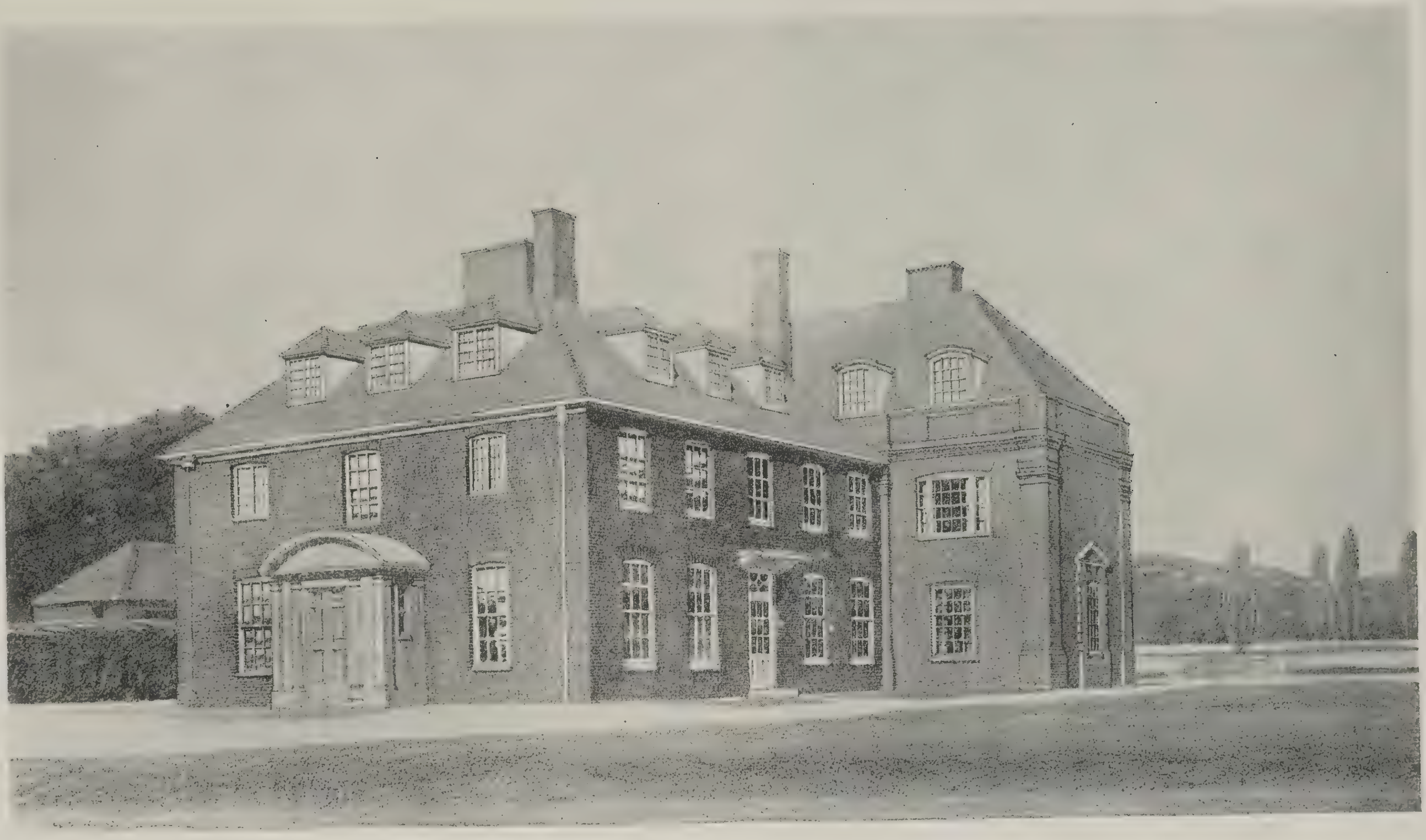
H. S. GOODHART-RENDEL, ARCHITECT.



PROPOSED CONVERSION OF A FARMHOUSE INTO A VILLA, CANNES.
H. S. GOODHART-RENDEL, ARCHITECT
(From a drawing by F. L. Griggs.)



ADDITIONS AND ALTERATIONS TO BROAD OAK END, BRAMFIELD, HERTS.
H. S. GOODHART-RENDEL, ARCHITECT



ADDITIONS AND ALTERATIONS TO BROAD OAK END, BRAMFIELD, HERTS.

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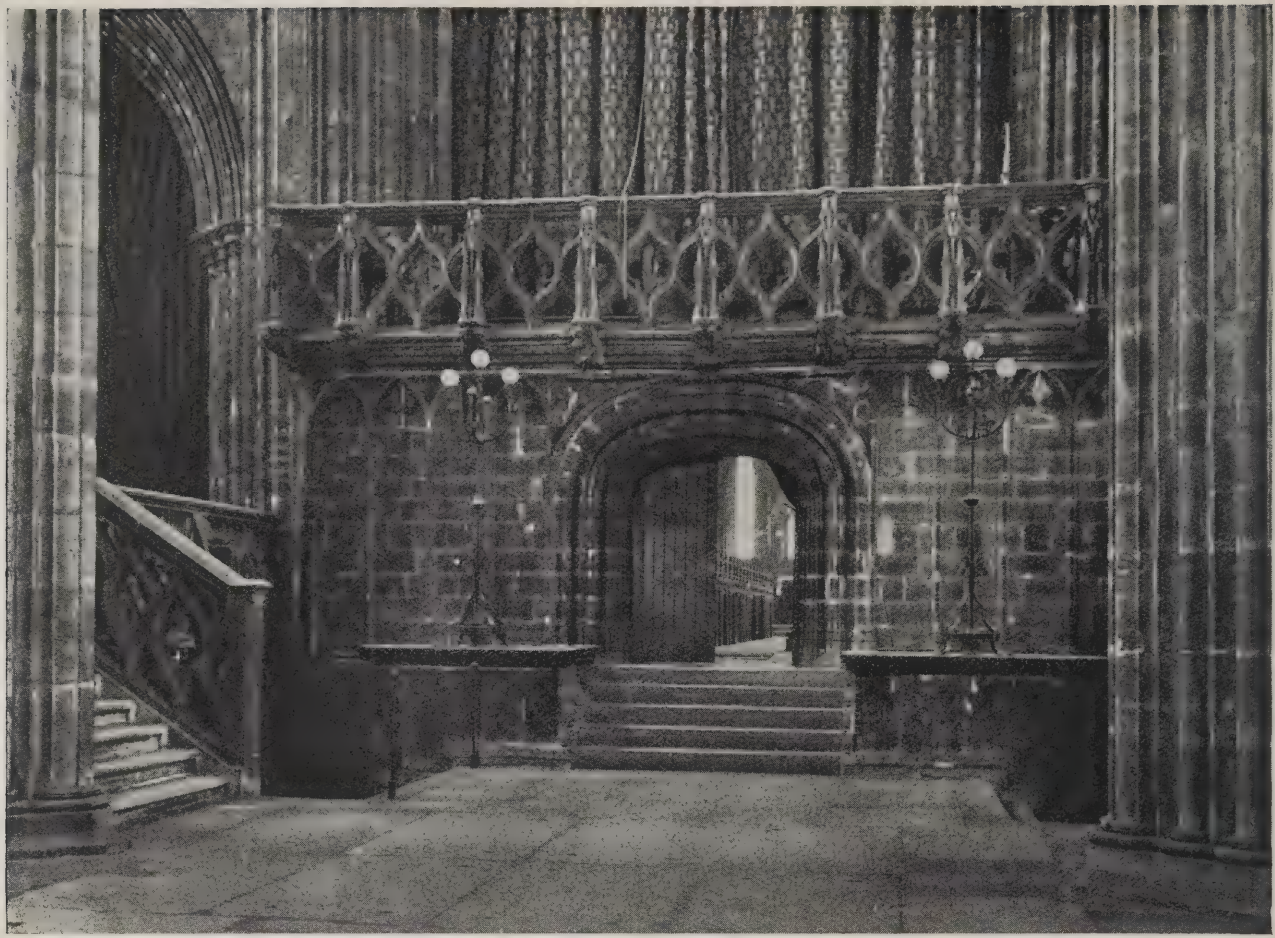
(From a Drawing by F. L. Griggs.)



A GENERAL VIEW.

Rood Screen and Altars in Glasgow Cathedral

Measured and Drawn by W. J. Smith, A.R.I.B.A.

THE rood screen at Glasgow Cathedral was erected by Archbishop Blackader (1483–1508), and stands on the choir floor-level between the eastern piers supporting the tower at the crossing. The screen is built of sandstone, the eastern face being of plain ashlar work. The panelled western face towards the nave, and especially the low, elliptical arched doorway, is reminiscent of French work. The Palais de Justice, Rouen, was built about the same time. The panels as they stand are plain and uninteresting, but they were formerly adorned by sculptured figures supported by carved corbels, and the broken surfaces where they once projected can still be seen. A moulded and sculptured cornice supports the graceful parapet of tabernacle work and open tracery. The single figures at the ends of the cornice are thought to be portraits of saints of the time, whilst the seven intermediate sculptured groups represent the seven ages of man : infancy, youth, manhood on the north; old age occupies the centre, with the schoolboy, the lover, and the sage on the south.

The two altars, built on the nave floor-level, and dating from 1503, at the entrance to the choir, have been preserved, but the tables are modern. The one to the north has five panels on the front with sculptured figures bearing scrolls. Archbishop Blackader's arms are carved on the north end. Six sculptured figures bearing scrolls adorn the front of the altar to the south, and the south end bears the Archbishop's arms and initials. Stately tombs of the fifteenth and sixteenth century were decorated with figures bearing scrolls or shields, and it was the custom to treat the altar fronts in the same way.

The screen doorway in the centre of the composition gives access from the nave to the choir, that portion of the Glasgow Cathedral which is now used for public worship.

W. J. SMITH, A.R.I.B.A.

The following general particulars are from the monograph on Glasgow in Bell's Cathedral Series. The cathedral was begun by Bishop Malvoisin between 1200–1202, who was transferred to St. Andrew's, where he built the cathedral.

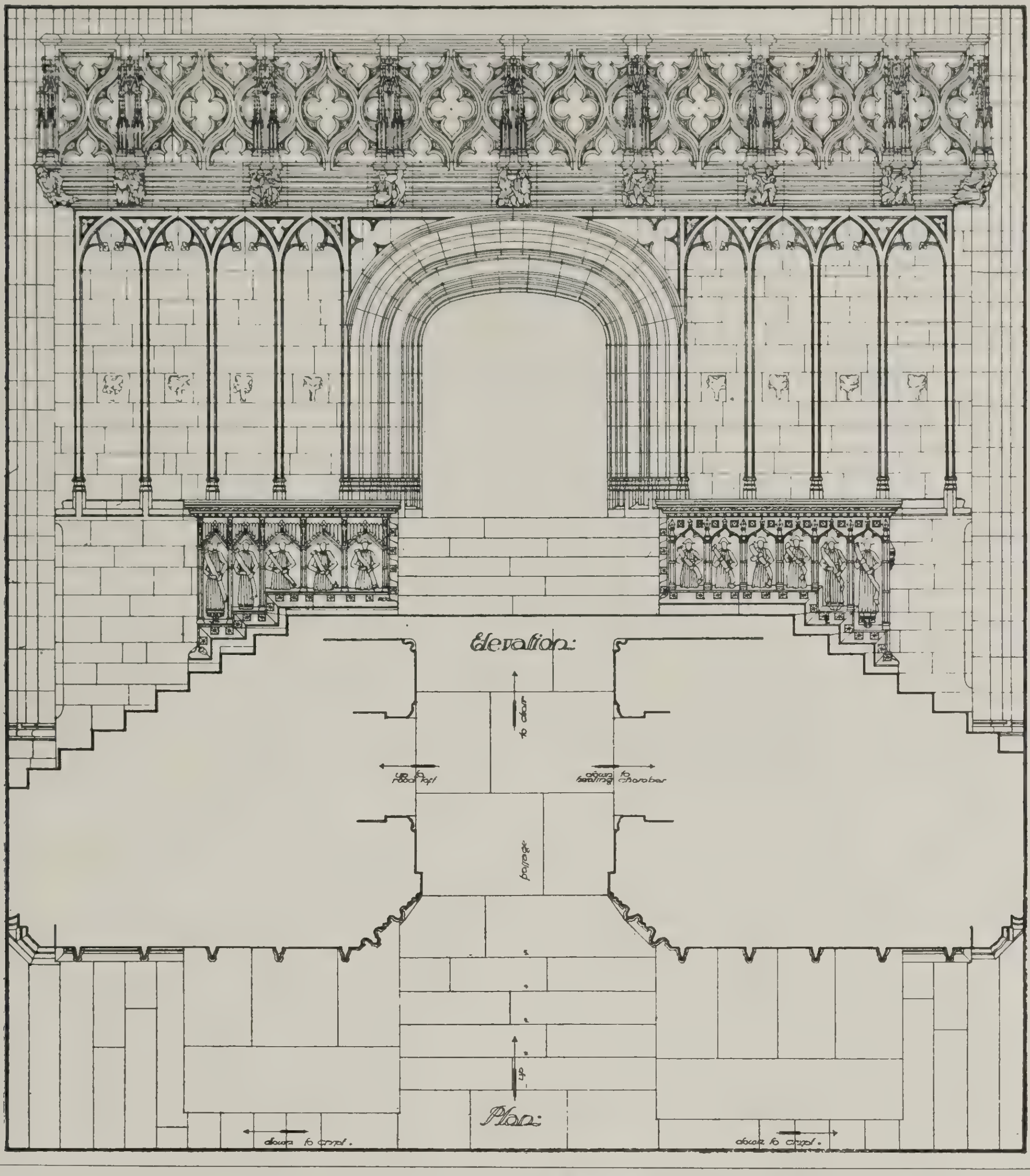
The architect, like many of his contemporaries, treated the triforium and clerestory as one feature. The upper part of wall near the wall-head and in front of the clerestory windows is designed as an open arcade of sixteen arches, two above each arch of the main arcade supported upon groups of slender shafts, which rise from the level of the triforium floor.

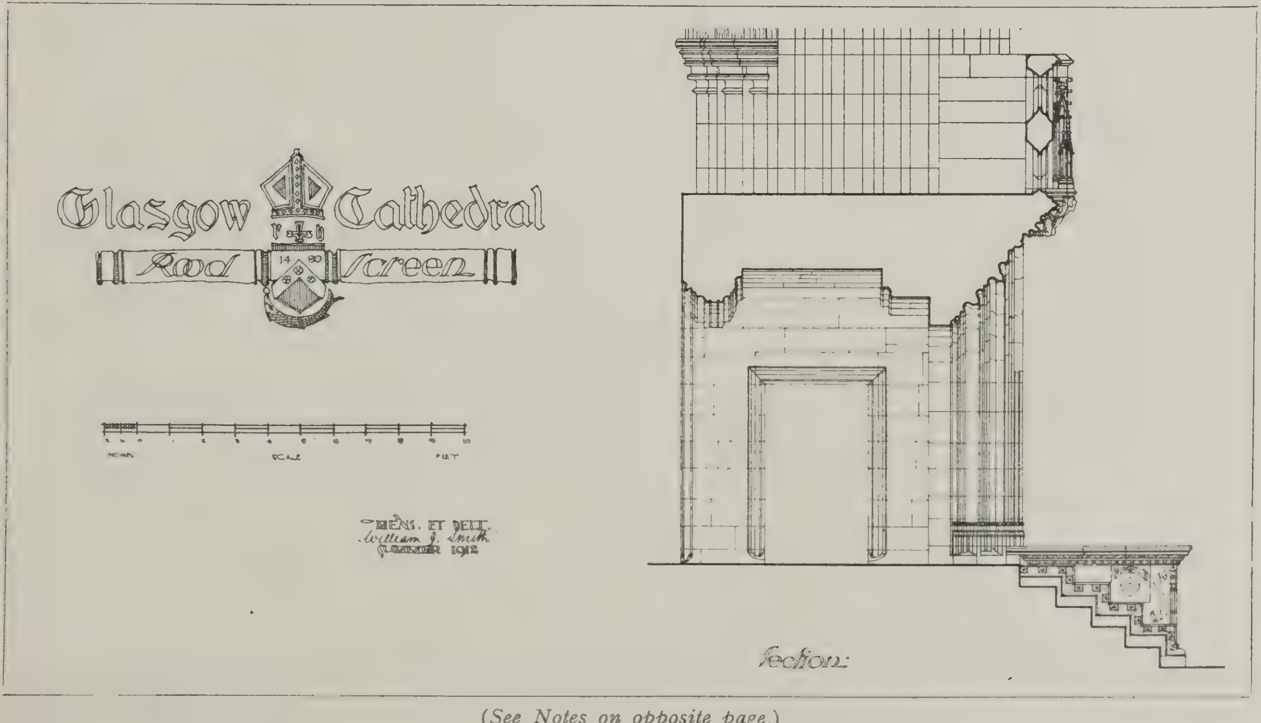
The oak roof was of great age. As it was known to be in a dangerously dilapidated condition, its reconstruction was undertaken on the completion of the comparatively recent work of moving the choir.

The cathedral is of three aisles, with a nave of eight bays, a choir of five bays, and an eastern chapel; a centre tower or spire, north and south transepts, a great crypt beneath the choir, and one to the south of the transept, a chapter house and vestry, and a low building projecting northwards to the east of the north transept. The nave is 123 ft. long by 61 ft. 10 in. broad at the west end, and 62 ft. 8 in. at the east end. The centre aisle is 25 ft. 4 in. wide, and the difference between the piers of the main arcade from centre to centre is 15 ft. 6 in. The piers are 4 ft. 9 in. in diameter, the interior wall being 63 ft. 6 in. high.

Measured Drawings. 11.—Rood Screen, Glasgow Cathedral

Measured and Drawn by W. J. Smith, A.R.I.B.A.

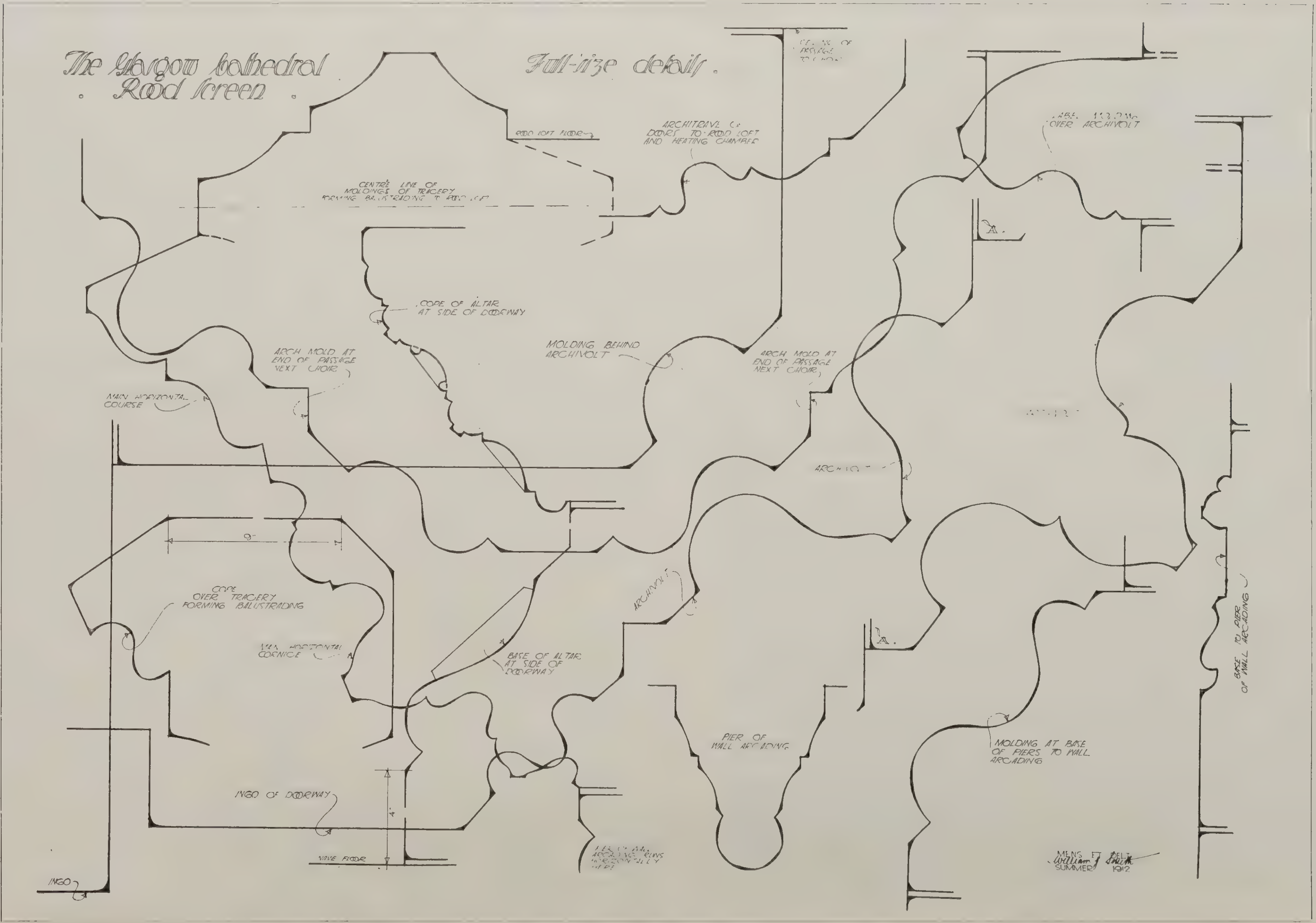




(See Notes on opposite page.)

Measured Drawings. 12.—The Rood Screen, Glasgow Cathedral : Details of Mouldings

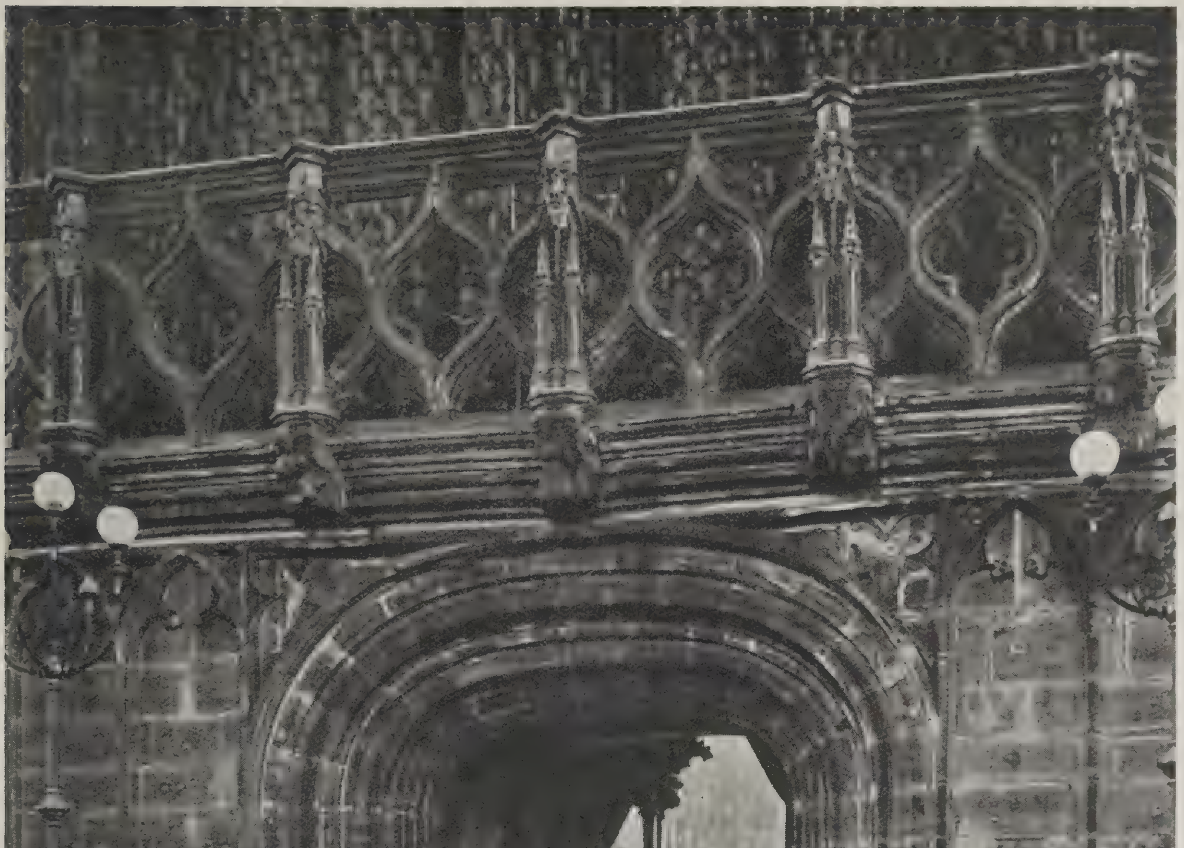
Measured and Drawn by W. J. Smith, A.R.I.B.A.


The Glasgow Cathedral Rood Screen
Full-size details.
ROOD LOFT FLOOR
ARCHITRAVE OF DOORS TO ROOD LOFT AND HEATING CHAMBER
LABEL MOLDING OVER ARCHIVOLT
CENTRE LINE OF MOLDINGS OF TRACERY FORMING BALUSTRADING TO ROOD LOFT
A.
COPE OF ALTAR AT SIDE OF DOORWAY
MOLDING BEHIND ARCHIVOLT
ARCH MOLD AT END OF PASSAGE NEXT CHOIR
ARCH MOLD AT END OF PASSAGE NEXT CHOIR
MAIN HORIZONTAL COURSE
ARCHIVOLT
9"
COPE OVER TRACERY FORMING BALUSTRADING
MAIN HORIZONTAL CORNICE
ARCHIVOLT
BASE OF ALTAR AT SIDE OF DOORWAY
A.
BASE TO PIER OF WALL ARCADING
PIER OF WALL ARCADING
MOLDING AT BASE OF PIERS TO WALL ARCADING
INGO OF DOORWAY
4"
NAVE FLOOR
INGO
LINE OF WALL ARCADING RUNS HORIZONTALLY HERE
MENS ET DELT
William J Smith
SUMMER 1912

(See Notes on page 220.)

Architectural Details. 31.—Rood Screen and Altars, Glasgow Cathedral

Measured and Drawn by W. J. Smith, A.R.I.B.A.



This screen, which stands on the choir floor-level between the eastern piers supporting the tower at the crossing, was erected by Archbishop Blackader (1483–1508). The low elliptical arched doorway is somewhat reminiscent of contemporary French work, the parapet of tabernacle work and open tracery above being extremely fine. The two altars, built on the nave floor-level at the entrance to the choir, date from 1503, but the tables are modern.

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The Society for the Protection of Ancient Buildings: Annual Report

THE forty-fifth annual report of the Society for the Protection of Ancient Buildings, just issued, fully maintains, if, indeed, it does not surpass, the standard of its predecessors, both in the record of work accomplished and in literary and pictorial content. Several pages are occupied with lists of cases that have come before the society during the past year, and extended notes are given on many, including Chester Cathedral, the City Churches, Westminster Hall, Southcote Manor, Reading (now unhappily demolished), the English Bridge, Shrewsbury, Tintern Abbey, and the proposed restoration of the Parthenon. And very excellent reading it all makes. The peculiar charm of the society's reports is that they are written in an interesting way, very far removed from the dry-as-dust manner that is all too frequently encountered in the proceedings of learned societies. The report under notice also contains, in addition to its regular contents, the full text of an address by Mr. Clutton Brock, some extracts from which are given elsewhere in this issue.

We note from the introduction that the number of members given in last year's annual report was 571, and that this year there is a net increase of 29. The need for more members is great, and present members are urged to draw all who sympathize with the work of the society into this closer and more effective position.

The committee has suffered further loss this year through the death of Lord Bryce, one of the few remaining members who, with Morris, helped to found the society; and of Mr. Basil Stallybrass, whose instructive understanding, unselfish devotion, and practical knowledge made him one of the society's two or three most valued helpers.

The committee hopes to begin the publication of a series of pamphlets shortly. These will describe in detail the methods it recommends for the repair of ancient buildings. Each pamphlet will be devoted to special operations. The first will be on "walling."

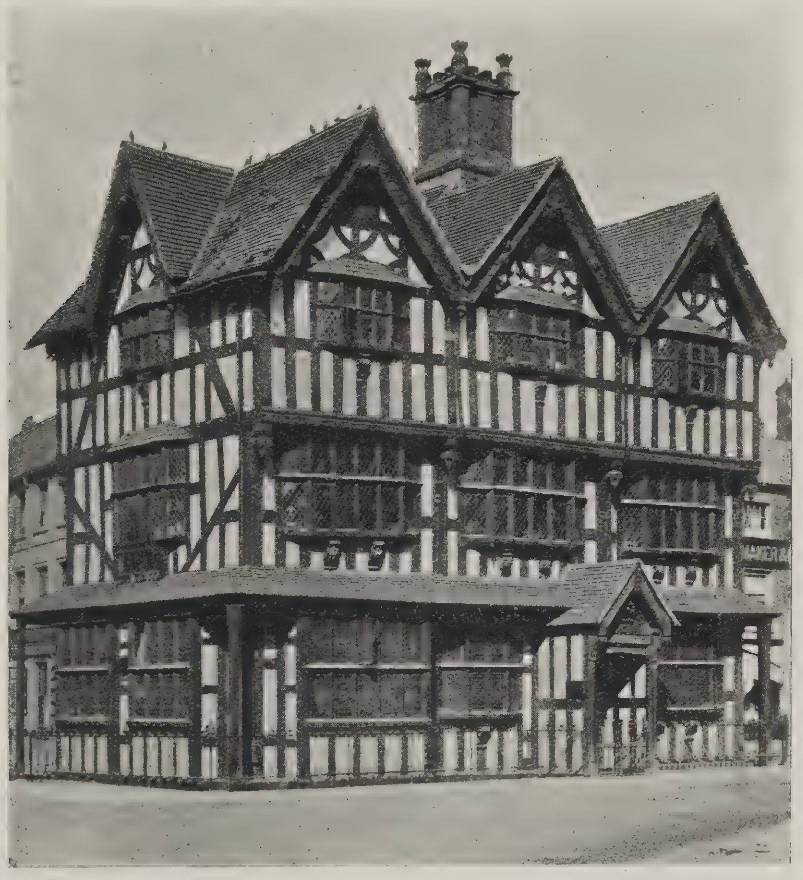
By courtesy of the society we are able to reproduce the accompanying illustrations, which appear in the report, with several others. The following notes are given in connection with them :—

Old House, Hereford.

The committee draw special attention to a very generous action by Lloyds Bank.

For many years the bank has used a fine old half-timbered house in Hereford as one of its branch premises. Having grown out of the accommodation which it afforded, the bank, instead of pulling it down and building new premises on the site, has, through its directors, made a free gift of it to the city of Hereford, to be maintained for ever for the pleasure of its citizens.

The committee expresses to the directors of Lloyds Bank its deep gratitude for the preservation of this fine building, and also its warm appreciation of the public spirit behind the donation.



AN OLD HOUSE AT HEREFORD GIVEN TO THAT CITY BY LLOYDS BANK.

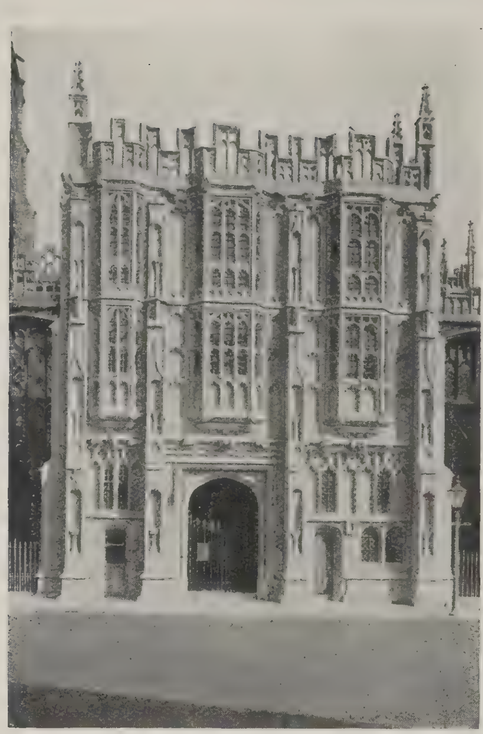
The Guildhall, Cirencester, Gloucester.

The report contains a reproduction of a photograph of the Guildhall, Cirencester, as it was immediately after repair and as it is now. When, fourteen years ago, the Guildhall was repaired, the society was severely criticized on the ground that the limewhite coating, which as a means of preservation had been applied to the whole surface of the stonework, had completely destroyed the romantic appearance of the building; and that the loss of beauty and interest was irrevocable.

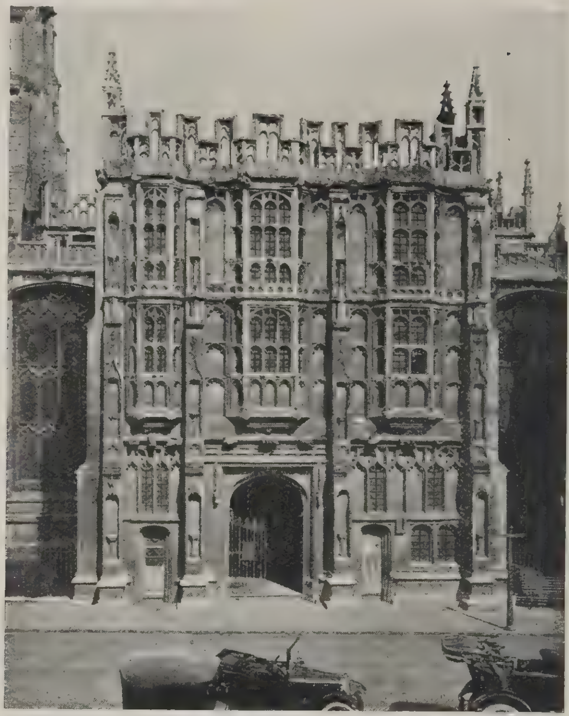
The society's answer was that limewash was the most satisfactory protective for stone both from attack by vitiated atmosphere and by weather; and that the loss of mellowness complained of was but temporary.

Those who have not seen the building lately may now, from this recently taken photograph, form their own judgment as to the true merits of the case (see p. 226).

Copies of the report may be obtained, price 2s., from the Secretary, Mr. A. R. Powys, 20 Buckingham Street, Adelphi, London, W.C.2.



THE TOWN HALL, CIRENCESTER, AFTER REPAIR, 1909, WHEN LIME PRESERVATIVE WAS APPLIED.



THE TOWN HALL, CIRENCESTER, 1922. SHOWING LIME PRESERVATIVE TONED DOWN.

(*See page* 225.)

Sham Gothic

An Address given before the Society for the Protection of Ancient Buildings

By A. CLUTTON BROCK

I FIND that there are still many people who do not see why we should not "restore" old Gothic buildings, why we should not have modern imitative Gothic, why we should not have imitative art of any kind. I often talk to people on that subject, try to argue with them, and often I find that I cannot begin to make an impression. I have the same effect upon them that people have on me who try to explain Einstein. I have no doubt that here we all agree on the subject, but I think we want reasons for our faith; for one thing, so that we may propagate it, and for another because, without reasons, your faith is not firmly established in your own mind. If you hold a belief for which you cannot give reasons, so that you are merely angry if anybody contests it, then you hold that belief insecurely, and your very anger is a symptom of fear lest it might be undermined. Therefore I will try to give reasons for my belief that you cannot have imitative art.

In imitative restoration or imitative Gothic of any kind, the case is just the same as in the case of copying a picture. The impulse of imitative architecture is different from the impulse of the original, because the original architect was not trying to make his building as much like another building as he could, whereas the imitative architect is trying to make his as much like another building, or at least as much like another style, as he can. If the impulse, the cause, is different, the result will be different; and though the two things may seem to your eye very much alike, to your mind they will be utterly different; because they will produce utterly different feelings. There are experts in different arts whose business it is to know forgeries from originals; and it is a curious fact that the most learned experts—not charlatans at all, but very learned men—are often taken in by forgeries. Why was it that Herr Bode bought, as by Leonardo, a bust by a gentleman called Lucas, done in the reign of Queen Victoria? It was because his business was to know whether works of art were genuine. By the very fact that he was always looking at minute particulars in the work of art he was cut off from the only kind of æsthetic experience which would enable him to tell whether it was a forgery or not. The only final test, the test which must baffle the skill of the forger, is the test of feeling. All forgeries, we may say, if they are only forgeries, must be dull, because their impulse is not the impulse that produces works of art. No doubt things which are not forgeries are dull too, but if a man resolved that he would have nothing to do with things that seemed to him dull, he would never be taken in by a forgery. It is because experts look at details all the time that they are cut off from the only æsthetic experience which would enable them to know a genuine work of art. It is because people look at details only in buildings, because the clergy often learn to recognize style, and are pleased when they can say that a building is Early English, or what not, that they are cut off from the only kind of experience which would enable them to know whether it was expressive building. Architecture is a language, a mode of expression; and so, if a building gives you that peculiar feeling of dullness, of mustiness, of being unable to believe in anything whatever, which is produced by, say, Worcester Cathedral in its present condition, then you may be sure that, no matter how much it seems like the real thing, it is not the real thing.

I do not care what vulgarity is produced—I go as far as that—frank vulgarity would be better than mere imitation. If it produced vulgarities instead of gentilities—and I think vulgarities better than gentilities—it would be leading somewhere, whereas the imitation of Gothic leads nowhere. It cuts the architect off from the whole of that future which he might enter into. Gothic, I am convinced, is now simply a bad habit, and it is a bad habit encouraged by the clergy because they think it religious. They have identified the Gothic style with the Christian religion in some mysterious way—perhaps they suppose the early Christians built in Gothic—and they do not realize that nothing can be less religious than a style which is mere imitation.

If you habitually worship in a church which is sham Gothic your religion will become sham Gothic itself. It will have the same taint of unreality. Further, sham Gothic is itself actually a symptom of something unreal in our religion. If that was perfectly genuine we should not be able to endure a sham religious expression; and if the clergy were aware of that, instead of insisting upon sham Gothic as being religious, they would demand rather even a pretence of originality as being religious. They would see that blatant vulgarity is better than gentility because gentility is suppressed vulgarity. Our modern Gothic reminds me of the genteel manners of people out to tea and uneasy because they do not know how to hold their teacups. It is more Gothic than real Gothic; just as people who are not quite sure about their aitches put them in where they are not wanted. That kind of gentility, I contend, is worse than frank vulgarity.

There is this further evil that church architects, forced to be Gothic by the clergy and their congregations, are cut off from real religious expression by sham religious expression. So, finally, I would insist that the problem of this Society is not merely restoration, but the whole problem of church architecture. This Society is not merely an Antiquarian Society trying to preserve things as if they were in a museum; its cause is the cause of all true architecture. This Society wishes to preserve things precisely because it does not want anybody to imitate them. It would preserve them as examples, but as examples which are not to be imitated because they themselves did not imitate anything. If you can grasp the fact that Gothic is original architecture in which men were really expressing themselves, and really solving the structural problems of their time; that it has the thrill in it of people making discoveries, a thrill which nobody can imitate, then you will not try to imitate it—and then you will wish to protect an ancient building because, although there are great works of art all through the ages, you can never have precisely that one again. You can never recover the particular state of feeling expressed in it. It is an unique creation once and for all. I take it that is the real principle of the Society; and for that reason the Society must advocate originality in architecture.

And I think that, if once we grasp these principles, we shall see that we can have religious expression in architecture now only with austerity. I do not mean that austerity is necessary always; but if you have been a drunkard, moderate drinking is impossible and you must take the pledge. We have had so much claptrap, so much insincerity, so much machine-made and imitative ornament, that for the time we have got to do without ornament altogether. Our case is like that of writers who fill their writing with "clichés," with dead metaphors which get in the way of what they want to say; they must give up all metaphors and learn to express themselves in the simplest language. At present our architecture is full of dead metaphors; and it must be purged of them. We must aim only at the sense of things in our building. Then, when by that process we have recovered our reason and logic, the natural inclination for ornament will return and find genuine expression. But for the time we suffer from dipsomania and must take the pledge.

Ipswich War Memorial Competition

THE awards of the Assessor (Mr. H. V. Ashley, F.R.I.B.A.) in the above competition are as follows:—

First (premium £150)—Mr. Edward Adams, A.R.I.B.A., Whitworth Park, Manchester.

Second (premium £75)—Mr. C. H. N. Roberts, 61 South Molton Street, London, W.1.

Third (premium £50)—Messrs. J. C. Prestwich and Sons, Bradshaw-Gate Chambers, Leigh.

No fewer than 180 designs were submitted in this competition, and of these six were disqualified owing to the violation of conditions, disclosure of identity being the general fault.

It was suggested that the memorial should be a restrained and dignified composition, of such character as fittingly to record some 1,400 names, the total cost, including layout modifications and foundations, not to exceed £4,500. Many competitors ignored the fact that the placing of 1,400 names on a memorial, the price of which must not exceed £4,500, necessarily influences the design to a marked degree. In some cases very little space has been provided for names, and in others it would be almost an impossibility to read them without the aid of ladders, were the memorials erected. Several designs could not possibly be erected in the material stated in the report, at the figure; and although many of the designs are excellent as architectural compositions, they are not at all suitable for the purpose in view.

The author of the design placed first (Mr. Edward Adams, A.R.I.B.A.) provides a memorial in the form of a cenotaph separated from a screen wall bearing the name tablets. This idea is distinctly superior to the grouping of the central mass with the screen wall. At the base of the cenotaph is a bronze trophy of arms, symbolizing the putting away of the impedimenta of war. The studied use of bronze, as a decoration with well-balanced horizontal masses and the vertical mass of the cenotaph, gives a reposeful and dignified composition. In the matter of detail, the lettering and some of the ornament might have been rather more refined in character.

The design placed second (Mr. C. H. N. Roberts) shows a central cenotaph with flanking walls bearing the names. A bronze panel in low relief is placed on the front of the cenotaph, and the paving, on plan, is laid out with suitable lettering and a brass coat of arms. Although the proportions are studied and the idea pleasing, there is a feeling of heaviness in the whole.

The design placed third (Messrs. J. C. Prestwich and Sons) is commanding to the point of severity. A simple cenotaph rising out of a base, square on plan, and totally devoid of any mouldings, relies wholly on its proportion to the base for effect, a relief being provided by four low walls, the name tablets, and four bronze wreaths.

Four designs receive honourable mention. That by Mr. R. C. Arnold, of Ilford, is again a cenotaph with flanking walls curved on plan. This is less severe than some, and has a Stone of Remembrance several feet in front of the cenotaph itself. One feels that this design would have been better had more careful consideration been given to the ornamental detail.

The design by Mr. W. Bevan, of Croydon, takes the form of an enclosed shrine, dignified and massive in its composition. The straight-through portals tend to destroy the idea of seclusion; after all, the memorial itself is the climax, and the site really only allows for one approach.

A pleasing idea, well carried out, is that of Mr. C. Upcher, of Norwich—a central cross of Gothic feeling, on a base triangular on plan, surrounded by three detached walls, carrying the names on the outside. There are three approaches at each point of the triangle. This design would be better suited for a memorial to be placed more centrally, as it gives practically the same effect from any point.

A design of considerable merit is that by Mr. Martin J. Slater, A.R.I.B.A., of Ipswich. The central piece takes the form of an altar, classical in feeling and very rich in design. This is spoilt by the walls on either side being rather severe, forbidding in fact. On the whole, it is one of the finest pieces of design in the competition, and an excellent type of architectural draughtsmanship.

Mr. C. P. Garrard, of London, has a central column giving relief to a cross on all four sides, and also in section. The idea is original, but the column lacks sufficient support from the side walls.

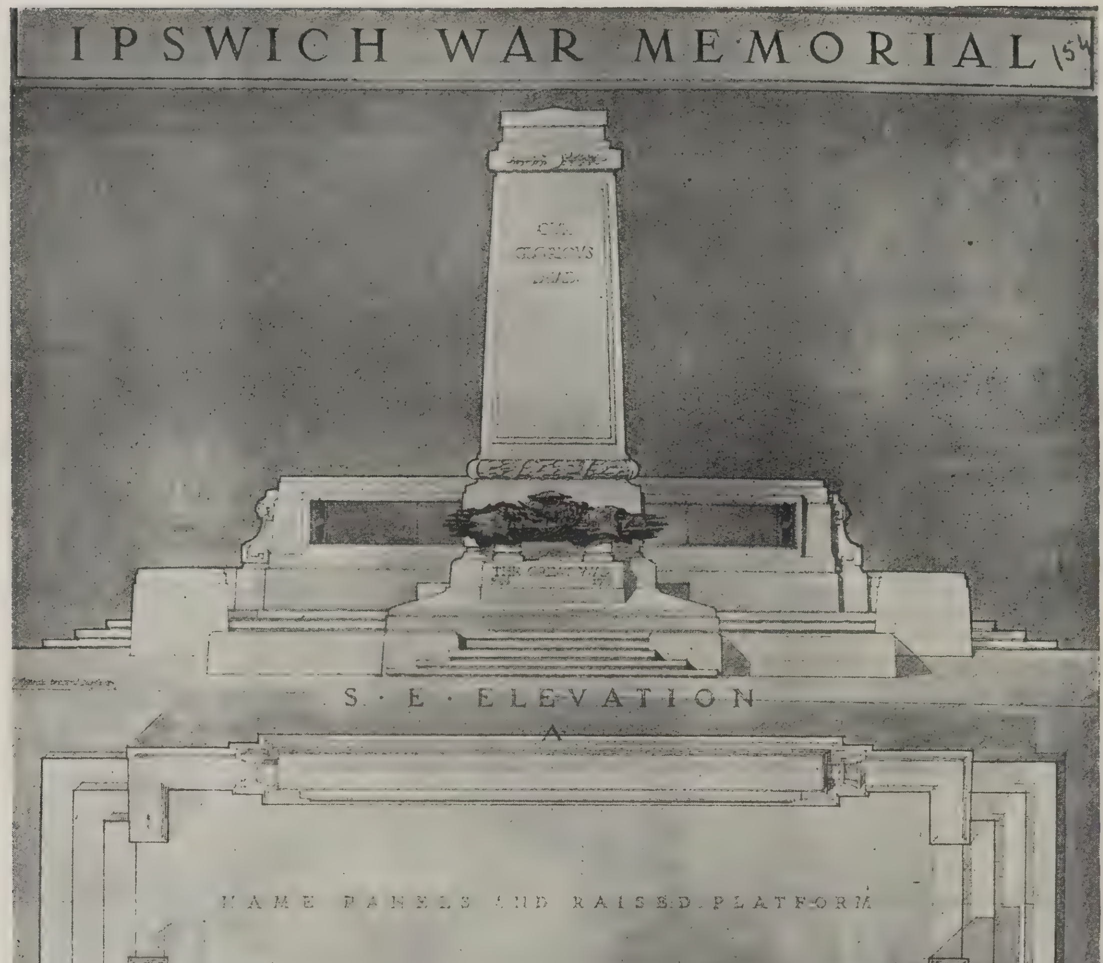
Another design which arrests attention by its imposing and refined composition is that by Mr. E. Thos. Johns, of Ipswich. This has a classical portico with a central group surmounted by a dome, behind which is a semicircular screen wall. The idea is evidently to give a practically enclosed Court of Remembrance. Although the composition is good, it is hardly suited to the purpose, and would certainly prove more expensive than desired.

A design worthy of mention is that by Messrs. Walker and Pearson, Beckenham, Kent. It has a Gothic tendency and many good points, but the repose is spoilt by too many small openings, giving a restless effect.

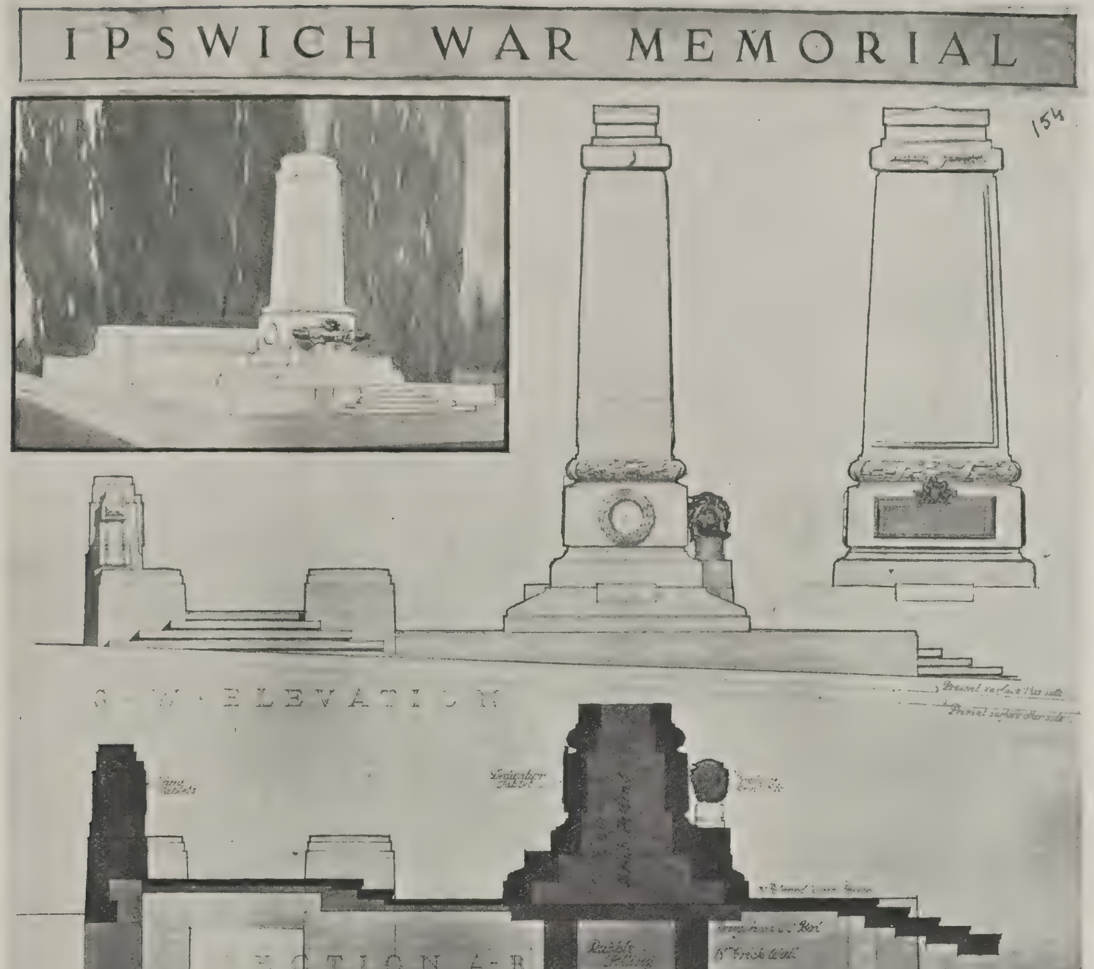
A point which is very marked is the weak finish of some of the designs, especially with regard to the tops of the cenotaphs and obelisks. Over elaboration in ornament also mars many otherwise good ideas.

Taken generally, the competition is a credit both to the authors of the designs and to the Ipswich War Memorial Committee.

G. R. F.



THE WINNING DESIGN. BY EDWARD ADAMS, A.R.I.B.A.



THE WINNING DESIGN. BY EDWARD ADAMS, A.R.I.B.A.

Correspondence

" On Going Forward "

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. Burford tackles his subject in a delightfully fresh and vigorous way—one feels that his method of discussing the problem is one which well may help us to go forward. I hope he will either forgive or approve my suggesting that he is the kind of architectural Bernard Shaw who is much needed, one who is not prepared to accept the normal and the fashionable as the last word, but one who is prepared to encourage the experimentalist. The lot of the head of a school of architecture who tries experiments is not always easy, for the work his students produce may quite possibly fail to please examiners who lack Mr. Burford's philosophic temperament.

It is therefore with great pleasure that we read of the success of Mr. Burford's friend, for as O. Henry so excellently put it, the man who has a corona with a demi-tasse on the verandah has to do things well.

Professor X — as I may call Mr. Burford's friend—has some fine ideas and the right spirit at the back of them, and while I, and doubtless many others, thoroughly approve his main principles, we may not like some of the details of his scheme. But the main principles and the spirit at the back of them are the things which matter in education and in architectural education, no less than in education of other types. For it is in no narrow, hard-and-fast way that we can produce men with the breadth of mind and vigour necessary to enable them to distinguish between the fundamental and the merely ephemeral. Most thoughtful architects who have reached the cigar stage have seen the " last word " in architecture in so many varied guises during the last twenty-odd years that they ought to be hard to deceive by now. And yet with each passing change — some trick of draughtsmanship — a gold border, a blue sky, meticulously worked shadows, or again shadows less meticulously worked and a sky suggestive of Arnold Bennett and his Five Towns rather than of the Mediterranean, or on the other hand, some modification of detail in design—and so many of us put on that rapt expression and agree that we were wrong the last time but that now we really " have the goods."

There seems, however, to be a fly in Professor X's ointment; his conversational powers seem to be developed to such a phenomenal extent that it is difficult to believe that his students would have much chance to ask questions and join in the discussion of his lectures. Even Mr. Burford seems to have been in that difficulty. I wanted to hear far more of *his* views. Unfortunately Professor X did not.

To be more serious, however (which is rather difficult on an August Bank Holiday), the scheme savours somewhat of the Montessori system. Its advantages, as applied to a system of professional training for architects, are not so obvious as some claim is the case with primary education, for in the normal school of architecture there is, after all, considerable freedom in studio work, and formal lectures take up but a small part of the time available. One at least of Professor X's points is not clear to me: I cannot see why, under his scheme, a smaller amount of general education is required before starting, and he has not convinced me that it is better to start with the indefinite and lead up to the definite than to start with the definite and lead up to the indefinite, or to deal with the two side by side.

W. S. PURCHON,
Head of the Department of
Architecture and Civic Design.
The Technical College,
Cardiff.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read Mr. Burford's article with great interest. The principles of training enunciated seem to me to be so sound as to call for practically no comment beyond commendation. I believe that to-day all educationists must be agreed that it is essential to teach principles first, and their application afterwards. Mr. Burford's words, " to proceed from the indefinite towards the definite " are, however, to me imperfectly expressive, since one feels that the laws of composition should be theoretically as capable of definite formulation in the early study of " filling spaces in the most satisfying and harmonious way " as in their later application to architecture proper. The difficulty lies in understanding and " codifying " the laws governing composition, but whether Dow's method or another is followed, I think we are all aiming at the same goal.

If I understand Mr. Burford's article correctly, we seem to be carrying out, at the Architectural Association Schools, the principle of the system which he describes, with certain modifications in detail dictated by necessity or experience.

The first and great difficulty is to ensure students remaining for the five years' course in the School. Too many are obliged to leave after three years.

Another question is that of examinations. These seem to be necessary under present conditions of qualifying for the professional bodies—and also, alas, we have not arrived at the ideal state where the incentive to study the less congenial subjects of the curriculum is not partially provided by the necessity of reaching a certain standard under test.

As regards two long terms relieved by short weeks, the practical difficulty is the unsettling effect occurring at the beginning and end of any period of study. At the Architectural Association we have such a break during the summer term, and utilize it for outdoor measuring and sketching. The arrangement of terms is, however, governed also by custom, and the demand for holidays at the usual periods of the year.

" Discipline maintained by interest and not by coercion " quotes Mr. Burford with special reference to lectures. This principle is surely correct; indeed it is the same which is being increasingly applied in many preparatory schools inspired by the Montessori system. Mr. Burford's interlocutor wisely extends it to technical schools.

The successful application, of course, practically depends on the staff, and I think we all wish that circumstances permitted a course for training instructors. On the other hand, the existence of such a course might from some quarters call forth the cry that architectural training was becoming a properly commercial business!

HOWARD ROBERTSON,
Architectural Association.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—While the method outlined by Mr. Burford is most interesting, yet, nevertheless, it only shows that the education of architects may be carried out in more ways than one. If a master takes pains to teach he will soon develop ways of his own which lead to thoroughly satisfactory results.

CHARLES GOURLAY.

University Degrees in Architecture

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Your leading article on " University Degrees in Architecture " in your issue for July 12 is excellent in its grasp of the present situation, and of the part to be played by the Universities in the advancement of architectural education.

At the present time emphasis needs to be placed upon the distinction between a University Degree and a Diploma such as might be obtained by a student at a school, both of which should carry the right to practise. The object of a University Degree Course is to *educate*, that of a School Diploma Course is to *instruct*.

The difficulty in the institution of a University Degree in Architecture, therefore, is that if it is to carry the right to practise then its course must include both education and instruction. A University Degree Course is not intended to produce merely skilful draughtsmen, but rather to develop culture in architects. But the cultured architect holding the Degree must also be so instructed as to be sufficiently practical and businesslike in order to succeed in architectural practice. Hence the necessity for the Universities and Schools of Architecture co-operating with architects in practice to produce the best type of architect.

University Degrees are generally obtainable after a three or four years' course, but owing to the diversity of the ground to be covered in an Architectural Degree course, coupled with the necessary practical training, it appears that a longer time, probably five years, will be required for a Degree in Architecture.

CHARLES GOURLAY.
The Royal Technical College,
Glasgow.

"Cubic Content Estimates"

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Referring to Mr. Parry Jones's article in your issue of the 9th inst. entitled "Cubic Content Estimates: A Criticism and a Suggestion," it has recently become the custom to deride the old-established method of arriving at an approximate cost of a proposed building. For instance, the Government Committee report on Housing states that cubic content is not in direct relation to cost—one result of which is the unimaginative rows of cottages now being erected to the detriment of our pre-war pre-eminent world position in housing.

In his article Mr. Parry Jones says, "multiply this (the cube content) by the price suggested by experience," but in the next paragraph we read, "The price per foot is obtained by dividing the known cost of completed buildings by their cubic contents"—the latter is the correct method.

My experience in early days in provincial offices (where it was the practice for the architect to take off his own quantities) was that to reduce the cost of contemplated buildings one simply reduced the cube the required amount and remeasured—subsequent prices received being satisfactory.

Building in any district was then a very regular matter and cubing eminently satisfactory, which brings me to my point—that Mr. Parry Jones has merely devised a method for arriving at relative values for different constructions, say, stud partitions versus rubble stone walls.

H. E. ROLLEY.

Our Knowledge of Acoustics

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With reference to the article on the above subject in your issue for Aug. 2, you quote at length the opinions of two eminent persons in the University of Cambridge to the effect that "so far no attempt has been made to ascertain the factors which determine acoustical efficiency in an auditorium." This is typical of the ignorance of people, who should know better, on the subject. Neither Sir W. J. Pope nor Sir Joseph Larmor mention the case of the pathological lecture-room at Cambridge. This lecture-room had a long reverberation of several seconds, and was notoriously bad for the speaking voice. In 1919 Dr. Alex Wood, of Emmanuel College, a university lecturer in physics, using Sabine's law, calculated the absorbing material required and reduced the reverberation to the necessary one second for the speaking voice in a small hall. The lecture-room was converted, as anticipated, into a useful auditorium. The results in table form of the Harvard experiments are to be found in at least three modern text books for builders and engineers. From ten years' close observation of auditoria of all kinds I have not yet encountered one which, by its virtues or defects, does not bear out the results of the Harvard experiments in reverberation, sound absorption, resonance, and the placing of reflecting surfaces. Accurate designing for acoustic effects has for many years been successfully accomplished in America for all classes of auditoria.

HOPE BAGENAL.

The Rebuilding of the Bank of England

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I consider that it is most desirable to retain the existing outer wall or screen that we are all familiar with. It gives a feeling of strength and security appropriate to the first bank in the country, and as an architectural example it is well worth keeping.

In the circumstances. windows are precluded in this outer wall, and therefore rooms constructed against it could only be lighted from the top or the interior. This renders it necessary to erect any new structure at some distance from the boundaries, and this course is also rendered necessary if there is to be no undue interference with rights of light which doubtless exist on at least three sides of the site.

On the whole, therefore, I consider that the architects have adopted the better course, and there is certainly no reason why they should not make the new buildings a great architectural success.

HENRY TANNER.

R.I.B.A. Boards and Committees

Following is a list of the Boards and Committees which have been appointed by the Council of the R.I.B.A. for the session 1922–23:—

Finance and House Committee.—The President, the Hon. Secretary, Messrs. Sydney Perks, F.S.A., H. D. Searles-Wood, Stanley H. Hamp.

Fellowship Drawings Committee.—The President, the Hon. Secretary, Messrs. E. P. Warren, Heaton Comyn, C. Lovett Gill.

The Royal Gold Medal Committee.—The President, Messrs. A. W. S. Cross, George Hubbard, H. D. Searles-Wood, C. Heathcote, the Hon. Secretary, Mr. J. A. Gotch, Sir Edwin L. Lutyens, R.A., Sir Reginald Blomfield, R.A., Messrs. Francis Jones, C. B. Flockton, Heaton Comyn, T. R. Milburn, E. P. Warren.

Board of Architectural Education.—The President, the Hon. Secretary, Messrs. H. D. Searles-Wood, George Hubbard, A. W. S. Cross, Professor S. D. Adshead, Messrs. Robert Atkinson, H. Chalton Bradshaw, Walter Cave, E. Guy Dawber, Professor A. C. Dickie, Messrs. H. M. Fletcher, W. Curtis-Green, Sir Robert S. Lorimer, A.R.A., Professor Beresford Pite, Mr. W. S. Purchon, Professor A. E. Richardson, Professor C. H. Reilly, O.B.E., Messrs. Alan E. Munby, H. Austen Hall, E. Stanley Hall.

Town Planning Committee.—The President, the Hon. Secretary, Professor Patrick Abercrombie, M.A., Professor S. D. Adshead, M.A., Mr. Robert Atkinson, Major Harry Barnes, M.P., Sir Reginald Blomfield, R.A., Messrs. Walter Cave, Arthur Crow, T. Raffles Davison, W. R. Davidge, F. M. Elgood, Edwin T. Hall, W. Haywood, Col. R. C. Hellard, C.B., Sir Herbert Jekyll, Messrs. H. V. Lanchester, H. J. Leaning, Professor W. R. Lethaby, Sir Edwin Lutyens, R.A., Mr. D. Barclay Niven, Professor Beresford Pite, M.A., Messrs. C. H. B. Quennell, W. E. Riley, R.B.A., W. H. Seth Smith, Herbert Shepherd, John W. Simpson, Raymond Unwin, Sir Aston Webb, P.R.A.

The Competitions Committee.—The President, the Hon. Secretary, Professor Patrick Abercrombie, M.A., Messrs. W. H. Ansell, M.C., Henry V. Ashley, G. Leonard Elkington, L. Rome Guthrie, E. Vincent Harris, H. V. Lanchester, F. Winton Newman, William A. Pite, T. Taliesin Rees, J. Douglas Scott, Septimus Warwick, Herbert A. Welch, W. G. Wilson.

The R.E. Mess Memorial Committee.—Messrs. Horace Cubitt, Gilbert Fraser, T. F. W. Grant, M.C., Maurice E. Webb, D.S.O., M.C.

The London Building Acts Committee.—The President, the Hon. Secretary, Professor S. D. Adshead, Messrs. Walter Cave, Horace Cubitt, W. R. Davidge, C. A. Daubney, E. Guy Dawber, F.S.A., Matt. Dawson, Sir Banister Fletcher, Messrs. H. Austen Hall, George Hubbard, F.S.A., J. J. Joass, Delissa Joseph, Sydney Perks, F.S.A., H. D. Searles-Wood, Digby L. Solomon, B.Sc., Sir Henry Tanner, C.B., I.S.O.

The Registration Committee. — The President, Messrs. H. D. Searles-Wood, George Hubbard, A. W. S. Cross, M.A., C. Heathcote, the Hon. Secretary, Messrs. W. Gillbee Scott, C. B. Flockton, Sydney Perks, F.S.A., Delissa Joseph, Herbert Shepherd, W. G. Hunt, H. G. Fisher, Major Harry Barnes, M.P., Messrs. Arthur Welford, W. E. Riley, Heaton Comyn, W. R. Davidge, T. R. Milburn, A. O. Collard, Frank Woodward, G. Topham Forrest, Percival M. Fraser, L. A. Culliford, C. Lovett Gill, W. W. Scott-Moncrieff.

The Charter and By-laws Committee.—The President, Messrs. A. W. S. Cross, M.A., C. Heathcote, George Hubbard, H. D. Searles-Wood, the Hon. Secretary, Messrs. W. H. Ashford, Max Clarke, Sydney Perks, F.S.A., Herbert Shepherd, J. A. Swan.

The Sessional Papers Committee.—The President, the Hon. Secretary, Messrs. Martin S. Briggs, Walter Cave.

The Annual Dinner Committee.—The President, the Hon. Secretary, Messrs. Walter Cave, William Woodward.

Additional Members to the Four Standing Committees.

Art Standing Committee.—Messrs. F. R. Hiorns, W. R. Davidge, C. Lovett Gill, H. P. Burke Downing, Walter Tapper.

Literature Standing Committee. — Messrs. J. A. Gotch, Harry Sirr, Basil Oliver, L. A. Culliford, W. H. Ward.

Practice Standing Committee.—Messrs. T. R. Milburn, Percival M. Fraser, Francis Jones, Harry Teather, W. Henry White.

Science Standing Committee.—Messrs. J. Ernest Franck, S. B. Russell, E. Fiander Etchells, J. E. Dixon-Spain, A. W. Moore.

Liverpool University School of Architecture

The prospectus of the University of Liverpool School of Architecture for the session 1922–23 has just been issued. Full particulars are given with regard to the general education which should be obtained by intending students, the courses of study and lectures, etc., together with interesting information concerning, among other things, the School of Architecture Atelier, The Architectural Society, the Zeta Chapter of the Tau Sigma Delta Honorary Fraternity, and the studentships, scholarships, and prizes of the University. The courses of the school lead to the combined certificate and degree of Bachelor of Architecture (B.Arch.), and to the combined certificate and diploma in architecture. The University grants the certificate at the end of the third year of either the degree or the diploma course; students who obtain this certificate in the first class are exempted from the Intermediate Examination for Associateship of the R.I.B.A., while students who obtain the degree or diploma are exempted from the whole of the Final Examination for Associateship of the Institute except in the subject of professional practice, in which subject they are required to take a paper set by the Institute's examiners. Among the illustrations in the prospectus are the designs for a lake-side restaurant, submitted in the preliminary round for the Rome Scholarship by Stephen Welsh, Rome Scholar 1922, and by George Checkley, Jarvis Scholar 1922. The school opens on October 5.

List of Competitions Open

Date of Delivery.	Competition.
Aug. 31	Lay-out of Land at West Cliff, fronting the sea, in Promenades, Recreation Ground, Roads, and Building Plots. Premiums £300, £200, and £100. Apply Mr. A. Blasdale Clarke, Town Clerk, Albion House, Ramsgate.
Sept. 16	Nurses' Home, Chelsea Hospital for Women. Premiums: £150, £100, and £50. Assessor, Mr. H. V. Ashley, F.R.I.B.A. Names by above date to Mr. H. H. Jennings, Secretary, Chelsea Hospital for Women, Arthur Street, Chelsea, S.W. 3.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8.000 francs.
Nov. 1	Labour saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C 4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
Jan. 31, 1923	Labour-Saving Flats, Hampstead Garden Suburb. Premiums £500, £300, and £200. Assessors: L. Rome Guthrie, F.R.I.B.A., J. C. S. Soutar, Lic.R.I.B.A., and E. J. Cooper, Secretary, Second Hampstead Tenants Ltd., to whom, at Temple Fortune House, Hampstead Way, N.W. 11, applications had to be made by August 11.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.

Law Report

Liability for Defective Chimney

Whymark v. Abrahams.

July 31. King's Bench Division.
Before Justices Bailhache and Shearman.

Plaintiff in this case appealed from a decision of the County Court Judge at Portsmouth.

It appeared, it was stated, that a brick from the chimney of a house in the Portsmouth High Street fell and hit the plaintiff, and he sued the defendant, who occupied the part of the house that was used for habitation over a shop.

Plaintiff sued the defendant as the owner of the property, and to establish that relied upon the fact that the defendant had had served upon him a notice by the local sanitary authority to repair the property.

It was also said that the defendant's having had other repairs done provided further evidence to support the contention that he was the owner.

Mr. du Parcq appeared for the appellant.

The County Court Judge found for the defendant on the ground that the mere fact that a notice to repair had been served upon the defendant did not prove that he was the owner liable for the repairs, neither did it prove his liability because he had ordered repairs to be done to the property.

After hearing Mr. du Parcq, for the appellant, the Court dismissed the appeal with costs, holding that the findings of the County Court Judge were accurate.

A New Reversible Firegrate

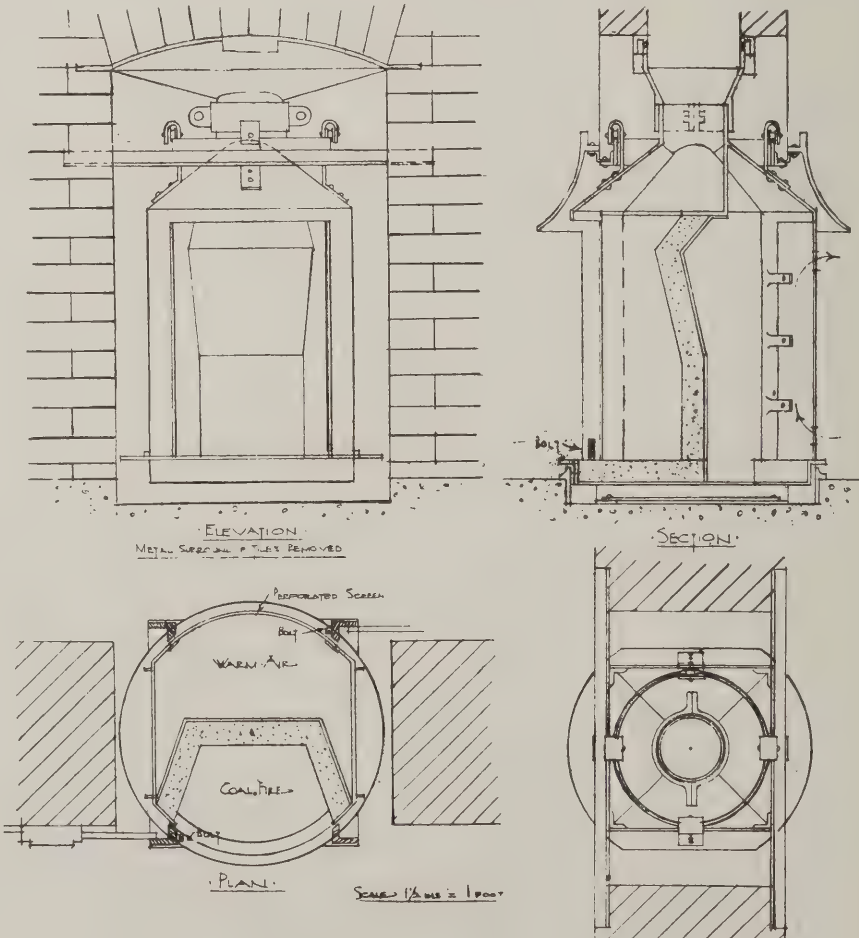
This firegrate, which has been designed and patented by Mr. G. Noel Hill, A.R.I.B.A., is of that type adapted to be located in an opening in the division wall between two rooms, so that it may be used to heat either of the rooms directly with the coal fire, and at the same time be used to heat the other room by a circulation of warm air.

The interior of the grate rotates within the metal and tile surround about a vertical axis guided by and suspended by rollers running on a circular rail supported on a fixed framework.

Connecting the grate to the flue is a fixed smoker trunk, the connecting flange being halved to enable fixing. The warm air behind the fireback is circulated through an ornamentally perforated screen, which could be formed of any suitable metal. There is no friction when the grate is being turned. All parts are designed for easy fixing and replacement.

The grate is turned and fixed in the following manner. Fixed to the metal surround at the front and rear of the grate is a bolt. Both bolts are permanently dropped and run on the circular rail at the bottom of the grate; the nose of each bolt is rounded to run easily. In the circular rail is one hole. The hole is so placed that when either of the two bolts have dropped into it the grate is in the correct position.

To turn the grate the bolt in use is temporarily raised and the grate is turned with an ordinary poker (projections are formed in which to engage the poker).



A REVERSIBLE FIREGRATE.
DESIGNED AND PATENTED BY G. NOEL HILL, A.R.I.B.A.

The Week's News

Nelson Hospital War Memorial.

Nelson Hospital, Merton, is to have a ar memorial.

Proposed New Library for Gateshead.

The Corporation are contemplating the rection of a new public library.

New Baths for Malvern.

The Council have appointed Mr. A. J. aylor, of Bath, as architect for the contruction of public baths.

Workmen's Flats for Marylebone.

Thirty-two workmen's flats to be uilt by Marylebone Council will cost 29,067.

Middleton Housing.

The Middleton Town Council are pplying to the Ministry of Health for ermission to erect seventy-two houses.

New School for Troon.

A secondary school is to be constructed t Troon by the trustees of the late Ir. Charles Kerr Marr, of London, a ative of Troon.

Wrexham Town Planning Scheme.

Wrexham Town Council have approved town planning scheme. Professor bercrombie, of Liverpool, acted as xpert adviser.

Leicester Builder's Estate.

Mr. Francis Hallam Stevens, of Leicester, builder, who died on April 19 last, eft estate of the gross value of £4,522, f which £1,018 is net personalty.

Dewsbury War Memorial.

Dewsbury Town Council have agreed o grant the War Memorial Committee site in Crow Nest Park for the proposed own's war memorial.

New Cinema for Norwich.

At Norwich the foundation-stone has een laid of the new Regent Picture heatre, which will have a seating apacity of 1,800.

Wolverhampton Public Hall Proposal.

Wolverhampton Town Council have lecided to appoint a special committee o consider whether a public hall should e erected out of the rates.

Halifax Housing.

Halifax Town Council are seeking the ermission of the Minister of Health to rect, free of Government control, 500 vorking-class houses.

Renfrew War Memorial.

The war memorial for Renfrew has een designed by Mr. Hamilton Neil, .R.I.B.A. It is of freestone and is ctagonal in form.

Memorial to the late Sir Henry Wilson.

A tablet to the memory of Field-Marhal Sir Henry Wilson, who was murdered utside his house in London, is to be rected in the main line booking hall at he Liverpool Street terminus of the reat Eastern Railway.

More Houses for Rosyth.

The Scottish National Housing Company are proceeding with the building at osyth of forty additional five-apartment lwelling houses. They are for naval lockyard men.

New Church for Swansea.

The Roman Catholics of Swansea have decided to erect a new church in the Uplands district, for which a site has been secured at a cost of £1,000, and also a new school in the Greenhill district.

New Church for Walthamstow.

The foundation-stone of the new Church of St. John, Walthamstow, will be laid on October 28. About £9,000 of the £13,000 required has been raised up to the present.

London Builder's Estate.

Mr. George Small, of Balham, retired builder, who built a considerable portion of modern Clapham, and who died on April 27, aged eighty-three, left £7,307 gross and £7,138 net.

New Convalescent Hospital for Edinburgh.

In connection with the provision of a convalescent hospital, the Ainslie Trust have purchased properties to the extent of £70,000 in the south side of Edinburgh.

Army Huts as Houses.

Owing to acute housing shortage at Freshwater (Isle of Wight) the Council have decided to ask the military authorities to allow disused army huts near the barracks to be used by civilians.

Henstridge War Memorial Wrecked.

Within twenty-four hours of its unveiling, the Henstridge, Somerset, war memorial was wrecked by a motor-coach. A boy, while placing a wreath on the memorial, and a girl were injured.

Great Central Railway Memorial.

In the presence of 8,000 relatives and friends of the fallen men, Earl Haig unveiled a memorial at Sheffield to 1,304 employees of the Great Central Railway Company who died in the war.

Ancient Cemetery Unearthed.

A necropolis of 700 B.C. has been unearthed near Tropea, in Calabria, during archæological excavations. So far sixty tombs, made of stone blocks covered with hard-pressed earth, have been found at a depth of about four feet.

£35,000 Sea Front Scheme.

Herne Bay Town Council are considering plans to build at a cost of £35,000 a sea wall with a concert stage, shelters, and dressing-boxes for bathers, covered in by a roof promenade. A large swimming pool is also proposed.

Airdree War Memorial.

A cenotaph is to be erected as a war memorial at Airdree. The plans have been selected by Sir John Burnet, A.R.A., architect, Glasgow, and the successful architect is Mr. J. Maurice Arthur, F.R.I.B.A., C.M.G., D.S.O. White Creetown granite is the building material.

Port of London Authority's New Offices.

The Prime Minister will perform the ceremony of opening the Port of London Authority's Head Office Building, Tower Hill, on October 17. Designs for the building were invited in 1911, when those of Mr. Edwin Cooper, F.R.I.B.A., were selected.

New Hospital for Aberdeen.

A new joint hospital, to be erected near Aberdeen, will embrace general hospital, tuberculosis hospital and sick children's hospital, and university buildings for the training of medical students. Plans have been prepared by Mr. William Kelly, A.R.S.A., LL.D. Aberdeen.

Electrical Development at Torquay.

The Electrical Committee of the Torquay Town Council has accepted tenders for a large portion of the plant which is to be placed in the new electrical generating station at Newton Abbot. The station will serve both Torquay and Newton, and will cost about £200,000.

The Howard N. Potts Gold Medal.

The Howard N. Potts gold medal of the Franklin Institute, Philadelphia has been awarded to Professor E. G. Coker, of University College, London, for his photo-elastic method of determining the distribution of stress in structural and machine members.

Battle Abbey to Become a School.

Battle Abbey, near Hastings, is being converted into a school, which will be opened next month. Every schoolboy knows that outstanding date of 1066, when William of Normandy defeated Harold at the Battle of Hastings. On the spot where Harold fell William built the Abbey.

Timber Disposal Department.

The Timber Disposal Department, Board of Trade, was transferred from 49 Wellington Street, Strand, W.C.2 to the Board of Trade Offices, First Floor, Great George Street, S.W.1 on August 14. Telephone address: Victoria 3840; Telegraphic address: "Timdissect Parl, London."

Oxford and Unemployment.

A meeting convened by the Oxford and District Alliance of Employers and Employed has, with a view to lessening the amount of unemployment, passed a resolution recommending the City Council to build 1,000 houses and to construct a reservoir on Hincksey Hill, to the south-west of the city.

Craig-y-Nos as a Hospital.

Craig-y-Nos Castle, in the Swansea valley, has been converted by the King Edward VII Welsh National Memorial Association into a hospital for the treatment of pulmonary consumption. The property, with all its fixtures and fittings, was acquired by the Association at a cost of £19,000, and many thousands of pounds have been spent on repairs, alterations, and equipment. The castle is estimated to have cost Mme. Patti over £100,000. Beds will be provided for 104 patients. The organ at Craig-y-Nos forms part of the purchase, and the modern theatre, with all its fittings, is also taken over.

R.I.B.A. Examinations.

Apropos the results of the R.I.B.A. Examinations published in our issue for August 2. Mr. Ian MacAlister, Secretary to the R.I.B.A., informs us that the name of Mr. J. K. Parker, who passed the Special War Examination, was unfortunately omitted from the lists sent us.

R.I.B.A. Visit to Hampton Court.

A visit to Hampton Court Palace has been arranged by the R.I.B.A. for Saturday, August 19. Members and friends taking part should assemble at 2 p.m. at the Trophy Gate, Hampton Court, when the official guide will take charge of the party. Members desiring to take part should notify the Secretary of the R.I.B.A. as soon as possible.

The Empire Exhibition.

The underwriting members of Lloyd's have sent to the Prince of Wales, the president of the general committee of the British Empire Exhibition at Wembley Park in 1924, a contribution of £100,000 to the guarantee fund of the exhibition. The guarantee fund now amounts to more than £1,150,000, and it is hoped to reach £2,000,000.

More Houses for Blackpool.

The Ministry of Health has given sanction for the Blackpool Corporation to proceed with the erection of forty-eight houses to complete the scheme of 254 houses on the Watson's Lane Estate, on condition that the Corporation undertake to build an additional 100 houses independent of the Government scheme. The Blackpool Corporation have agreed to carry out the conditions.

Brighton Aquarium Site.

There is still activity in the campaign against the leasing of the Aquarium site for a motor-coach garage and terminus. It is intended to ask the Town Council to fix the terminus for the motor-coach traffic at open spaces to the north and south of the enclosure known as the Level, with a garage at the corporation depot, formerly known as the Lewes Road Water Pumping House.

The New Extension at Olympia.

Messrs. Francis Polden & Co., Ltd., have been entrusted with the carrying out of the electrical equipment in connection with the new extension at Olympia. The contract includes the general lighting of the new hall; mains; lighting in rooms generally; all secondary lighting; wiring to lifts; ventilating fans; signs; motor generators and switchgear; battery and charging booster; and fire alarms.

The Concrete Institute.

Members desirous of reading papers before the Concrete Institute during the forthcoming sessions are invited to communicate with the Secretary of the Institute, at 296 Vauxhall Bridge Road, S.W.1. The title of the paper should be stated, a summary of the subject matter should be enclosed, and a suitable date should be intimated. Papers should not exceed 10,000 words in length for printing, and are subject to approval by the Literature Standing Committee.

The Housing Shortage.

Mr. George Hicks (Building Trade Workers), opening a debate in the Midlands on housing, said over 100,000 building operatives were unemployed, and 40,000 had been discharged from housing schemes since October last. A programme of one million more houses would not be in excess of requirements, and the shortage would have to be met by municipal schemes.

Temporary Dwellings in Wales.

At various places along the Welsh coast there have recently sprung up little colonies of bungalows, huts, and other temporary dwellings. In many cases these have been erected without the submission of plans to the local authority. One of the first Councils to take action is Penypont, in the Bridgend area, which has decided to take proceedings against about a dozen owners.

Civic Adviser to the City of Jerusalem.

Mr. A. C. Holliday, A.R.I.B.A., has been appointed Civic Adviser to the City of Jerusalem, Palestine. For the past two years he has been Research Fellow and Lecturer in the Department of Civic Design, University of Liverpool, and joint editor of the "Town Planning Review," with Professor Abercrombie. Mr. Holliday is a Bachelor of Architecture, and an Associate of the Town Planning Institute.

The late Mr. D. J. Gibson.

It is with deep regret that we have to record that Mr. D. J. Gibson, son of Mr. J. G. S. Gibson, F.R.I.B.A., was accidentally killed while taking part in a motor race at Brooklands. Mr. Gibson was a competitor in the eight-and-a-half miles handicap. While rounding a curve in the second lap and going at the rate of 100 miles an hour Mr. Gibson attempted to pass one of the cars in front. He, however, dashed into the fence, and was killed instantaneously.

Building Trades Sports.

A sports meeting arranged by the building trades, with several events open to all trade unionists, attracted a fair attendance to Stamford Bridge. F. R. Gaby, the A.A.A. hurdle champion, took the hurdles and the long jump as well as second place in the furlong, and E. J. Toms, of Queen's Park, won the half-mile, and was third in the furlong. E. M. Allen jumped well, as after winning the high leap at 5 ft. 1 in. he easily cleared 5 ft. 6 in. A good mile was taken by R. Pigott, Luton Un. H., in 4.23 3-5 sec

Starkie Gardner & Jaques.

The partnership business carried on by Mr. J. Starkie Gardner and Mr. Oswald Hastings Jaques under the style of "Starkie Gardner & Jaques" has been dissolved, and the business is now being carried on by Mr. Gardner on his own account under the style of "J. Starkie Gardner," at 121 South Lambeth Road, S.W.8. All debts owing to the late firm should be paid to Mr. Gardner, who has undertaken to discharge the late firm's outstanding liabilities as on August 3.

Irish Architects' Council Meeting.

At a meeting of the Council of the Royal Institute of the Architects of Ireland, the President reported having had an interview with Sir Philip Hanson with regard to the appointment of architects in connection with the transfer of the military barracks and the distribution of money awarded for destroyed buildings. A letter was read from the secretary to the Scariff District Hospital, saying that the committee would agree to accept the Institute's conditions of competition in connection with the proposed hospital building. It was proposed to hold an exhibition of American architecture, but the Council decided that, under existing conditions, it would be better to postpone arrangements. A circular letter is to be sent to the Irish Urban and Rural District Councils with regard to the appointment of architects for housing schemes, and urging the importance of entrusting the work only to fully qualified men.

New Inventions

Latest Patent Applications.

20792.—Abram, S. — Interlocking roofing-tiles. July 29.

20718.—Cartland & Son, Ltd., J. — Opening and closing devices for fanlight windows, etc. July 28.

20333.—Harris, A.—Composition to be applied to cement work before painting. July 25.

20638.—Plant, J.—Methods of building bricks, tiles, etc. July 28.

20436.—Rosher, C. H.—Kinematograph halls, etc. July 26.

Specifications Published.

182821.—Schelff, A. W. C., and Bradford, F.—Reinforcement for concrete and for similar purposes.

162287.—Lyno, C. C.—Building of walls, or structures of cement bricks.

182985.—Zondervan, R., Zondervan, R., and Stoederum, J.—Building-blocks.

168602.—Matthews, A. T.—Concrete and like building slabs.

183071.—Henderson, J.—Apparatus for moulding walls, columns, and the like in situ.

Abstract Published.

180833.—Roofing. — Bell's United Asbestos Co., Ltd., 59½ Southwark Street, London, and Cann, J. A., Old Orchard, Harefield, near Uxbridge, Middlesex.—Corrugated roofing tiles are laid so that they abut laterally and overlap longitudinally and the abutting edges are covered with narrow corrugated tiles *b* which overlap longitudinally and of which the upper edges abut against the lower edges of the main tiles. The tiles *b* are held by means of clips *c* attached to the main tiles *a* as shown and no nailed portions are exposed.

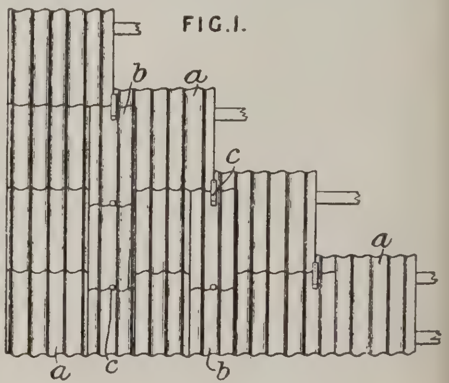


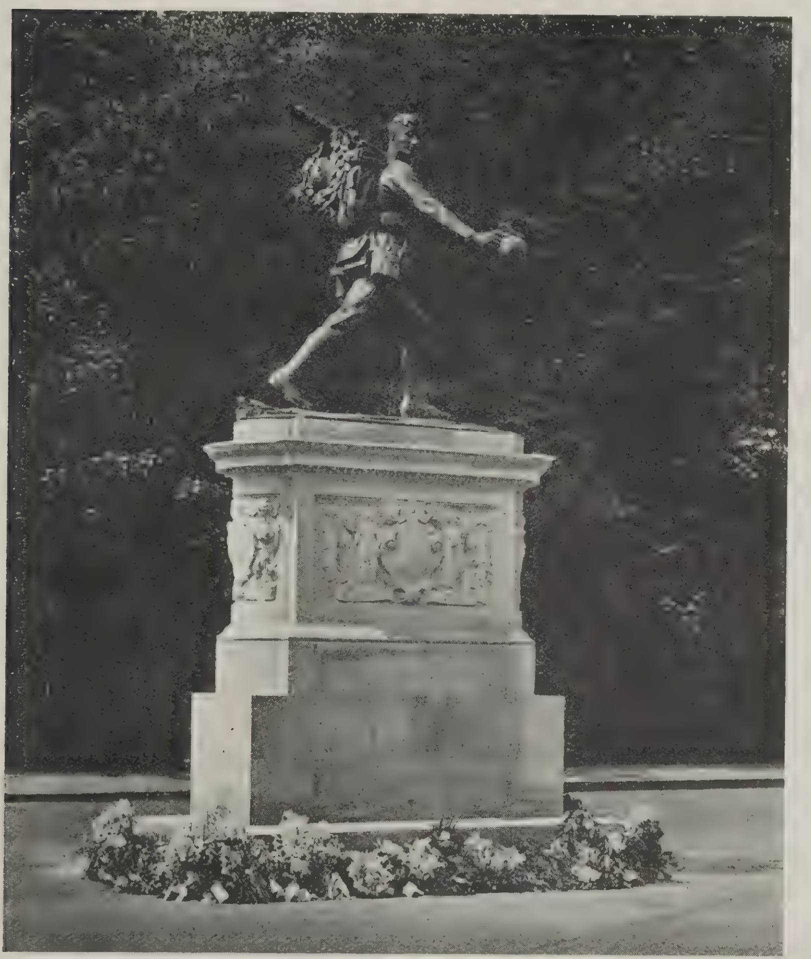
FIG. 1.

The above particulars are specially prepared by Messrs. Rayner & Co., Registered Patent Agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

Wednesday, August 23, 1922. Vol. LVI. No. 1442

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



CAMBRIDGESHIRE WAR MEMORIAL.

This memorial has been erected to the men of Cambridgeshire, the Isle of Ely, and the Borough and University of Cambridgeshire, who served in the war. The figure of the soldier, the work of Dr. Tair McKenzie, sculptor, is of bronze, and the base, which stands 10 ft. high, is of Portland stone. On the four sides of the base are panels carved with the arms of Cambridgeshire, the Isle of Ely, and the Borough and University. The base was designed by Messrs. George Hubbard and Son, architects, and carried out by Messrs. Rattee and Kett, contractors. The memorial was unveiled, last month, by the Duke of York.

27-29 Tothill Street, Westminster, S.W.1.

Air Views. 10.—Piccadilly Circus, London

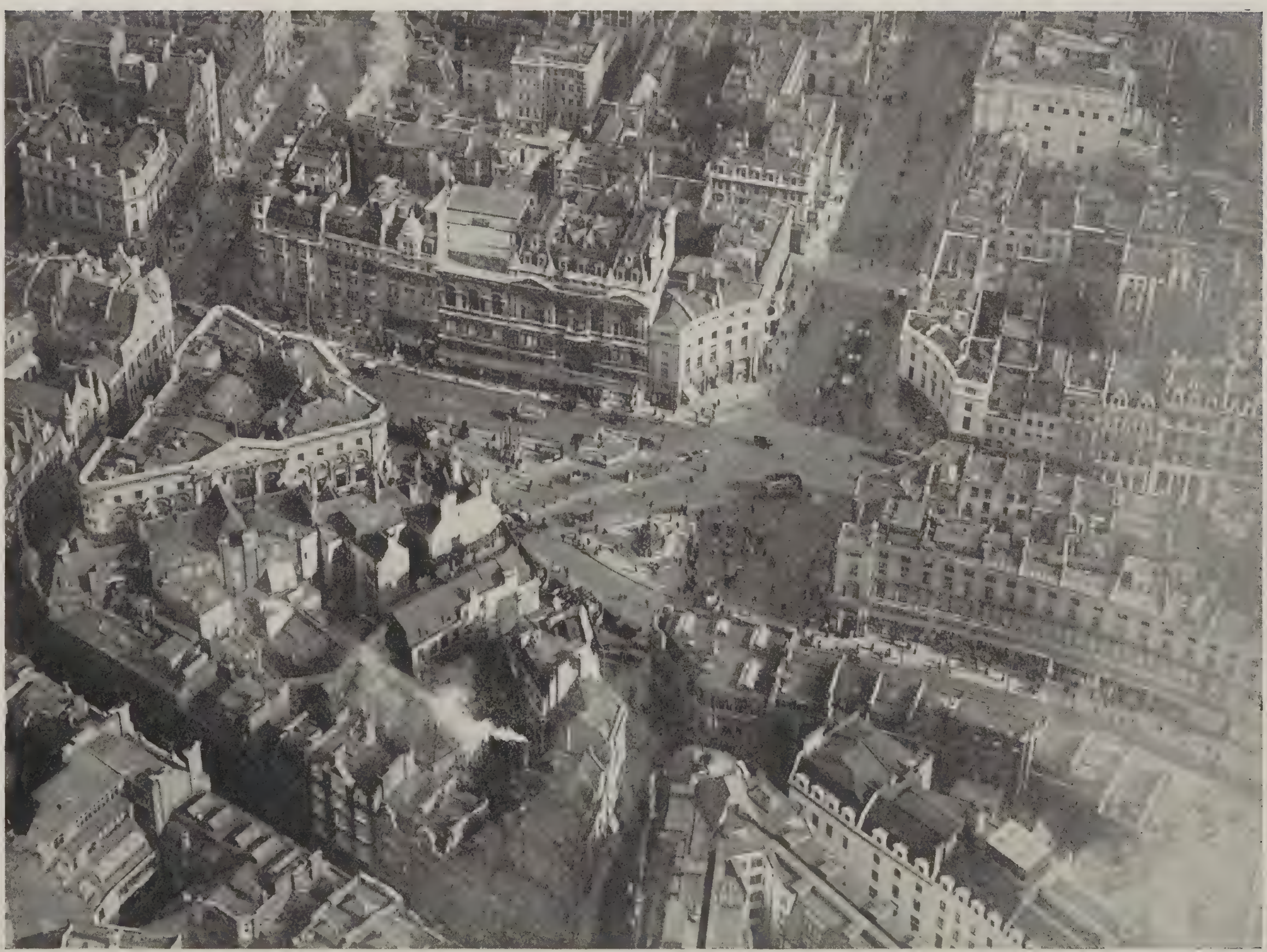


Photo: Aerofilms Ltd.

This view shows Picadilly Circus as it stands to-day, with Lower Regent Street at the top, Picadilly and the Quadrant of Regent Street on the right, and Coventry Street leading into Leicester Square on the left. While the South side of the Circus belongs to H.M. Office of Woods and Forests, the North side belongs to the L.C.C., and there is no communication whatever between the two bodies on the subject of reconstruction. Thus each is to carry out its own rebuilding without any kind of reference to the other, and the result can hardly be less than chaos—a chaos which could easily be averted if precautions were taken to procure a combined scheme.

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Piccadilly Circus

TOWN-PLANNING in this country unfortunately would appear to be in danger of falling into the hands of the utilitarians. We have, perhaps, in the immediate past suffered from purely paper schemes, which from their extravagantly impracticable nature have done much to prejudice the case for what might be called "imaginative" town-planning.

When town-planning was made compulsory in 1919 town planners and those who cared for civic design rejoiced, and imagined that the great end had been achieved. But the country as a whole has not risen to the occasion. We believe that very few local authorities have even started to think of their town plan, and those that have, in a good many cases, have treated it as a matter which the borough surveyor might attend to in his odd moments, without very much concern as to whether he had any particular qualifications for this work or not.

And, generally speaking, town-planners themselves since the war seem to have been paying much more attention to the purely practical aspects of the subject, and to have ignored the higher and larger considerations.

In some ways this is all to the good; but, however, important traffic problems, zoning, betterment, and all such details are, we must never forget that if we are to achieve anything with our town plans that is to have any permanent value, these plans must embody the quality of imagination. We must not forget that town-planning is an art as well as a science, and that it is something more than a matter of mere convenience.

It is often said that we English are not an artistic nation, which is only another way of saying that we do not know how to live.

Now this is a singular fallacy. We do, as our past has shown, both in its history and in its buildings, know how to live better perhaps than any other nation; but we have always shown a decided and insular determination to live our lives and to enjoy ourselves in our own way.

Since the advent of the industrial age, we have, however, undoubtedly been losing this joy of life, which is able to espress itself in art, and chiefly through a growing habit of compromise. We have come to regard our tendency to compromise as expressive of our moderation, when in reality it is expressive of little but our indecision.

The Greeks were the most moderate of people, but they were also the most uncompromising, and therefore the most artistic of all nations past or present.

It will be remembered that some short time before the war a trio of very distinguished architects—Sir Aston Webb, Sir Reginald Blomfield, and the late Mr. Ernest Newton—produced, under the authority of His Majesty's Office of Woods and Forests, a scheme for the remodelling of Piccadilly Circus. And within the limits of their reference it was a very good scheme—the trouble is that their reference was too limited.

Their proposal was briefly to "square off" the two circular portions of the original Circus that terminated Lower Regent Street, and to rebuild these corners with fine modern buildings.

The remaining third portion of the Circus, occupied by Messrs. Swan and Edgar's premises, was also to be remodelled by the setting back of their building in a line with the side of the left-hand corner of the new entrance to Lower Regent Street.

In our view the proposals, though an improvement on the existing nondescript muddle, do not go nearly far enough.

When Shaftesbury Avenue was formed, the Circus, as Nash had planned it, was irretrievably ruined, and it appears to us that what is now wanted is a complete scheme for the remodelling of the whole of this area.

At present there is no real scheme for the re-planning of Piccadilly Circus, and the effect of the rebuilding as contemplated will simply be the creation of a new muddle in place of the old one.

The greater part of the property on the north side of the Circus belongs to the London County Council, and their intentions with regard to rebuilding, when the existing leases fall in, are entirely unknown! It would appear that what is wanted is a liaison between the London County Council and the Office of Woods and Forests, while there is still a chance to make Piccadilly Circus into something worth looking at.

Here is a chance for London to acquire a really fine "Place" on broad and generous lines—something that should express our awakened civic consciousness. We do not want a Place de la Concorde, or Grand Boulevards on Hausmann lines, but we do want a scheme that shall express London at its best and most enlightened.

Cannot the Town Planning Institute devote a little of its time given up to the consideration of such important subjects as zoning and other technical matters, and join, perhaps, with the London Society in a policy of inquiry and propaganda?—inquiry as to what is the best scheme to embark upon, and propaganda as to the best means of getting it carried out.

The London County Council's success with Kingsway should give it heart to undertake the new adventure, and we are sure from what the Office of Woods and Forests have already done in the way of preparation, that that department would willingly co-operate as far as was in its power to secure a great London improvement.

We shall be told, of course, that there is no money at the present time for ambitious architectural schemes! We were told the same thing with regard to Kingsway, and those who croaked the loudest are now claiming that the success of the undertaking was in a great measure due to their prescience and far-sightedness!

We have only to remember that Nash's great scheme for Regent Street and Piccadilly Circus was initiated and carried out when we had been for years at war with France, and when the financial position of this country, considering the comparative population then and now, was in a much worse condition than it is at the present time.

There had been some twenty years of ruinous war, and this country was supposed to be physically and financially exhausted; but this did not prevent London embarking upon a great scheme of improvement.

When compared with what Paris has done, even London's mightiest efforts in town improvement appear insignificant.

Parisians in all ages, no matter in what desperate straits the national or municipal exchequer has been, have never lacked courage to carry out great civic undertakings in the broadest and most generous way.

At the present time, nearly all the great municipalities of America are spending millions of dollars on the improvement and remodelling of their cities. Where the American municipalities have been backward, private citizens have stepped into the breach, have formed committees, collected funds, inaugurated town-planning schemes, and generally educated their fellow citizens in what they ought to do.

Are Londoners less courageous than the citizens of Paris or New York, or is it that they are more apathetic?

London has grown by a gradual absorption of small villages, and it would seem that London was ever to be thwarted of her finest civic expression by the parochial rivalries of her various governing powers. The Charing Cross Bridge scheme is endangered, and there is the possibility of an entirely unnecessary bridge being built on the skew at St. Paul's, because Mr. Alderman Beanfeast cannot conceive London as extending beyond the ancient boundaries of her mediæval city.

During the immediate future, much of London will, from one cause or another, have to be rebuilt, and it is to be hoped that London's lovers will do everything within their power to see to it that the new London shall be expressive of the finest ideals of her citizens.

The New Regent Street

The stucco architecture of Regent Street is fast crumbling away. Every week it seems that a fresh assault is made upon some surviving part of it. Before long nothing will be left; not a fragment is to remain to bear testimony to the civic wisdom and architectural genius of our great-grandfathers. Perhaps it is just as well, for a few scattered fragments of a great conception make but a melancholy memorial. In truth, Regent Street had had its day; to expect it to adapt itself to the needs of the modern drapery trade would be as reasonable as to expect a "Flying Scotsman" performance from Stevenson's "Rocket." We can only hope that the destruction may be completed as quickly as possible. Anything would be better than the present half-and-half condition of things. It is some satisfaction to know that the rebuilding is to be carried out entirely in Portland stone. At least there shall be no distracting medley of massing materials in the new Regent Street, and for this the Office of Woods and Forests deserves our best thanks. But it is with heavy hearts that we bid farewell to old Regent Street—one of the world's landmarks. We would almost as soon have seen St. Paul's sold up into office lots.

The "Temporary" (?) War-Building

Unsightliness is by no means the only offence of the belated war-building. For instance, "correspondence has reached 'The Times' in which complaints are made of the presence of buildings in Regent's Park hitherto described as 'temporary,' which have every appearance of becoming permanent." Householders in the vicinity declare that they have renewed their leases in the belief that the park would very soon be wholly cleared of such buildings, and they fear that the lease of the "temporary" buildings will be renewed. The public should put pressure on the authorities to bring speedily to an end this long-continued abuse of amenity.

Clutton Brock and Sham Gothic

The following communication has been received from one who wishes to remain anonymous, with reference to the address given by Mr. Clutton Brock on Sham Gothic before the Society for the Protection of Ancient Buildings. (This address was published in the last issue of the JOURNAL).

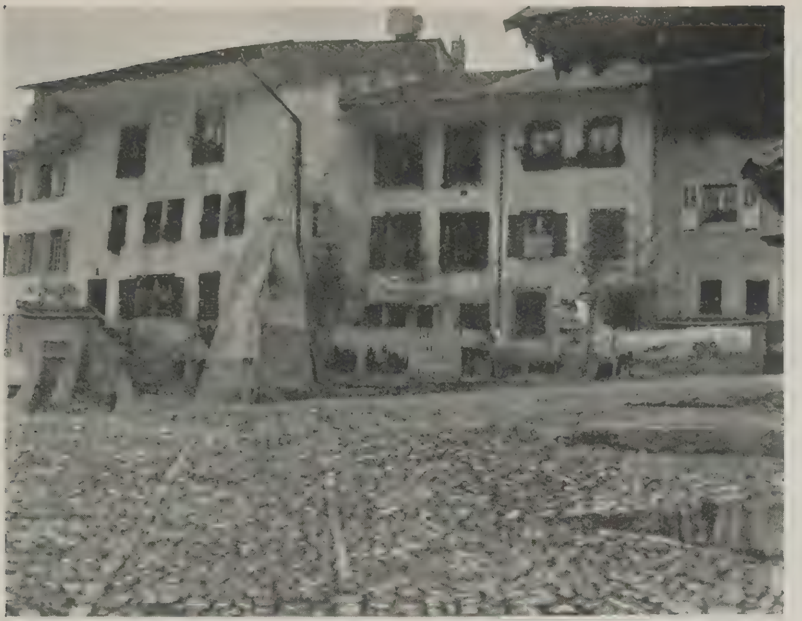
"Mr. Clutton Brock," says our contributor, "heads his address 'Sham Gothic,' and I am prepared to agree with all that he says as long as his remarks are confined to what I may call genuine sham Gothic. But he does not confine himself to genuine sham Gothic. Apparently he is absolutely unable to distinguish between the Gothic movement of the romanticists of the nineteenth century and the sham Gothic activity of those hangers-on in Society who were only eager to do the fashionable thing.

"To call Street's Law Courts, as Mr. Clutton Brock has done, sham Gothic, is nothing less than absurd. You might call Street's Law Courts absurd, but you could not under any circumstances whatever call them sham Gothic—that is, imitative architecture. What the Gothicists of the nineteenth century were really trying to do—and they *were* trying with all their might—was to form some new basis upon which the English architecture of the future might develop. They were the first people to realize that a classic basis was not only unsuitable to the climate and geographical position of England, but was also unsuitable to the character, mentality, and outlook of the English people. Looking backwards, on the contrary, they saw (as they could not help seeing) that the Dark Ages had evolved a means of architectural expression (called Gothic), which formed an almost perfect medium for the expression in architecture of the curious English character; and thus, naturally, they began to experiment with those forms, saying in effect, 'Let us through these forms (which are the natural English means of expression), build up a new English architecture.'

"Where they were wrong was in thinking that the right building-forms would create the right architectural expression; but even if they were absurd, they were no more absurd than Inigo Jones was in dressing house-walls with pilasters and Italian ornament. If you are going to call the Gothic Revival ridiculous you must in all fairness call the Renaissance ridiculous. Probably Mr. Clutton Brock does. One thing he cannot do, however; he cannot call the Renaissance architecture in England a dry-as-dust imitative architecture. And I contend that he has no more right to apply these epithets to the Gothic Revival, whose apostles were of all men the most enthusiastic and original."

The Co-operative Spirit in Road Repairing

Great road reforms are foreshadowed and should not be much longer delayed. Mr. James Moncur, county surveyor of Staffordshire, having suggested that the Automobile Association patrol traffic should assist in the diversion of traffic from roads undergoing repair, the Association has responded, in true patriotic spirit, that it is willing to co-operate on national lines. It insists, however, that the proposal cannot succeed without the co-operation of all highway authorities. The wisdom and justice of such a demand cannot be disputed, and such co-operation would be the first really practical step towards the complete nationalization of the roads. Great things were expected of the Road Boards, and their supersession by the Ministry of Transport does not seem to have greatly increased the probabilities of early reform. If, however, the local authorities, and influential road-users like the Automobile Association, unite in an agitation for some system of central control of the roads, the demand cannot be much longer resisted; for the contention that nationalization of the roads is incompatible with the spirit and principle of local self-government is a mere evasion of the point at issue, and could only be tenable if the main roads were used only locally, which is impossible.



ROUGH COBBLED STREET AND QUAINT HOUSES.

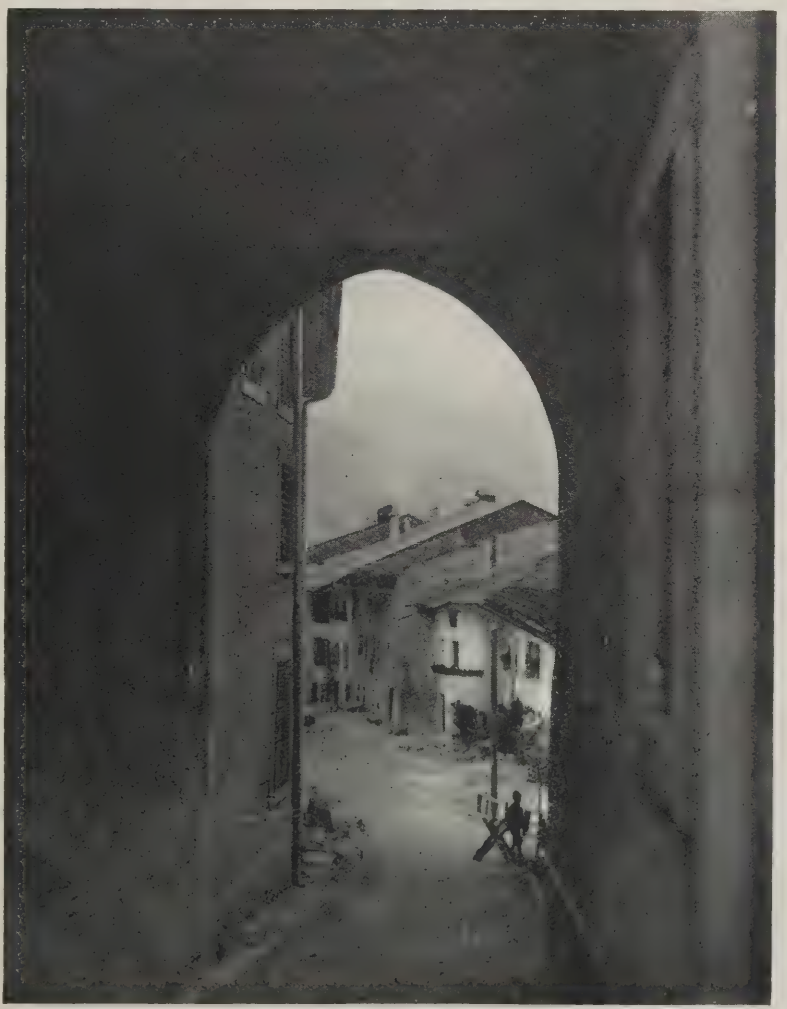
Gruyères

By H. A. J. LAMB, A.R.I.B.A.

IT would be very difficult to describe adequately the beautiful position of the wonderfully picturesque little town of Gruyères, situated as it is on the top of a hill in a wide valley, bordered by mountains, and commanding a fine view on all sides. Gruyères can easily be reached by mountain railway from Vevey or Montreux on the Lake of Geneva.

Climbing up the hill from the station, it will be noticed that the town is surrounded by a wall with battlements. Dominating everything and on the highest point is the castle, with its high-pitched roof, and flanked by a round tower, which is of great age. The castle, which is now unfortunately closed to the public, dates from the eleventh century, but since then it has been restored many times.

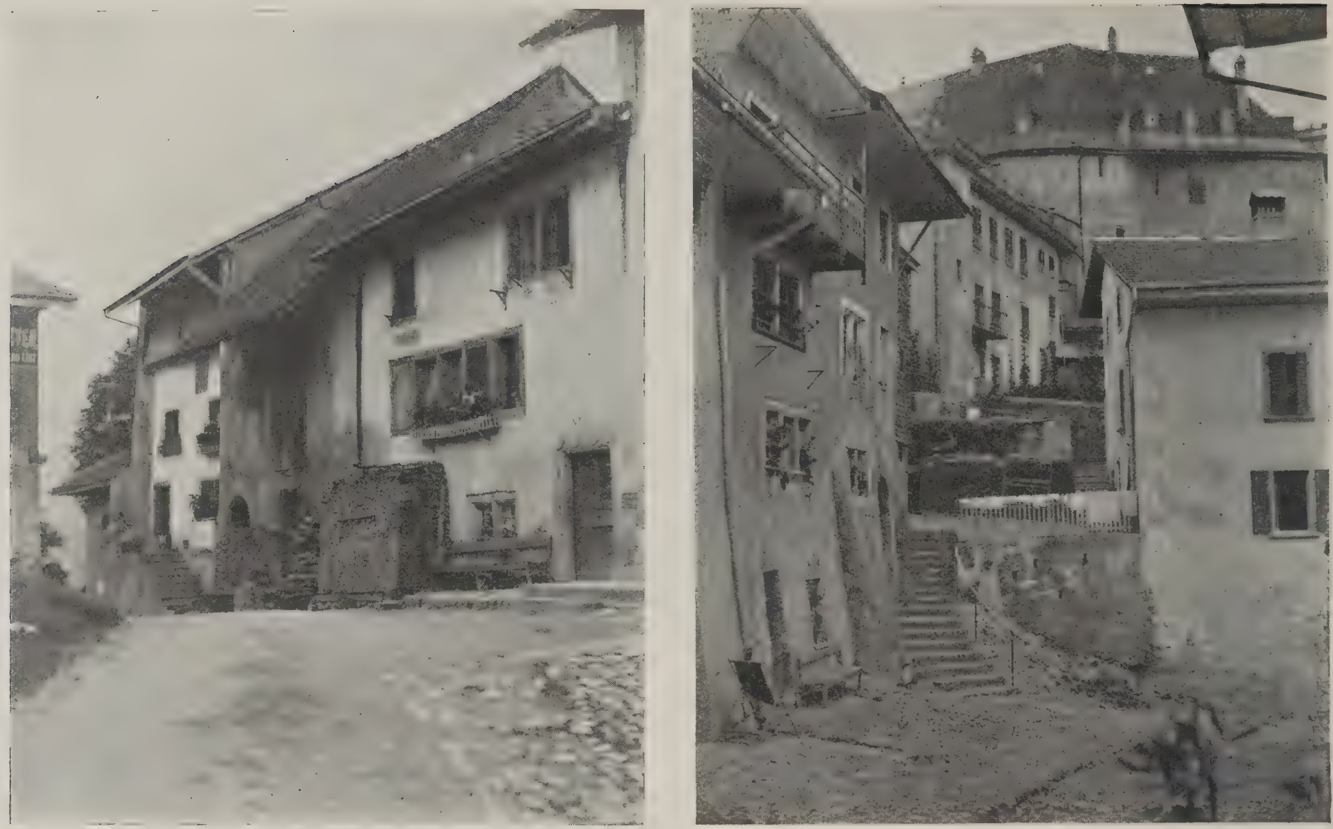
At the top of a narrow lane is the Porte du Belluard the main gateway, consisting of a pointed archway with small gallery and a line of machicolations above. Opening directly on to the slope of the hill is another small gateway, evidently intended as a means of escape, as it is very narrow indeed.



A GLIMPSE THROUGH THE ARCHWAY LEADING TO THE CASTLE

On turning to the right after entering the Porte du Belluard the Place is reached. This is paved with cobble stones, and from here one can practically see all that Gruyères consists of. At the bottom of a dip in the road, running through the town, and called "The Street," is a picturesque fountain, around which the washing is done. At the top of the dip, at the other end of the street, is a large brightly-coloured crucifix, standing under a pent-house roof; passing this on the right the road leads through another archway until it eventually reaches the castle.

Before reaching the crucifix, and standing well back from the road, is the house which originally belonged to Gerard Chalamala, who died in 1349, and who was court jester to the Count of Gruyères. This house is very small, and consists of two stories, the entrance being reached up a flight of steps. The stone framework to the windows is profusely carved. Projecting from the deeply overhanging eaves is a curiously fashioned rain-water pipe, which terminates in a highly-coloured ser-



TWO VIEWS IN PICTURESQUE GRUYÈRES.

pent's head, with a wide open mouth and jagged teeth, from which the water drips on to the cobbles beneath.

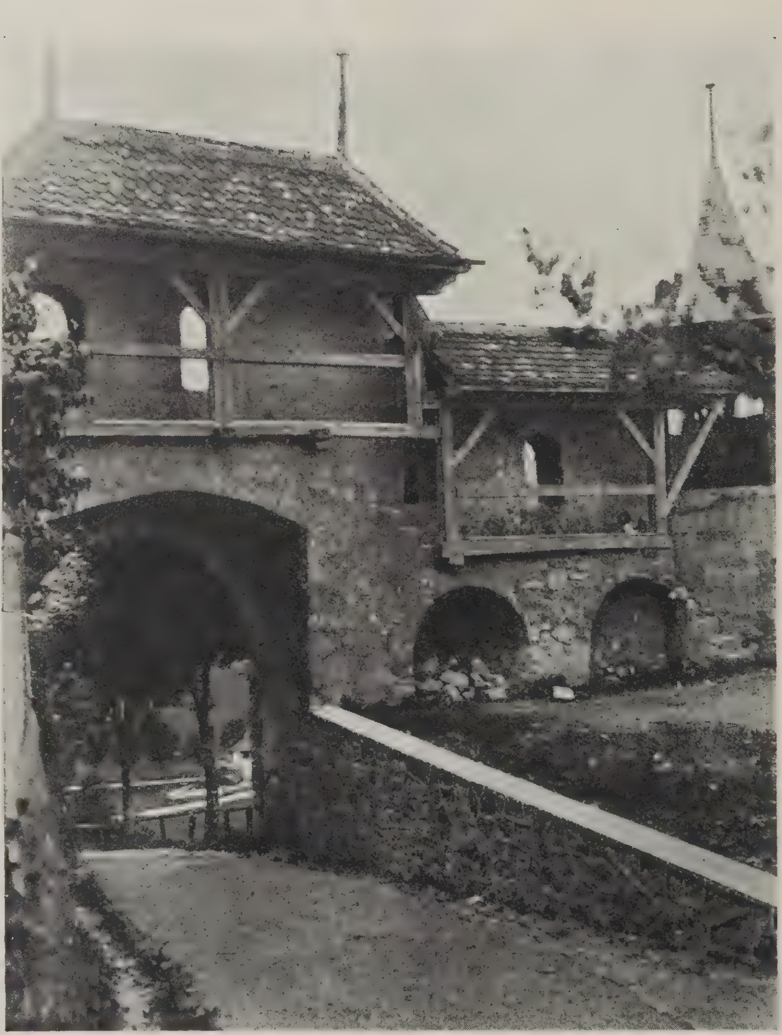
Opposite this house on the other side of the road is the ancient "Mesures," a large block of stone with five deep basins carved in it, with a hole at the bottom of each. At one time these were used to measure corn, which was poured into the bowl and drawn off by the purchaser through the hole at the bottom.

Standing by this stone one gets a most charming view of the quaint old houses which run down each side of the street. They are packed closely together, with the line of their roofs broken by the fall of the road. Many of the houses have fine stone doorways with varying dates—1543, 1594 — carved over them, and several have curiously carved gargoyles. Most of the houses have vividly coloured shutters and window-boxes. The latter, which are full of flowers, make brilliant splashes of colour down both sides of the road. Outside each doorway is a bright green seat, on which the owners sit knitting or gossiping, behind a screen of shrubs planted in boxes.

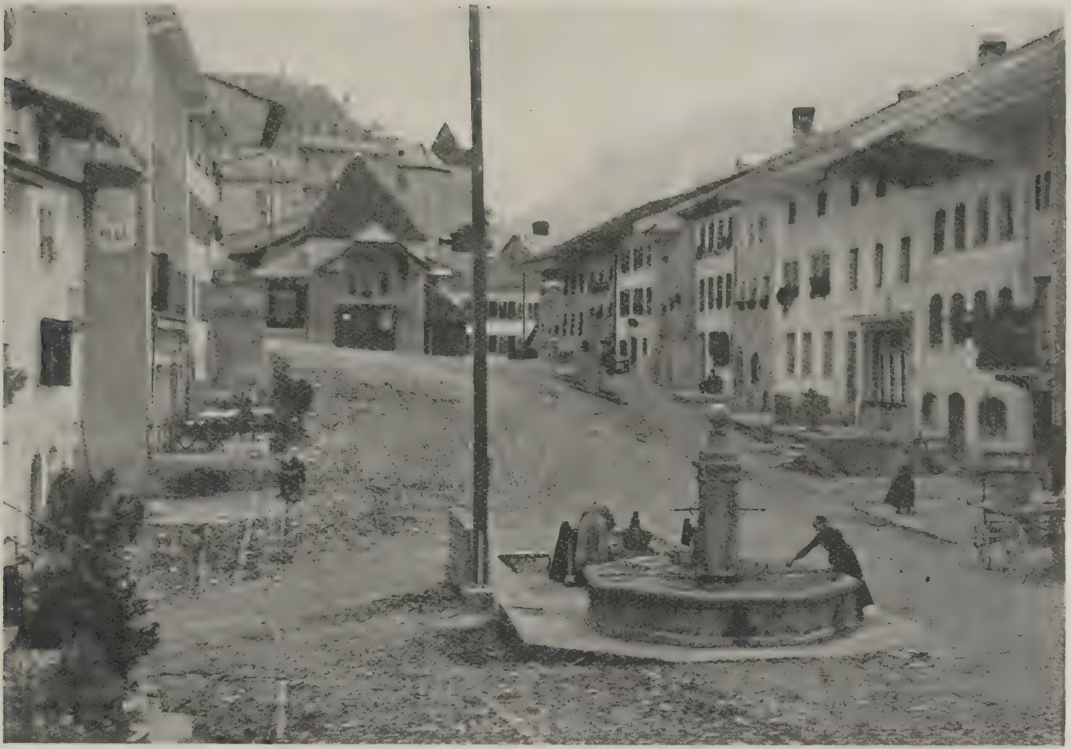
In front of each house is also a big pile of neatly cut pine logs, which exude a most fascinating scent.

Anyone visiting Gruyères for the first time will be struck by the apparent calm, contentment, and peaceful air of the inhabitants. Unless spoken to, they entirely ignore the visitor, which is rather relieving.

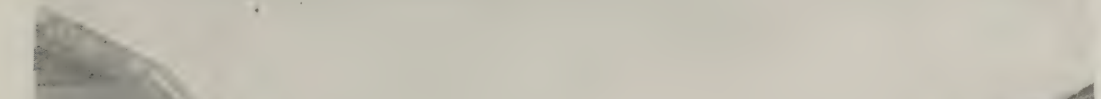
If one wishes to sketch, paint, or photograph, there is no lack of subjects, and it is possible to do this without being hindered by the usual crowd of curious and inquisitive spectators, and small children begging for money.



THE PORTE DU BELLUARD, THE MAIN GATEWAY, WITH DEFENCE GALLERY OVER.



A VIEW OF THE PICTURESQUE "STREET," SHOWING FOUNTAIN AROUND WHICH WASHING IS DONE.



THE VIEW DOWN THE "STREET."
On the left-hand side is the "ancient measures," a block of stone with five basins for measuring grain. Note the immense depth of the eaves.

VIEWS IN GRUYÈRES.

Sketching and Measuring for the Student

By E. B. MUSMAN, A.R.I.B.A.

M. HENRI DEGLANE, whose name one associates so intimately with the Ecole des Beaux Arts, in the course of an address to his students, gave the following sound piece of advice: "Carry a two sous sketchbook with you, and draw everything you come across, using the fewest possible lines." Excellent advice this. In what better way could the student learn to use his pencil with freedom? The very fact of making a sketch, apart from its value as a drawing or a record, enables him to concentrate on the subject chosen more closely than if he merely attempted to record it mentally.

The Sketchbook

This small sketchbook should be his inseparable companion; it should accompany him throughout his journeyings, and when filled, should take its place on the shelf next many another equally full, ready to hand for future reference and study. Its pages will be full of interest; here a sketch of an old doorway, elegant, perhaps, in its proportions, unusual in its detail; there an interesting treatment of a gable end or a dormer window; on one page may be found a few roughly-drawn lines explaining broadly the principal elements of some good plan; on yet another the study of a tree, or a stretch of open country, with banks of clouds.

In this way he builds up a series of invaluable records, from which he can derive inspiration when the occasion offers. His powers of observation are quickened, and the steady improvement in his draughtsmanship stimulates him still further to reach a higher standard. In the course of a few rambles through town or country, sketchbook in hand, noting down whatever arrests the attention, he can get into closer touch with architecture and nature than by reading any number of works on the subject. The better way is to let the ramble and the book join hands where possible, and the study of the two together should then secure the happiest results. At the same time, however, the fact must never be lost sight of that the study of architecture is the ultimate goal, and that draughtsmanship is but the means to that end.

Measuring Up

The little sketchbook, too, is his friend in the measuring up of old work. It is quite unnecessary to sally forth with steel tape, five-foot rod, levelling instruments, and all the paraphernalia of the surveyor's outfit. A two-foot rule, the counting of brick courses both horizontally and vertically, a sketch elevation and a few notes and details roughly dimensioned should suffice. From data of this nature, and with the exercise of a little common sense, it is possible to produce a well-rendered measured drawing, sufficiently accurate for all ordinary purposes. The point to be remembered is that minute accuracy is not what the student requires when measuring for the object of study, but enough information to enable him to get the proportions and main lines of the various parts correct.

As a general rule too much attention is paid to measuring up. Some students sacrifice many valuable hours in making elaborate surveys of far too many buildings, and spend many more in drawing them out with meticulous and painstaking care. As records, doubtless, the drawings might be of value; as examples of rendering and draughtsmanship they may be beyond reproach; but as a means of improving his architectural knowledge it is questionable whether they will be of more use than the few rough notes and sketches, which, if intelligently made, can teach just as much and take but a fraction of the same time to accomplish. Sketch everything should be the watchword rather than measure everything.

Measuring, nevertheless, if kept within bounds, is quite an important factor in the training of the student. Let him take one or two examples of undoubted repute. It matters not what they are or who may be their author as long as they are good and do not lead him into wrong paths, and set up a standard of inferior design and poor detail. These he should study intimately. If he is conscientious and reasons as he measures, he will find that these few examples will teach him all the lessons which this form of work can teach. He will, in a sense, be able to visualize the scheme as its designer visualized it; he will be able to appreciate the relation of one part to another, and will gain an insight into a hundred and one little subtleties and refinements of detail and design, which to a casual observer would not be apparent.

The actual measuring itself will present no difficulties. The constant employment of the diagonal, particularly in the case of an irregular plan; the use of running dimensions, and the elimination of unnecessary detail when obtaining the main sizes of plan and section, are the chief points to keep in mind. Always remember to indicate clearly the chief structural points, and never allow them to lose their position when working from floor to floor. Details, such as architraves, cornices, and so forth, should be treated separately.

Drawing on the Spot

The whole process is simple enough, and in the course of a few days' work he will have formed methods and short cuts of his own. It is a good plan occasionally to draw some particularly excellent detail to scale on the spot (say, quarter size if too large to do full size). In this way it is possible fully to appreciate the beauty and refinement of a moulding or the delicate craftsmanship of some good piece of ornament.

During the long summer vacation the student has every opportunity of putting these precepts into practice. For the time being his more serious studies are interrupted, and he is at liberty to roam wherever his fancy leads him. He may decide to "do" some particular district. If so, let him set about it in a systematic manner. With a congenial companion he can wander from place to place, explore the hidden byways, and on every side discover some fresh delight. Let him raid the picture postcard stall, pry into the old bookshop, talk to the village crony, study the traditions, habits, and customs of the inhabitants, and absorb the very atmosphere of the place.

If he possess a small camera let him take it with him; he will find it of the greatest assistance in helping him to add to his store of information. As he wanders, so should he always be noting the ever-changing phases of nature, the glories of the sunset, or the play of light and shade on some creepered wall or noble façade; the materials used, their texture and colour, the effect of the whole, and how it blends and harmonizes with its surroundings, all this should be impressed upon his mind and recorded on his paper. Let him study his subject from every point of view, analyse its composition, investigate its detail. Thus will he be able to imbibe its spirit and its charm.

The Media

Let us now consider a few practical points on the materials necessary for sketching and how best to use them. For outdoor sketching shun a hard pencil as one would the plague. It will be found that the most delicate line can be drawn with a 2B or a 4B grade, while at the same time perfect gradation and the strongest blacks can easily be obtained. Some may prefer a soft carbon or a conté pencil, others a stick of charcoal. The latter is, perhaps, the best of all for sketching purposes. Handled lightly it is possible to produce with it the finest line, and used with decision and firmness to secure the richest darks. It creates a beautiful texture, and forms an excellent basis for water-colour. Above all, its use teaches the student to treat his subject broadly, and to avoid smothering his drawing with hundreds of niggling lines.

There are many other media. Let him try them all—pen, wash, pastel, water-colour, and so forth, with all their infinite combinations. He should learn to appreciate their various qualities, and to express them in his drawing. For sketching it is better to avoid a paper with a very rough surface or one that is too glossy or smooth; that which gives a slight bite, as with ordinary cartridge, is the more satisfactory. Every one, however, has his own particular taste. Until the student has gained some experience he should reject all fancy papers of unusual texture and varied tones. Their use at first will only serve to mislead him and give a quality to his drawing which it would not otherwise possess.

When using water-colour, work with a small palette; and the fewer colours in the box the better. A red, a blue, and a yellow, and their combinations will give as wide a range of tones as the average draughtsman will ever be likely to need.

Freehand Drawing

As a general rule there is far too little freedom in freehand drawing. The student, however, must guard against the danger of going to the other extreme, and of allowing his work to become too loose and uncontrolled. He must use judgment and discrimination. It is not necessary, of course, to draw every brick, modillion, or dentil. Suggestion rather should be his motto; the power to indicate character and form with as few lines as possible. For most architectural effects it is advisable to employ firm, sharp strokes rather than soft, woolly ones. If the outline is crisp and snappily drawn, the sketch will gain additional interest and life by being very lightly tinted. In this case the outline drawing is the important factor. On the other hand, the painting is a mosaic of colour areas and the drawn outline only serves to indicate the placing of these areas and is lost in the finished picture. The former method will be, in most cases, the more serviceable to the architect.

Perspective

It may be of interest here to say a few words about freehand perspective. The average architectural student as a general rule has an advantage over the art student in this respect, for his knowledge of geometric perspective is often very much more comprehensive. Through laying out the points and projections mechanically his eye becomes trained to recognize its difficulties, so that when he proceeds to sketch an object he can the more easily understand its true perspective. It is as well, however, to utter a note of warning. Let him beware of trying to secure the mechanical accuracy of the set-up perspective in his freehand sketch.

Aids to "Setting-up"

The following aids, if not already known to the student, are well worth bearing in mind when settling the preliminary lines of a sketch. If we split up our object—a building, for instance—into a number of rectangles in perspective, the drawing will be considerably simplified. The use of the diagonal is of the utmost value in the finding of centres and the dividing of spaces. Fig. 1 shows the method of finding the perspective centre E of the rectangle ABCD by drawing the diagonals AB, CD. This rule is invaluable when sketching a gable or pediment in perspective. Fig. 2 shows a method of dividing a space into 2, 4, 8, . . . parts by first finding the centre of the whole rectangle and then the centre of each half and so on. Fig. 3 illustrates the method of dividing a space into any number of parts, odd or even. Divide the verticals AB, CD equally, each into the number of parts required. Draw either diagonal. Through the points of intersection E, F, . . . draw verticals. The rectangle will now be divided perspectively as required. These principles can easily be applied when dividing a building into bays, or when finding the intersections of roofs, or the centres of all kinds of rectangular blocks.

Study of Composition

Finally, let the student keep in mind that if he wishes to succeed, he must be continually studying composition, not only in architecture but in everything. He should seize every opportunity of seeing good pictures and drawings and of analysing good buildings. When he discovers something that appeals or the reverse, he should at once proceed to ask himself why it pleases or displeases. He must be the unsparing critic of his own work and should keep a watchful eye lest so-called originality and freakish presentation creep in and clog his progress. Above all, let him draw continually that in the end he may become master of his pencil.

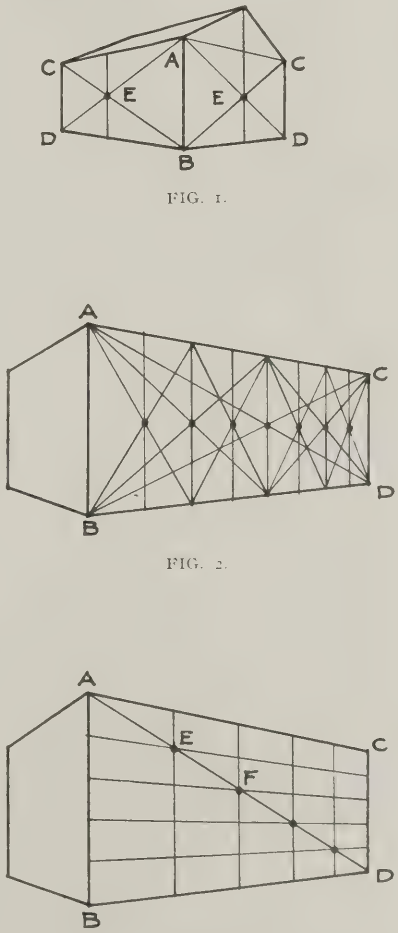


FIG. 1.

FIG. 2.

FIG. 3

DIAGRAMS ILLUSTRATING THE "SETTING-UP" OF FREEHAND PERSPECTIVES.

A Model Fish Shop

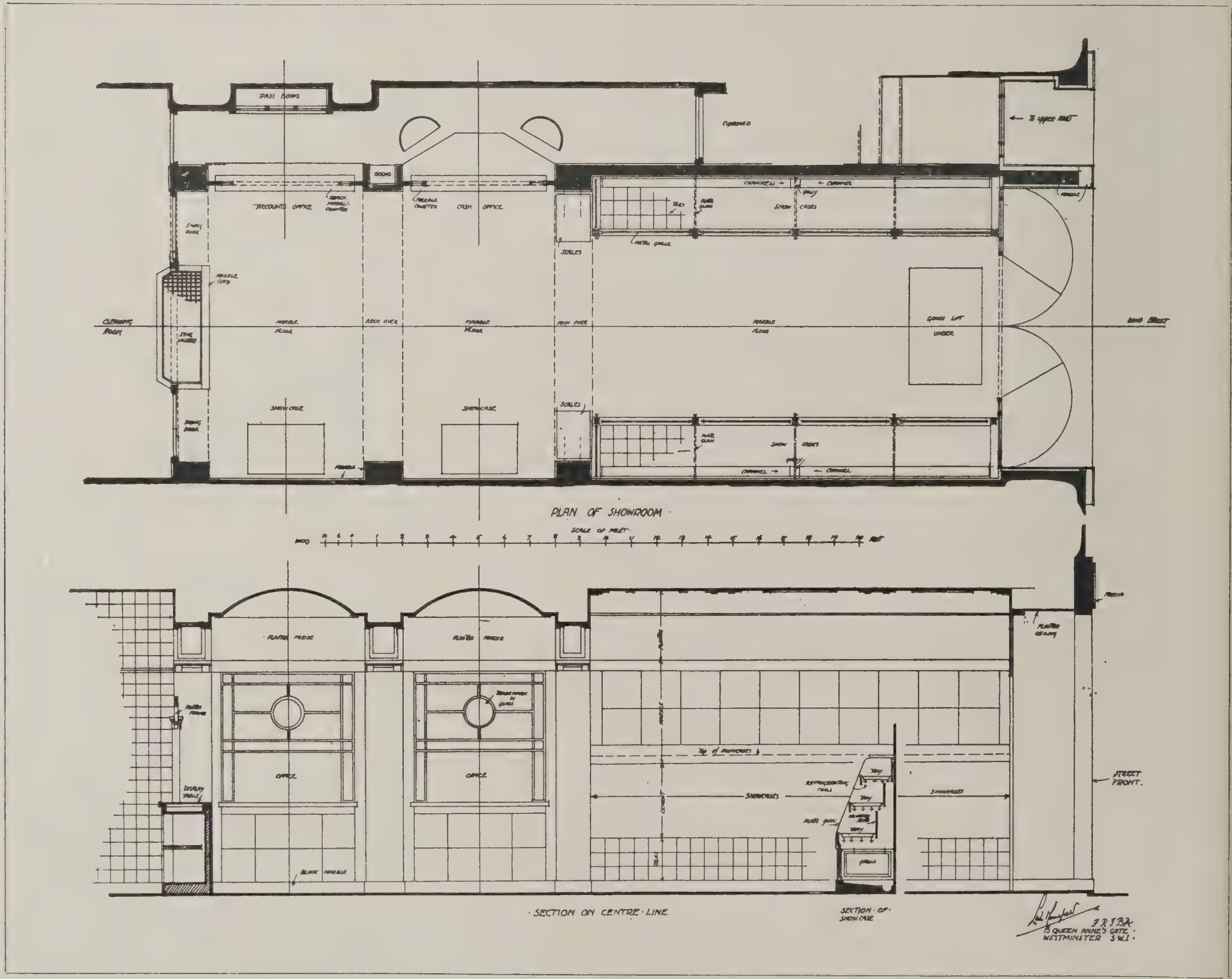
Designed by Leslie Mansfield, F.R.I.B.A.

IN designing the fish shop at 46 Old Bond Street, London, for Messrs. Mac Fisheries, the idea of Mr. Leslie Mansfield, F.R.I.B.A., the architect, was to produce a shop which would be pleasant to use; one where the goods would be protected as far as possible from contamination, and kept in a cool and well-drained place, allowing easy inspection by the purchaser and comfort in service by the assistants. As it was necessary to produce as hygienic a shop as possible, all mouldings were eliminated, and the decoration was provided by the materials used.

With the exception of a small portion of the screen at the end of the shop, and perhaps the lift doors, the use of timber, on account of its absorbent nature, was restricted. The floors and walls are lined with Subiaco marble, banded with Zola, and emphasized by the introduction of lines of black marble, the trade mark of Mac Fisheries being inlaid in coloured marble in the centre of the floor. The ceiling is of modelled plaster, painted and coloured, with a restrained use of gilt, the motif of design being fish, with seaweed, prawns, oysters, and cockles forming the central wreaths.

The most important part of the scheme is the method of display. This is arranged on a series of shelves which set back one above the other and allow each shelf to drain free of the one below. All the shelves are formed with trays resting on coils which are refrigerated, with the result that the fish lies in a cooled atmosphere, which has the effect of preventing, to a large extent, the attention of flies. The freedom of drainage tends to reduce contamination of the atmosphere. The use of trays in a fish shop was largely an innovation, and has the advantage of allowing the goods to be arranged in the cleaning shop, and the complete display to be brought up and placed in position. This practice ensures the shop being kept clean and tidy. As soon as one tray becomes empty or partially so it can be removed, and a full one brought to take its place. This type of fitting makes inspection of the goods simple and clean, and there is no fear of one's clothes being spoiled; in fact, it is possible actually to lean against the cases without damage to clothes. Hitherto it has been the custom of the trade to do most of their business on the footpath, so to speak, and Messrs. Mac Fisheries were

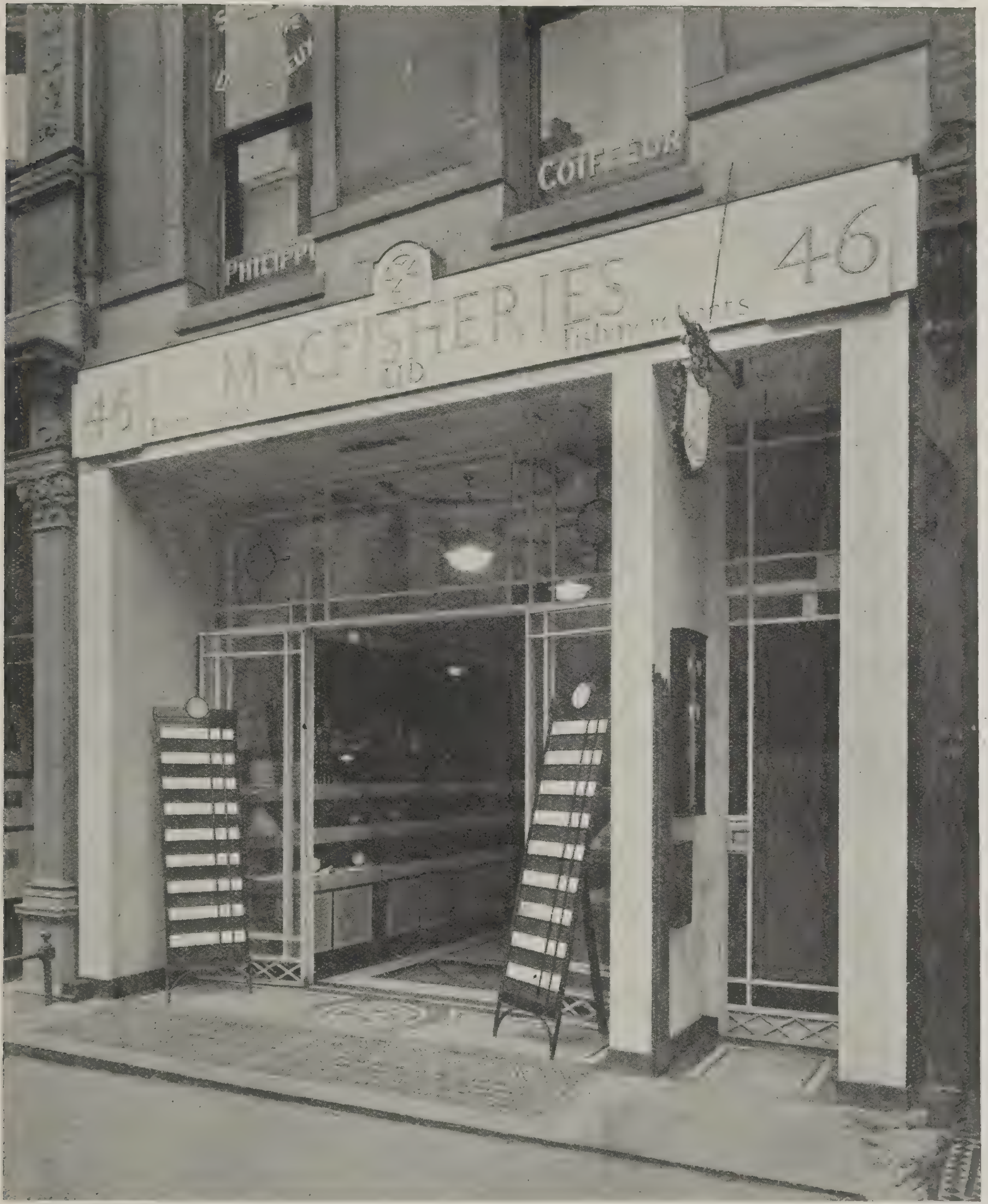
(*Continued on page* 252.)



PLAN AND SECTION OF THE MAC FISHERIES FISH SHOP IN OLD BOND STREET.

Shop Fronts. 9.—The Mac Fisheries Fish Shop, 46 Old Bond Street, London

Leslie Mansfield, F.R.I.B.A., Architect



Mr. Leslie Mansfield has here produced a fish shop which is every bit as dignified as its aristocratic neighbours devoted to the display of jewellery and fine art. To avoid the effect of a hole in the wall, Mr. Mansfield has introduced a metal front, slightly set back. The doors open outward and are hardly noticeable. The lettering on the fascia was drawn by Mr. Eric Gill. The four fish sign is the work of Mr. Kruger Gray.

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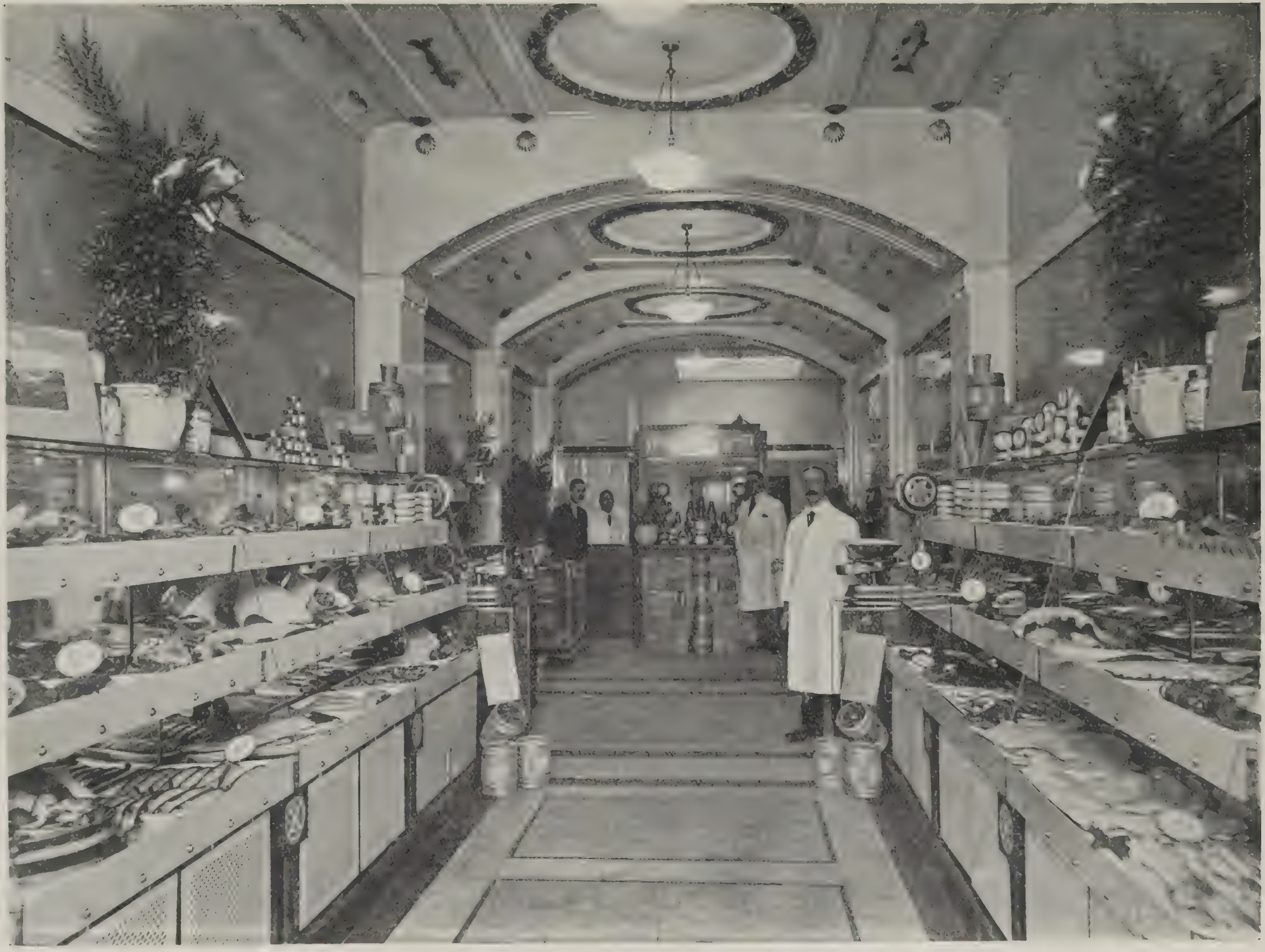
Shop Fronts. 10.—The Mac Fisheries Fish Shop, 46 Old Bond Street, London

Leslie Mansfield, F.R.I.B.A., Architect



The important feature of this shop is the method of display, which consists of a series of shelves set back one above the other, each draining free of the one below. All the shelves are formed with trays resting on coils, which are refrigerated, the fish thus lying in a cooled atmosphere.

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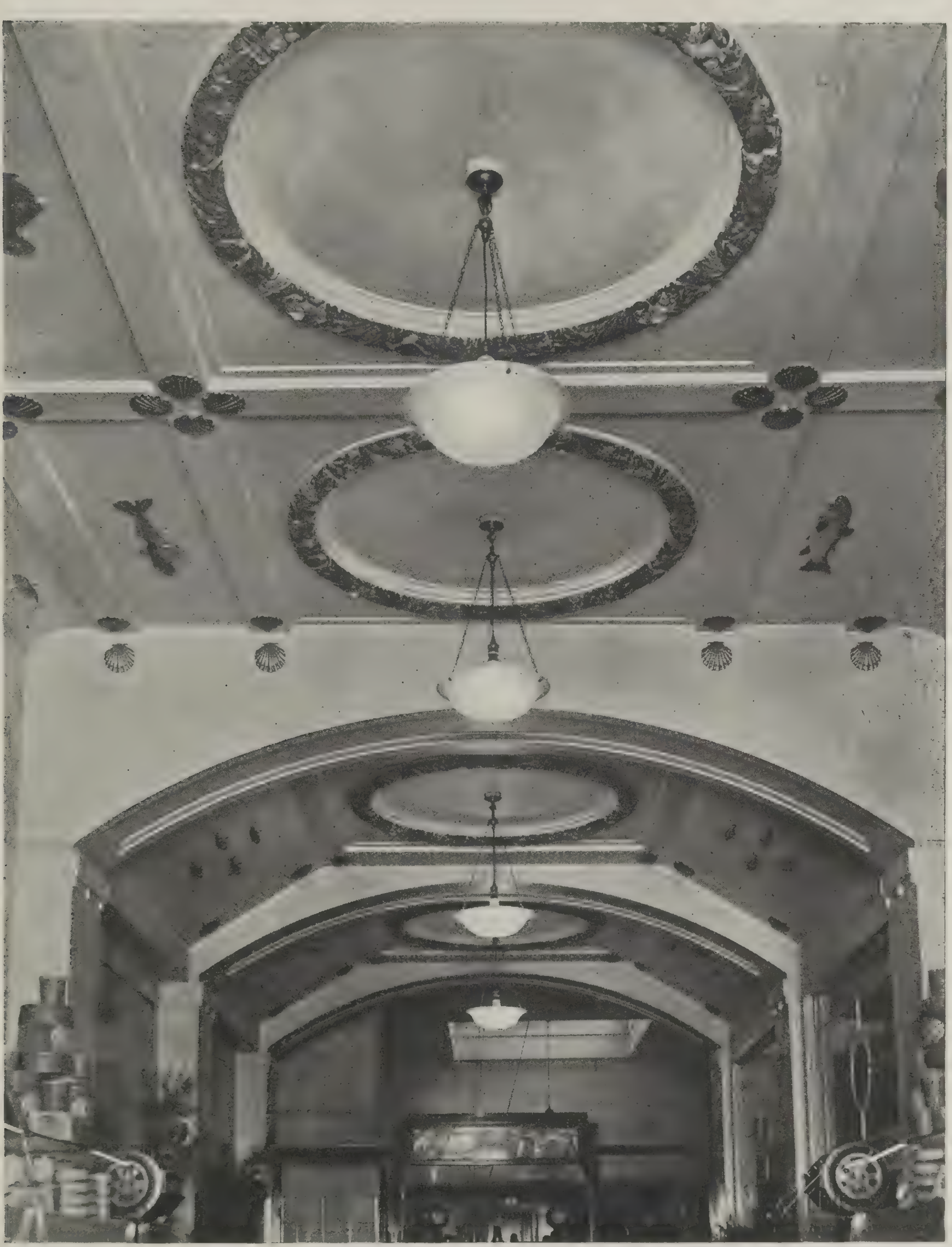
Shop Fronts. 11.—The Mac Fisheries Fish Shop, 46 Old Bond Street, London

Leslie Mansfield, F.R.I.B.A., Architect



This ceiling is of modelled plaster, painted and coloured, with a restrained use of gilt, the motif of design being fish, with seaweed, prawns, oysters, and cockles forming the central wreaths.

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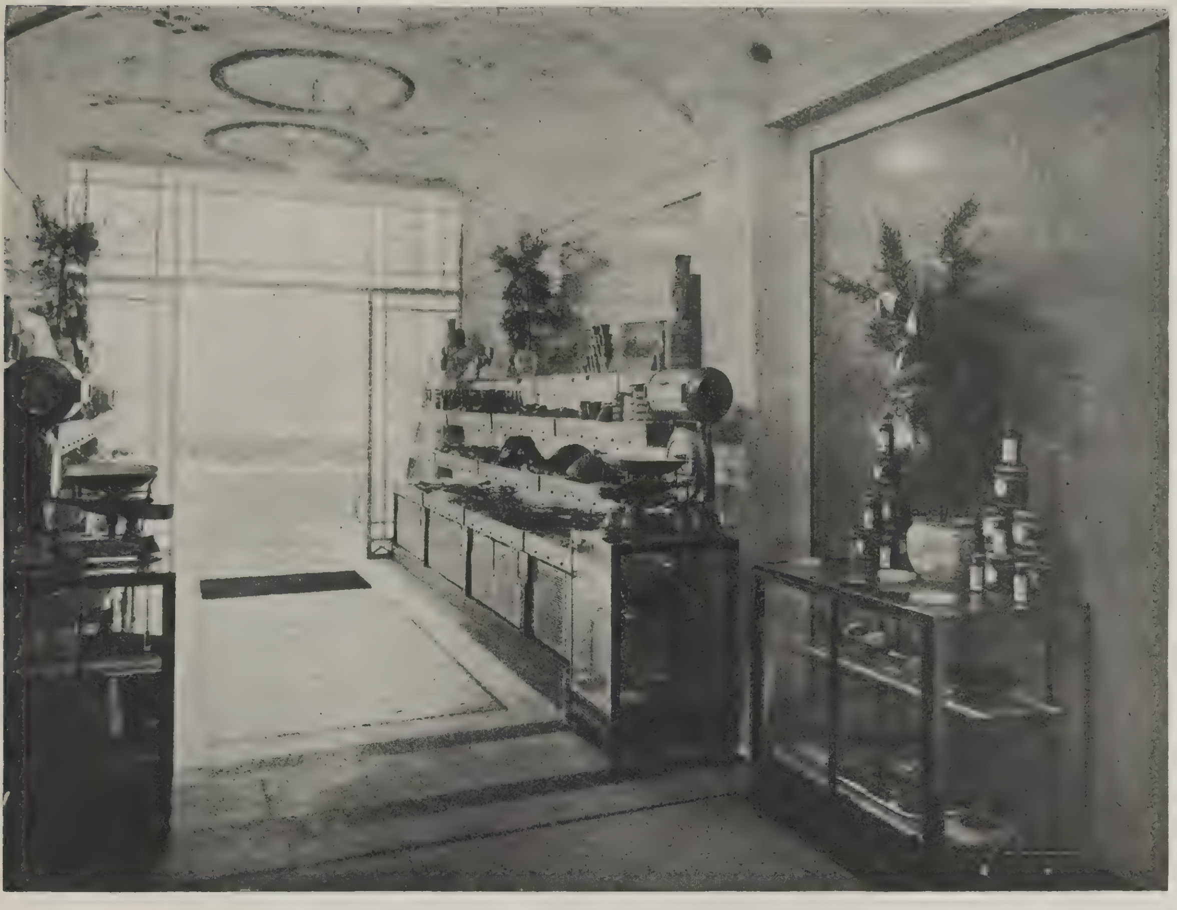
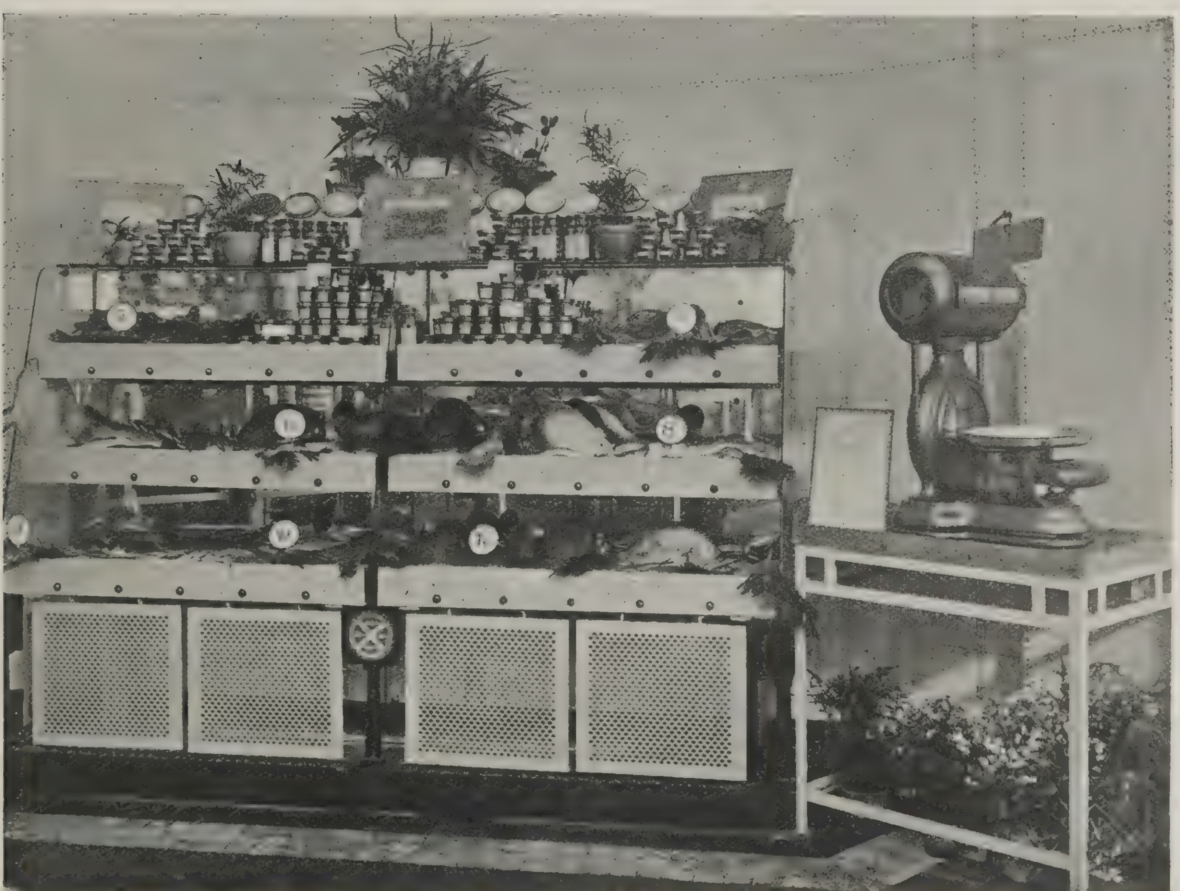


A VIEW LOOKING TOWARDS THE STREET.



A TYPICAL SHOW-CASE, WITH SCALES.

THE MAC FISHERIES FISH SHOP, 46 OLD BOND STREET, LONDON.
LESLIE MANSFIELD, F.R.I.B.A., ARCHITECT.

anxious to set a new fashion, that of going into a fish shop to trade. In other words they wanted their premises to be a shop rather than a wayside booth.

In developing the scheme it was felt that in a street like Bond Street, which has some of the finest shops in the country, there was an opportunity to show that fish could be shown, and shown to advantage, in a place every bit as finely fitted as a jeweller's. It was realised that fish in itself is full of colour and very decorative; therefore a neutral background was indicated with the lively colour of the goods reproduced upon the ceiling as a balancing note.

In designing the shop front proper there was a danger that the proximity of numerous other shops, all with fine fronts, would result in an exaggeration of the hole in the wall effect of the average frontless fish shop. To avoid this a simple metal front was introduced. The doors, owing to the fact that they open outwards, are hardly noticeable, and render the work of "shutting up the shop" very simple. The partial enclosure of the shop with glass was also helpful in designing the facade.

The extremely narrow limits of the site made it difficult to provide proper means for receiving delivery of goods, but this was overcome by a lift from the ground floor to the basement. This lift is concealed beneath the doormat immediately inside the entrance; the doormat being fitted in a frame which forms the top of the lift. When the lift rises into position to take the goods the mat is moved upwards, and when the lift descends the mat returns to its normal position. This is an adaptation of a method applied to dinner lifts to avoid the obstruction of casing.

DISPLAY TABLE AT END OF SHOP.

It was necessary to provide facilities at the back of the shop for cleaning the fish in addition to the large cleaning and storage department arranged in the basement. In the former case it was necessary that the fish should not be taken out of sight to be cleaned, therefore a dividing line had to be arranged to separate this department from the showroom. A screen was introduced and used as an adjunct to the permanent display. This screen conceals a sink, properly drained and covered with a grating, upon which it is possible to arrange a display of fish or even ice without fear of the water getting on to the floor of the shop.

Apart from the fittings described there are glass and bronze showcases—similar to those seen in drapers' shops for showing dressed fish such as crabs, lobsters, oysters, etc., arranged as and ready for the table in glass dishes, the glass top having been used for the display of samples—which can be tasted.

The production of this shop did not end with the structure. The architect co-operated with the other departments, including the publicity section of the firm, with the result that the labels on the potted goods and numerous other articles, such as the price tickets, notice boards, etc., were brought into line with the scheme. The lettering on the fascia was drawn by Eric Gill, and the four-fish sign, which occurs so often, is the work of Kruger Gray.

One of the most difficult problems encountered in a fish shop is that connected with the drainage from the fish-cleaning tank. During the cleaning of the fish an immense amount of small pieces of flesh, skin, etc., detach themselves, with the result that with the ordinary trap, which quickly becomes blocked, the water flows all over the place. In this shop the sinks are arranged in the basement with straight outlets, which discharge over a wide open channel with a large stable yard gully at the end fitted with a fine mesh basket. This gully can easily be removed and emptied when desired.

Generally speaking, the whole scheme is an endeavour to put into operation an arrangement which should show progress and embody modern ideas. Modern science, construction, and planning, has to a large extent ignored the fish shop, and it was felt that the period of "after-war," when ideals had in many cases been subject to reconstruction, was a favourable time to tackle such a problem. The difficulties of obtaining materials at this period were very great, but they were ultimately overcome. There is no doubt that the success of the scheme was very greatly due to the willing and generous co-operation of the builders and the various sub-contractors. The work took approximately nine months to complete.

Messrs. Holland, Hannan & Cubitts were the builders. The sub-contractors being as follows: Messrs. Joseph Whitehead & Sons (marble work); Messrs. Richard Crittall (display cases and refrigerating plant); Messrs. Martin van Straaten (tiles); Messrs. Pontifex & Sons (sanitary fittings); Messrs. Edbrook, of Bristol (metal shop front and office grilles); Messrs. Richie (goods lift); and Messrs. Joseph Armitage (plaster work). The trade mark of The Mac Fisheries in the centre of the floor was also carried out by Messrs. Whitehead, and is a particularly fine piece of work.

The New President of the Architectural Association

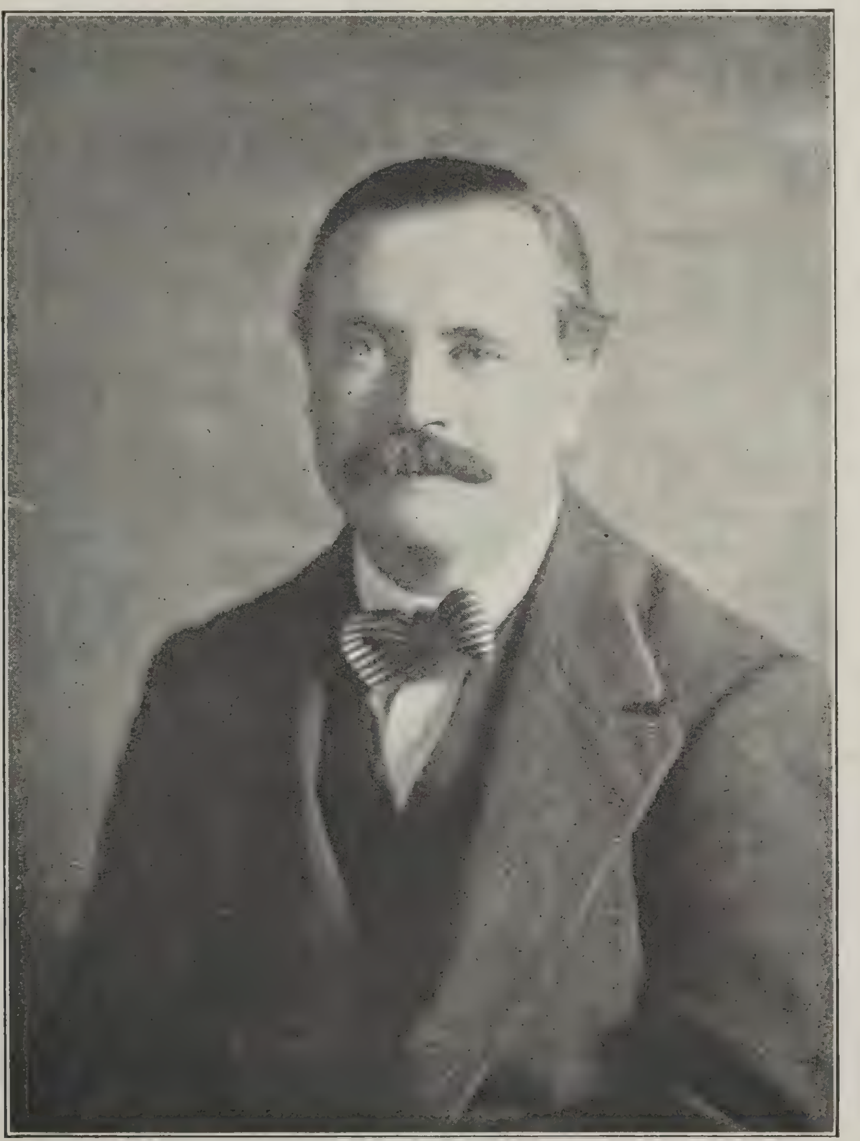
THE new President of the Architectural Association, Mr. Stanley Hamp, whose portrait is reproduced on this page, was born in 1877, and was educated at the City of London School on the Embankment, where he was a contemporary of Mr. Ralph Knott, architect of the London County Hall. He was articled to Mr. Colcutt at the age of seventeen, and began work at No. 36 Bloomsbury Square, the house designed by Mr. Colcutt, which for many years was the home of the firm. Mr. Hamp attended the A.A. Schools in Great Marlborough Street in 1895, and after sitting for the examinations, qualified for the Associateship of the R.I.B.A. In the year 1900 he started practice and worked alone for a year. During this period he carried out some domestic work. Shortly after, however, he returned to 36 Bloomsbury Square, and entered into partnership with Mr. Colcutt. During many years of successful collaboration, a great deal of work was accomplished.

The firm of Colcutt and Hamp have something of a European practice. They have carried out a good deal of interesting work, both in France and in Spain.

During the war Mr. Hamp served with the anti-aircraft force. Recently, in the field of war memorials, he has designed and carried out the fine classical monument at Mill Hill School. In addition to domestic work, hospitals, office buildings, and the ordinary professional range of architectural subjects, Messrs. Colcutt and Hamp have a special knowledge of interior decoration of ocean liners and have carried out a great deal of work for the P. & O. Line.

The following are some of the buildings for which Mr. Hamp is personally responsible :—

City Offices : Thames House, Queen Street, E.C. ; Messrs. Cayzer, Irvine, Ltd., St. Mary Axe ; offices for P. and O. S.N. Co., Leadenhall Street.



MR. STANLEY HAMP, F.R.I.B.A., THE NEW PRESIDENT OF THE A.A.

Public Buildings : King George V Sanatorium for Sailors, Bramshott, Hants ; Hospital for Tropical Diseases, Endsleigh Gardens.

Golf Club Houses : Swinley Forest ; Beaconsfield ; Le Touquet ; Prestatyn.

Domestic Work : Davenies, Beaconsfield ; Flag Court, Tadworth ; The Grove, Mill Hill ; additions to Roffey Park, Horsham ; to Hook End Farm, near Reading ; to Coldharbour Wood, Liphook ; Studio and additions at 40 Queen's Road, St. John's Wood ; Studio and additions at 34 Addison Road for Professor Gerald Moira.

The portrait of Mr. Hamp is reproduced by courtesy of the A.A. Journal.

Book Reviews

The Public Library

Some years ago, many of the municipal authorities in this country paused temporarily during their deliberations on dust-destructors and drainage systems to accept Mr. Carnegie's offer of new public library buildings. As a direct consequence, most of the younger members of the architectural profession of that period were incited to spend their leisure in the preparation of competitive designs for public libraries. Indeed, it really seemed at one time as though public libraries were likely to become almost as numerous as public houses: that the demand might exceed the supply; that there might possibly be more competitions than competitors; and that every young architect might confidently expect to be entrusted with a commission to build at least one public library, somewhere or other.

But the demand did not continue, and after the municipal stalwarts had pronounced benedictions on their own particular building at its opening ceremony, they elected one another in a humorous sort of way to act on the library committee, returned to their interrupted deliberations on dust-destructors and drainage systems, and once more relegated the public library to its traditional part of Cinderella in the municipal pantomime.

Dr. Baker deals in a comprehensive manner with the whole question of the public library service, and not only is his new book an interesting record of what has been accomplished under adverse circumstances in the past, but it is also an indication of what may be achieved under more enlightened conditions in the future. After looking through the photographs of library interiors with which the volume is illustrated, the reader may perhaps be somewhat disappointed to find that the author is not greatly concerned with the buildings themselves. In fact, there is no reference at all in the text to some of the illustrations.

Dr. Baker regards the public library building as "the mere case that holds the books," and in his opinion "the need is for more books, and better books, rather than more buildings," but it is quite certain that, if many of his recommendations are adopted in the future, a drastic rearrangement of the interiors of most of our public libraries will become necessary. He points out, for example, that the ladies' reading-room is already obsolete, that separate rooms where students may read or write should be available, and that in addition to a large lecture hall, small tutorial or class rooms are very desirable.

But above all Dr. Baker appeals for a more intimate association between the various educational activities of the municipality; between the art gallery, the museum, the library, and the schools. He states that "we have now had public libraries for three-quarters of a century; but, for the arrears of intelligent use we have to make up, we might have only just begun experimenting with them," and it is an astonishing reflection on our educational system that most classes of school-children are taken to the public baths and shown how to swim, but very few are taken to the public libraries and shown what to read.

The plain fact appears to be that the composition of the bodies who direct the activities of public libraries is all wrong. Every one will agree with Dr. Baker that more representation of the actual users of the public library is needed, and that the preponderance of town councillors on these committees is, at the present time, absurd. A person does not attain the dignity of a town councillor by reason of his literary knowledge, and the fact that he is able to decide what his fellow-townsmen may or may not read is as ludicrous as though he were allowed to decide that there shall never be more than nine inches of water in the public swimming bath because he himself does not happen to be able to swim.

Some people may read Emmanuel Kant as a task, and "The Adventures of Deadshot Dick" as a recreation. Others may find Kant almost flippant, and "Deadshot Dick" a trifle laborious. Dr. Baker contemptuously dismisses inflammatory literature of the latter type as "chewing gum," but if the public library is not labouring under an assumed name, the general public are entitled to expect reasonable arrangements to be made so that they may be able to read exactly what they like, without any harassing restrictions as to how or where they shall read.

It is often forgotten, for instance, that large numbers of provincial architectural students are dependent on the local public library for many of their books of reference, and among the reforms that Dr. Baker suggests, the interchangeability of books in the reference and loan departments would probably prove of the greatest assistance to them, if provincial librarians could be persuaded to adopt the idea. It is surely inconsistent to a decree that, say, "De Architectura" may be borrowed for home-reading, whilst "The Grammar of Ornament" can only be perused in the fastnesses of the reference library.

The fact that the present curriculum of the School of Librarianship includes lectures on "Library Architecture" suggests that the coming generation of librarians proposes to keep the coming generation of architects up to the mark. There is no reason why the latter should not return the compliment by keeping an eye on the librarians.

"The Public Library." By E. A. Baker, D.Lit. 12/6 net. [Daniel O'Connor.]

THE READING ROOM OF THE BRITISH MUSEUM.

(From "The Public Library.")

Building Supervision

It is impossible to overrate the importance of efficient supervision in the erection of buildings. All the skill brought into play in planning and designing a building may be entirely wrecked by incompetent supervision and result in an unsatisfactory structure with disastrous consequences for the architect. In building supervision, as in everything else, it is the little things that matter, and Mr. George W. Grey in his book has made a very successful endeavour to set forth the items to look for. The book has reached a second edition and has been carefully revised and certain sections have been extended. The risk of an unsatisfactory building as the result of slipshod specifications or inefficient supervision is pointed out; and the causes of dampness, dry rot, settlements and the like are mentioned, and the precautions which would have prevented such defects are specified. The duties of the clerk of works are expounded, and there are valuable sections dealing with the protection of buildings during construction, extras, daywork, supervision of workmanship and selection of materials in all trades. Mr. Grey has had many years' experience in superintending the erection of buildings of all sorts, designed by various well-known architects. The book is one of the best we have seen on the subject.

Building Supervision. By George W. Grey, P.A.S.I., Licentiate R.I.B.A., Member of the Concrete Institute. Second Edition. Price 3/6 net. E. and F. N. Spon, Ltd., 57 Haymarket, S.W. 1.

A Handy Pocket Book

Any pocket book containing a good supply of practical information on building matters not to be found concentrated elsewhere is sure of a ready welcome. In the book under review the needs of the novice as well as the most skilled artizan are amply provided for. The book commences with so simple a matter as the multiplication table up to 60 times 60, the object being to save time. With the same object the sizes of different sorts of girders are given according to the span. Here again much time will be saved in calculation. There are also many valuable recipes for cleaning and renovating, a particularly well illustrated glossary of terms, and a large amount of useful data and other information of every day use. Mr. Arthur Seymour Jennings, the author, is one of the foremost authorities on painting and decorating, and his book should be in the hands of everyone connected with or interested in the building industry.

The Builders', Plumbers', and Decorators' Pocket Book. By Arthur Seymour Jennings, F.I.B.D. Price 5/- net. Thomas Tofts, 93–94 Chancery Lane, London.

The Condition of St. Paul's

The Commission appointed by the Dean and Chapter of St. Paul's in October last "to examine the building and advise what methods should be adopted for its preservation," have issued their interim report. The Commission consisted of Sir Aston Webb, and Messrs. G. W. Humphreys, Mervyn Macartney, Basil Mott, and E. C. Trench. Fourteen meetings have been held, personal inspections have been made of all parts of the dome and its supports that were in any way accessible, the various reports previously made on the condition of this portion of the building have been considered, and the drawings, data, and details placed before the Commission by Mr. Mervyn Macartney have been examined.

The Commission state: The whole question of the dome and its supports will require more time for the completion of our investigations before a definite report can be made on this very complicated and intricate problem; we now beg to present an interim report on a matter which, in our opinion, is of urgent importance.

Trial holes have been sunk through the crypt floor to ascertain as far as possible the condition and nature of the foundations under the main piers. After a careful examination and much consideration of all the available information, we have unanimously come to the conclusion that there are no signs of recent settlement or movement in these foundations to cause anxiety. Although the ground would not be considered altogether satisfactory at the present time for a building of this character, it would be an exceedingly formidable task to attempt to strengthen the foundations, and in our opinion it is not necessary; provided always that no building or other operations are carried out below the level of these foundations in the neighbourhood of the Cathedral.

Considerable settlement has taken place in the piers and arches, but this happened largely during construction and was dealt with by Sir Christopher Wren as the building progressed. A certain amount of movement has, however, taken place since completion, involving repairs, some of which are still being carried out. We are of opinion that such work should be suspended as far as possible until our investigations have been completed and our further report submitted. The piers are formed with rubble cores and cased with ashlar, and the condition of the masonry leaves much to be desired. The whole question of the condition of the piers and the remedial measures we may have to suggest will be dealt with in a later report with as little delay as possible.

The urgent matter to which we wish at once to draw attention arises in this way. The settlement of the piers above referred to caused damage to the masonry, and many of the damaged parts were veneered with stone, and these parts, as well as various ornamental features, were secured by iron dowels and other means. Our investigations show this veneering to be very extensive, and through the rusting of the dowels portions are becoming loose. There are instances of flaking, due, we consider, to pressure concentrated on the outer edges of the joints owing largely to the way the stones were worked and the character of the original mortar used. The remedy for dealing with this problem of jointing is now under consideration.

In the meantime we are of opinion that for reasons of safety the piers and the arches they support should at once be examined in detail from adequate scaffolding, and all loose or defective pieces of stonework either refixed, replaced, or removed altogether. When the scaffolding has been erected we shall be in a better position to estimate the amount of work which is necessary, and the cost. We fear it will be a long and expensive process, but we feel it to be absolutely essential, and it is on this account we are making this interim report instead of waiting until we are in a position to report in full.

The R.I.B.A. Fund

The President of the R.I.B.A. has received the following letter from Canon S. A. Alexander, Treasurer of St. Paul's Cathedral:—

"Dear Sir,—I am writing on behalf of the Dean and Chapter of St. Paul's, to ask your attention to the papers enclosed with reference to the new appeal for the preservation of the cathedral. The Institute sent us, very kindly, a hundred guineas in 1914. And we hoped that it might be possible for you to give us some further support at this critical time.

S. A. Alexander,
Canon and Treasurer."

The Dean and Chapter of St. Paul's are asking for the sum of one hundred thousand pounds for the absolutely essential work of repair on the piers and arches supporting the dome of the cathedral which have been declared insecure by the special commission of architects and engineers appointed last autumn to examine the condition of the building. The cost of the work on the south trasept, now almost completed, has been defrayed by a fund raised by public subscription in 1914. This is now almost exhausted, and a further £100,000 is necessary to enable the repair of the defects recently disclosed by the commission's report to be carried out. The need is urgent; it has even been suggested that it may be necessary to close the cathedral for a long period. It is hoped to avoid this extreme course if a generous response is forthcoming to the appeal for fresh funds.

The Council of the Royal Institute have decided to establish a R.I.B.A. fund, and to appeal to members for subscriptions. The allied societies of the R.I.B.A. in the provinces have been invited to open subscription lists in their own districts and to forward collectively to the R.I.B.A. the amounts so received. The Council itself appeals especially to London architects to send subscriptions, however small, to the fund, so that a worthy contribution may be made by the architectural profession towards safeguarding the strength and permanence of the masterpiece created by the daring genius of Wren. There is no more fitting or sincere method in which architects can commemorate the approaching bicentenary of the death of one of the greatest of their number. The list will be closed at an early date, and members are therefore invited to forward their subscriptions to the Secretary, R.I.B.A., as soon as possible. A list of subscribers will be published.

Types of Modern Steam Laundries

THE power laundry as a commercial venture or as a private utility service is a phase of modern progress that has come to stay. Almost every town of any size in Great Britain possesses its commercial steam laundry as well as those forming part of the administration of public institutions, such as hospitals, infirmaries, asylums and convalescent homes. In addition laundry equipment is being found of great service in private spheres such as mansion houses, ocean going liners, and industrial establishments.

There are generally two distinct types of commercial laundry buildings, i.e., the small establishment doing a trade up to, say, £80 per week at current rates, and the larger concern with a weekly turnover up to £300 or £400. In the former case the building is sometimes long and narrow and in one bay. Although this type of building entails a long line of main shafting, it suits the progress of the work, which commences in the receiving room at one end of the building, and passes through the washhouse, drying-room, ironing and finishing-room, to the dispatch department at the opposite end.

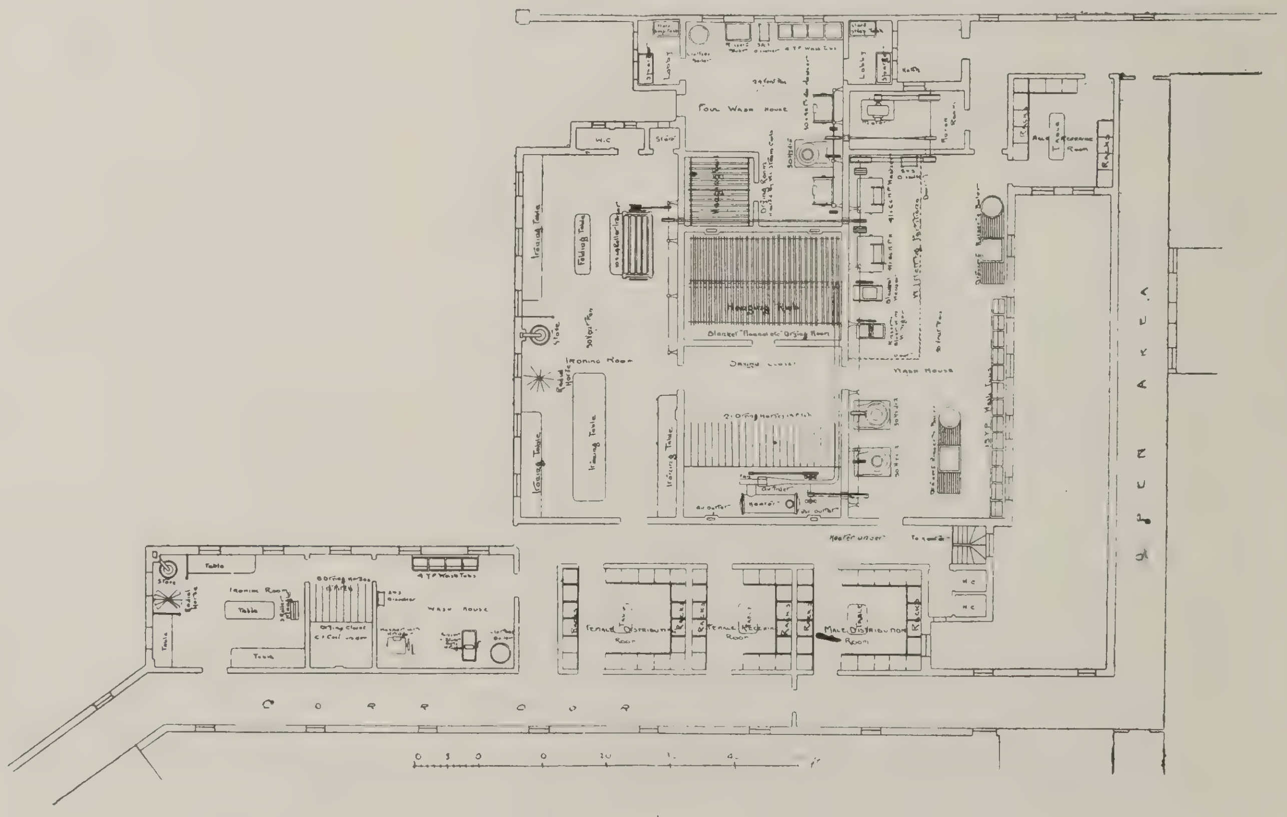
This design is generally departed from in favour of the square shaped building where there are prospects of a big business being ultimately built up. In fact the majority of the laundry buildings nowadays are built on the two-bay principle, with supporting columns in the centre to which shaft brackets can be hung. The main walls of a laundry building are of 14 in. brick with intermediate walls of 4½ in. or 9 in., the inside face of the bricks being white glazed for light and handiness in cleaning. The roof may be either of wood or constructed with girders, but the former is more effective for hanging shafting. Louvre ventilating ducts should be provided along the ridge of the roof, and a bull's-eye for a fan on the gable end.

The floor in the washhouse should be of concrete, with a fall from the centre to open drain channels along each wall. In the other departments where no water is used wooden floors will suffice. In the interior of the laundry building a 9 in. brick drying-chamber is built 7 ft. high, with concrete roof, reinforced with steel girders, with provision of exhaust or ventilating ducts. The floor of this chamber is also of concrete. The only other section of the laundry for which the builder requires to make provision is the boiler-house, where in the event of a Cornish or Lancashire boiler being installed a brick setting is necessary and a brick chimney about 45 ft. high. The smaller laundries generally start with an upright vertical boiler which requires no particular setting. Doorways throughout the building should not be less than 4 ft. wide, to permit of the delivery and taking out of machinery.

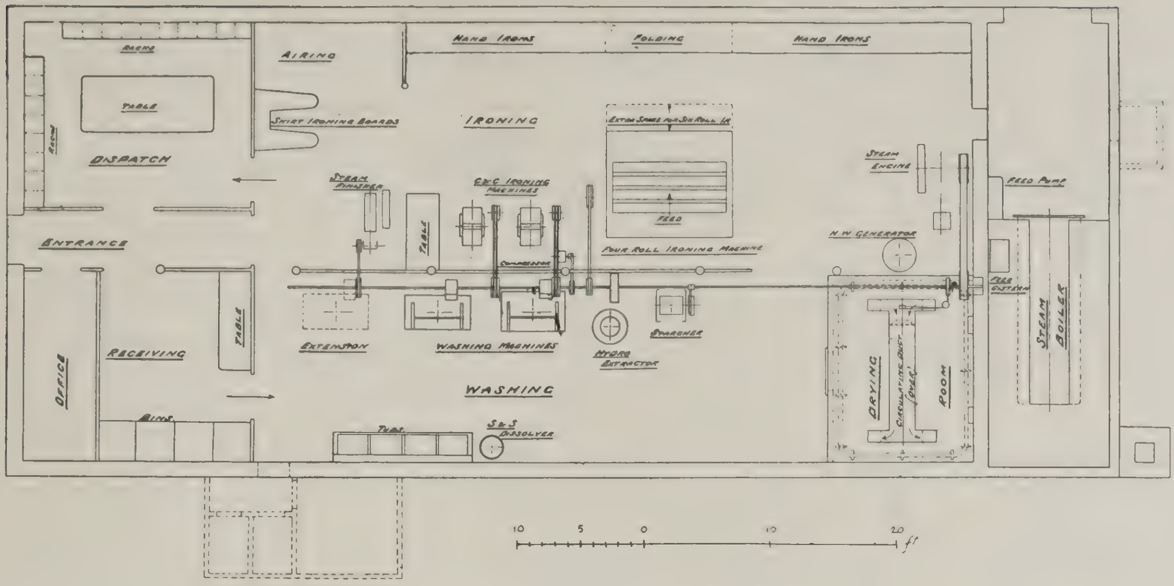
Usually public institution laundries form part of the administrative block, and are built to architect's designs. Generally the principle adopted is similar to that embodied in a commercial laundry building as, of course, the equipment and the work required to be performed are exactly the same in both cases.

The accompanying reproductions show standard designs for commercial laundries and a public institution laundry.

The question of power is common to any plant, whether it be for a commercial or institution laundry, or for a private establishment, although usually the choice between a steam engine or motors for driving is determined by local conditions, such as the cost of electric current and the nature of the supply available. With modern laundry machines the adoption of motor drives to any section of the laundry, or to any particular machine, is quite practicable, and where line shafts and overhead driving belts are incovenient the practice of driving each machine with its own motor is quite common, and has much to recommend it on the basis of economy in power consumption. With one single prime mover, say a horizontal or vertical engine, the main line shaft is running all the time, even if only one or two machines are actually in use, whereas with a sytem of direct motor drives any unit can be run and only its own power absorbed. Against this it must be remembered that with a steam engine there are opportunities for economy by the utilization of the exhaust for a variety of purposes, such as for heating water for use in the washing machines and hand wash tubs, and for heating drying-rooms, blanket-rooms and airing chambers, which means a saving



A PUBLIC INSTITUTION LAUNDRY.



A SMALL COMMERCIAL LAUNDRY.

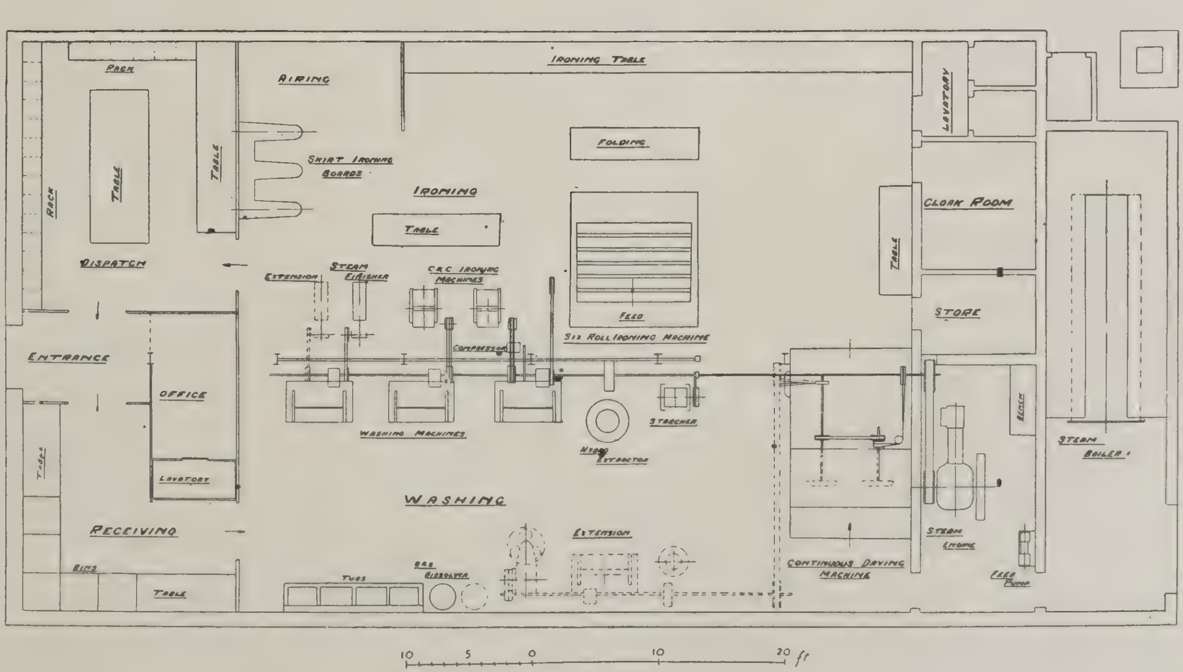
in live steam and a corresponding reduction in the coal bill. Usually the deciding factor between electric and steam engine drives is that of relative costs, and where current can be obtained at a reasonable rate and the supply is reliable, electricity is usually the cheapest. Whatever type of drive is adopted a constant steam supply at a pressure of not less than 70 lb. per square inch is essential, and therefore a steam boiler is necessary.

Smaller laundries usually have upright or vertical boilers, owing to their low cost and the fact that no brickwork setting is required, but as a rule the fuel consumption in this type is relatively high. In larger commercial laundries and public institutions the Cornish or Lancashire types are more suitable, and ought always to have a reserve of power to cope with additions to the plant from time to time. The customary steam pressures required in a laundry do not vary from 10 lb. in the washhouse to 70 or 80 lb. per square inch in the ironing-room.

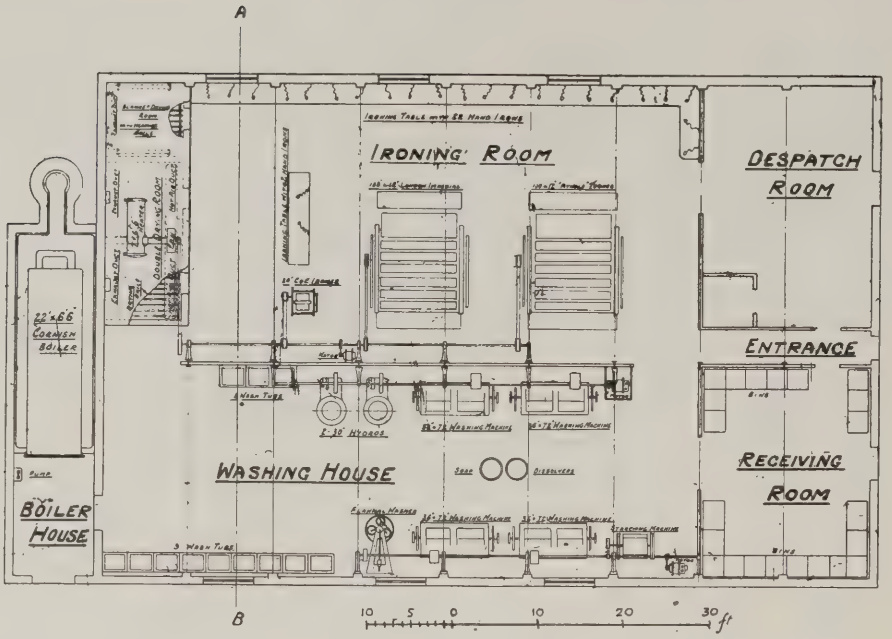
The types of machines do not differ materially in any laundry whether commercial, institution or private, except in regard to sizes. In the commercial establishments there are, of course, several machines performing subsidiary duties such as goffering, pressing, seam dampening, collar blocking and polishing, which are dispensed with in, say, a hospital equipment where the chief thing is to get through a large volume of plain washing, drying and ironing.

The nucleus of all plants is, one or more metal rotary washing machines, with perforated brass cylinders and steel outer casings; a hydro extractor, with a steel basket with outside casing of boiler plate; one of the many forms of drying chambers, and a multiple roller ironing and finishing machine, which may be of any size from two to eight rollers, and an auxiliary airing drum according to requirements. The general tendency now in all laundries with a fair turnover is to adopt the multiple roller ironing machine in preference to the single roller type, as it is suitable for a larger variety of work, and is better adaptable for use by unskilled labour. Some of those calenders are of enormous size, weighing as much as twelve tons and having an output of 10,000 pieces of flat work per day.

Laundry machinery design within recent years has all been in the direction of speeding up output, and saving hand labour wherever possible. The washing machine and hydro extractor are run much faster, and are designed to wash and rough dry the maximum number of loads per day. In ironing machines this tendency is even more pronounced, and the new public demand for a "semi-finished" family service will doubtless result in a general change over from slow-running ironing machines to the newer



A COMMERCIAL LAUNDRY, SHOWING ALLOWANCE FOR EXTENSION.



A LARGE LAUNDRY FOR HOTEL WORK.

" dried once through " types running at anything from thirty to fifty feet per minute.

In a private mechanical laundry, such as that fitted into large mansion houses, the arrangement and composition of the plant is exactly the same as in a town laundry except that everything is on a smaller scale. The usual fittings consist of a small vertical boiler, a motor, or engine about six to eight horse-power, a fifty shirt all-metal washing machine, a 20 in. hydro extractor, a brickbuilt drying chamber about 8 ft. by 6 ft., with steam coils and a ventilating fan, a single roller steam heated calender, say 72 in. wide, and three or four electric hand irons. The complete installation would probably cost about £700, but is very convenient in isolated country places where it is desired to deal with the household linen.

Usually the public works laundry is a primitive affair for washing waste rags, and consists of a washing machine and hydro extractor only, although in many large factories where the workers are garbed in overalls, and where there are large canteens and staff restaurants, a plant on the lines of a small commercial laundry is installed.

Sheffield and South Yorkshire Architects

The following officers and council were elected at the annual general meeting of the Sheffield, South Yorkshire and District Society of Architects and Surveyors : President, Mr. J. R. Wigfull, A.R.I.B.A. ; Vice-President, Mr. H. L. Paterson, A.R.I.B.A. ; Hon. Treasurer, Mr. R. W. Fowler, F.S.I. ; Hon. Secretary, Mr. H. B. S. Gibbs, A.R.I.B.A., 15 St. James Row, Sheffield. Council : Messrs. W. G. Buck, Licentiate R.I.B.A. ; F. E. P. Edwards, F.R.I.B.A. ; C. M. Hadfield, F.R.I.B.A. ; J. R. Hall, M.S.A. ; C. F. Innocent, A.R.I.B.A. ; J. M. Jenkinson, A.R.I.B.A. ; H. I. Potter, A.R.I.B.A. ; C. S. Sandford, F.S.I. ; F. W. Wrench, Licentiate R.I.B.A. The annual report and the statement of accounts were approved, and the outgoing president, Mr. C. B. Flockton, was congratulated on his election as a member of the Council of the R.I.B.A.

Glasgow Housing Exhibition

The Glasgow Corporation Housing and Health Exhibition will open on October 2 in Kelvin Hall, and will run for the full period of three weeks. At this early date the amount of space booked by firms anxious to display their ware is exceptionally good, and the exhibition gives every promise of being more outstanding than any of its three predecessors held in the same hall. Many new features will be introduced, which are certain to popularize the undertaking. It is admitted on all hands that trade generally, which has been at a low ebb for a considerable time, is on the mend, and that the opportunity is extremely fitting for an exhibition such as housing and health. The provision of housing accommodation is notoriously inadequate, particularly in all large towns, and there is every prospect now of an immediate effort to cater for the existing necessities. This will create a demand for the various trades closely identified with building.

The classification of exhibits in the building section will include reinforced concrete, brickwork, concrete slabs and blocks, asphalt, asbestos slabs, tiles, marbles and mosaics, casements, cements, chimney pots, cowls, etc., roofing materials, doors, door and window fittings, flooring, glazing, and timber of all kinds, art metal work, mouldings, plaster, chimney pieces (metal and wooden), stone. The band of the Scots Guards has been engaged to provide the musical programme during the run of the exhibition. There are still a number of spaces available for stands, but early application to Mr. C. P. Hainsworth, the General Manager, Kelvin Hall, is advisable.

Correspondence

" Cubic Content Estimates "

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. H. E. Rolley, in his letter to you on the subject of my article "Cubic Content Estimates," states that "it has recently become the custom to deride the old-established method of arriving at an approximate cost of a proposed building." Although I am not aware of any such custom, I should not be surprised to find that the old method is regarded as not altogether satisfactory. He gives us as an instance (to prove the existence of the custom I suppose) the Government Committee report on Housing, which states "that cubic content is not in direct relation to cost"; but why the unimaginative rows of cottages should be one result of this, I am unable to follow.

In the second paragraph of his letter he apparently thinks the two quotations he has taken from the article apply to the same thing. He will find this is not so; the one applies to a proposed building, and the other to a completed one.

Further, your correspondent is not quite correct in concluding that I have "merely devised a method for arriving at relative values for different constructions. . . ." This is one view of the matter, but not, to my mind, the only one or the most useful. I have not, strictly speaking, "devised a method," but suggested an improvement on the existing method whereby its fluctuating element is eliminated. The view I take is, that this improvement would give architects a better conception of the unit cost of buildings than is obtainable to-day under the old system.

Nothing Mr. Rolley has written disputes what I set out to show, viz., that the present system is mathematically unsound.

Meanwhile, any cost data that he or any of your correspondents can supply of post-war buildings would be of value and, I am sure, appreciated by others besides myself. W. PARRY JONES.

Parliamentary Notes

BY OUR SPECIAL REPRESENTATIVE.

Housing Progress.

Before Parliament rose for the summer recess, Sir A. Mond, in reply to Sir Wm. Davison, said that the number of houses completed under State-aided schemes by local authorities and public utility societies was 122,807, and by private builders under the Government subsidy scheme, 36,803. Under the latter heading further claims had since been received in respect of 1,832 houses completed by June 23. There were 35,971 houses under construction by local authorities and public utility societies, and there were 17,222 houses remaining to be built by local authorities. The total capital cost of the assisted housing schemes, when completed, was estimated at £190,000,000. In addition, the total sum paid or in course of payment in subsidy to private builders was £9,300,000.

Enquiries Answered

The Editors cordially invite enquiries from readers who require information on architectural, constructional, or legal matters. Answers to enquiries are in all cases the work of experts ; and while every care is taken to make the replies thoroughly reliable, the Editors cannot hold themselves responsible for any inaccuracies that may inadvertently occur. Correspondents whose difficulties involve possible legal proceedings are strongly urged to consult their solicitors before taking action on any advice that may be given. Examination questions cannot be answered. It must be understood that, as a rule, both question and answer will be published in these columns. The name and address of the querist must always be given, not necessarily for publication. Correspondents are requested to be as brief as possible, and to write on one side of the paper only.

Dry Rot in Dancing Floor.

"A." writes : "I am advising in the case of the floor of a dancing-hall which is undoubtedly affected with dry rot through lack of ventilation beneath. I am suggesting taking out parts of floor and joist, etc., below affected ; arranging for free current of air, and covering whole of joists and underside of floor and stonework and brickwork in connection with floor with a solution of corrosive sublimate. What strength should this be applied, and would one coating suffice ? I have heard of boiling tar being used in such cases, and would like to hear the opinion of anyone who has dealt with similar work as to best method to employ."

—When a floor is affected by dry rot the parts attacked generally require cutting out entirely and the surrounding parts—timber, stone, or brickwork—to be well scraped and painted over with a strong solution of sulphate of copper (blue vitriol), or with bichloride of mercury (corrosive sublimate) ; but it must be remembered that the latter is highly poisonous, and is therefore seldom used. Tar is not recommended for indoor work. The greatest care should be taken in removing the parts affected with dry rot, as the germs of the fungi producing it are carried easily in all directions, and may infect good timber. Good ventilation may prevent further spreading, but a floor that has once been attacked is always doubtful.

Rights of Light.

H. writes : "Please give me your opinion on the following point with regard to rights of light and air. There is in existence a line of buildings about 45 ft. high, having shops upon the ground floor about 12 ft. high, projecting 16 ft. in advance of the main portions of the buildings. Recently the whole of my client's building has been demolished, and consent has been obtained from the L.C.C. for the erection of a new building about 50 ft. high in line with the old shop front. The buildings face north-east, and the road is about 80 ft. wide. Can the adjoining owners claim a right to light in the front of the upper portions of their buildings ? I enclose sketch plan and section [reproduced] showing the positions of the windows in question."

—I understand that the present buildings are all about 45 ft. high, but are set back 16 ft. so far as the upper floors are concerned—and that it is proposed to carry forward a portion (in the centre) to a height of 50 ft.—an alteration which naturally must be detrimental to the property on either side unless that be similarly treated. If I thus correctly understand the facts, there is no doubt whatever that the proposed building will injuriously affect the light of the windows near the new side walls, but it will be a "question of degree" as to whether those owners can maintain an action for damages against the owner of the new buildings. The loss of light must be material and substantial before a Court will recognize it. Why not consult the owners and occupiers on either side before a start is made and compromise the matter by white bricks or cash payment ? F.S.I.

Property Questions.

J. C. writes, "Can you tell me (1) What is meant by the term 'Economic Rent' ? (2) What is the basis for assessment on property : (*a*) dwelling houses, (*b*) shop or business premises, (*c*) factories ; and (3) What is the advantage of raising the assessment of property ? To get money instead of raising the rates ?"

—Your questions are rather more theoretical than practical in character, but I will endeavour to answer them on broad principles.

—(1) The meaning of the term "economic rent" is that rent which a particular property is worth in the free and open market, presupposing the existence of a willing landlord and a willing tenant, and taking into consideration all the existing circumstances which enable a landlord to let his property for that money and which permit a tenant to pay the rent.

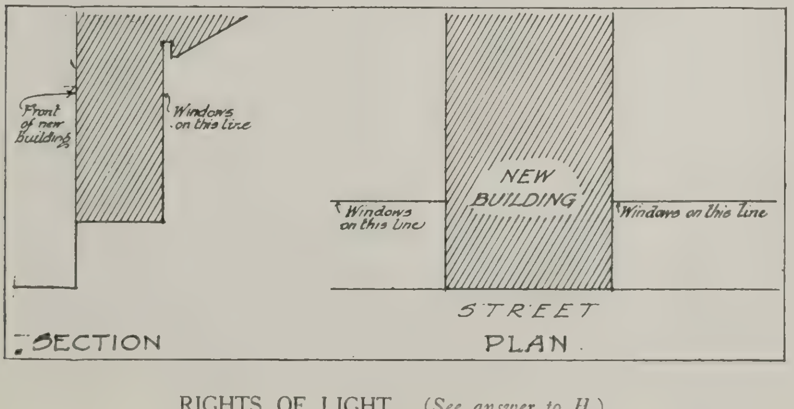
(2) The basis of assessment is always "the rent at which the hereditament might reasonably be expected to let from year to year."

(3) Yes, if the valuations of all the properties in a parish are raised fairly and equally it does not matter at all to the ratepayer—the same amount of money must be raised for the public services. The drawback to such a raising of assessments is that the spending bodies are apt to think they have more money to spend—perhaps extravagantly —if the poundage becomes lowered by reason of a higher basis on which to charge. F.S.I.

Cast and Milled Lead.

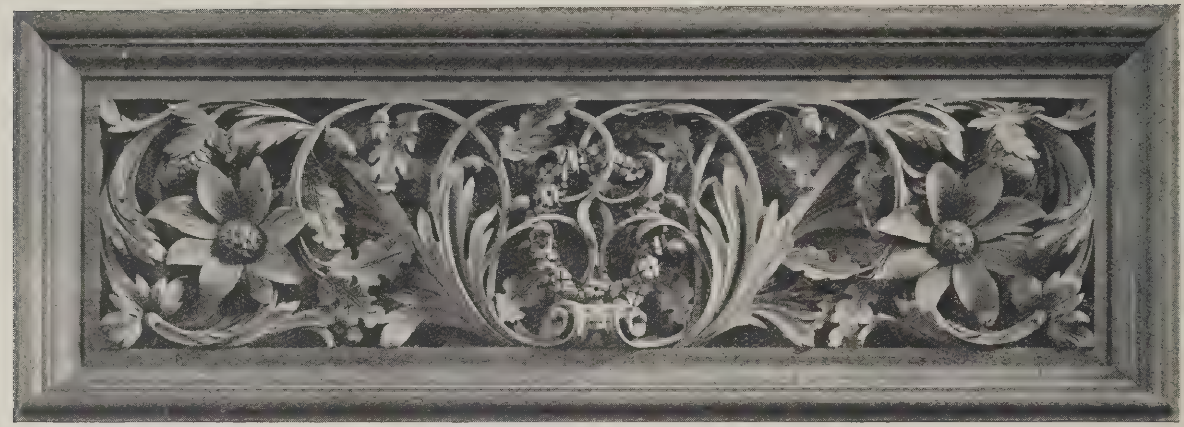
F. J. L. writes : "Is there any practical reason, apart from sentiment and weathering appearance, why cast lead is used in preference to milled on buildings of historical and other value ? I am concerned in a roof which is of low pitch with a high parapet, and is consequently hidden. It has no traffic upon it. Cast lead was specified, but the above question was put by a practical-minded member of the committee, who rather favours milled, and we find it difficult to refute the undoubted good qualities of the latter as regards wear."

—Cast lead is thicker and heavier than milled lead, and has a harder surface. It is, however, liable to flaws and sand-holes, and is irregular in thickness, on account of which it should not be used of a lighter substance than 6 lb. per sq. ft. Cast lead is often made by the plumber himself out of the old lead waste pieces and clippings that accumulate in the course of his work. For this reason, and because he is not an expert in casting, it may at times be very unreliable. Milled lead is more uniform in thickness, bends easily, but appears to be more liable to crack when exposed on a roof. The bias in favour of cast lead is probably a survival of the time when there was no milled lead, and no one at the present time could reasonably object to the use of milled lead of the proper thickness, according to the purpose for which it is to be used. HENRY ADAMS.

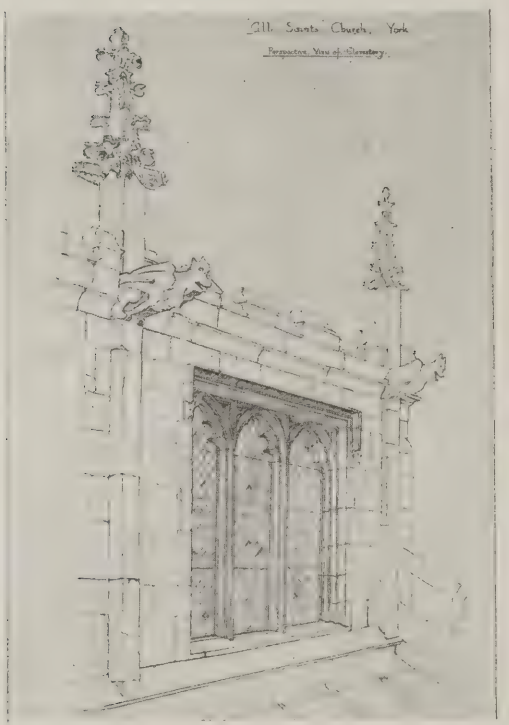


RIGHTS OF LIGHT. (*See answer to H.*)

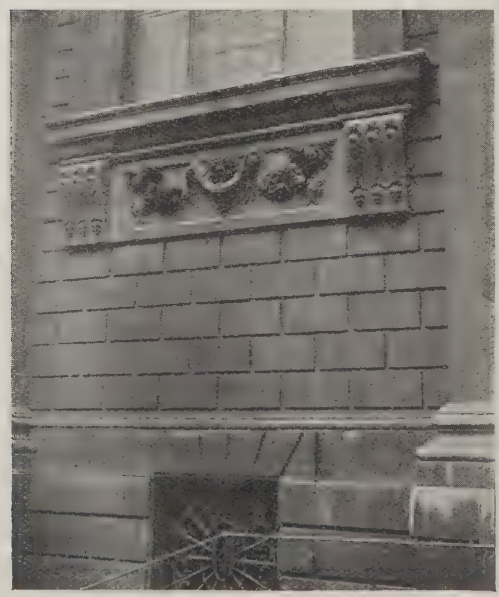
A Pictorial Review



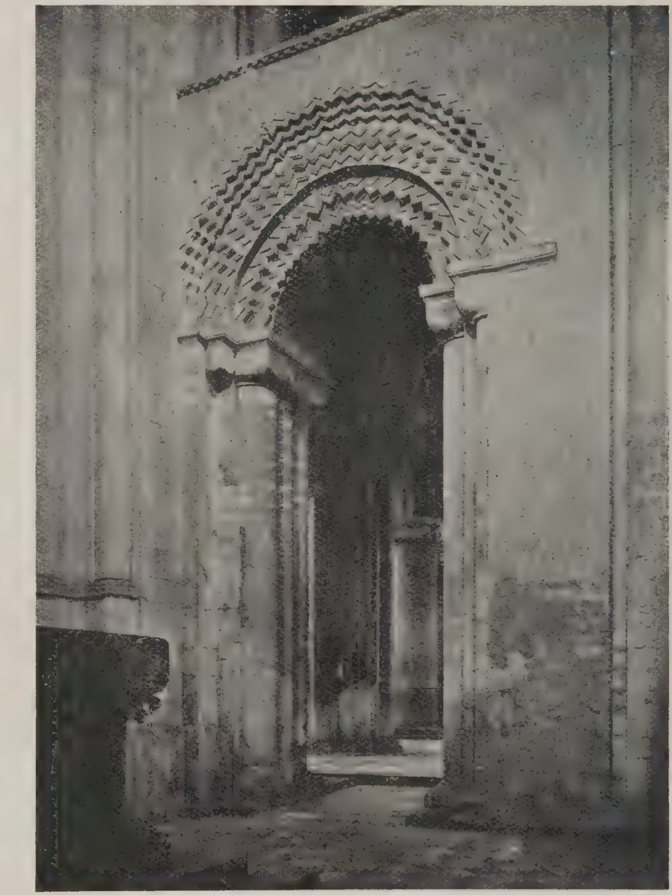
This is a detail of a carved panel in the library of Queen's College, Oxford. It is attributed to Grinling Gibbons. Deeply pierced, it is a superbly strong and vigorous example of the naturalistic carving of the period.—H.S.



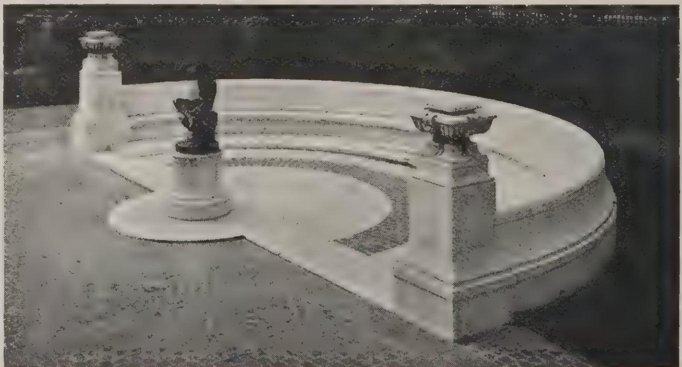
As an example of Perpendicular Gothic architecture, the above pencil sketch, of the clerestory of All Saints' Church, Pavement, Yorks, should be of interest to students.—W. O. N.



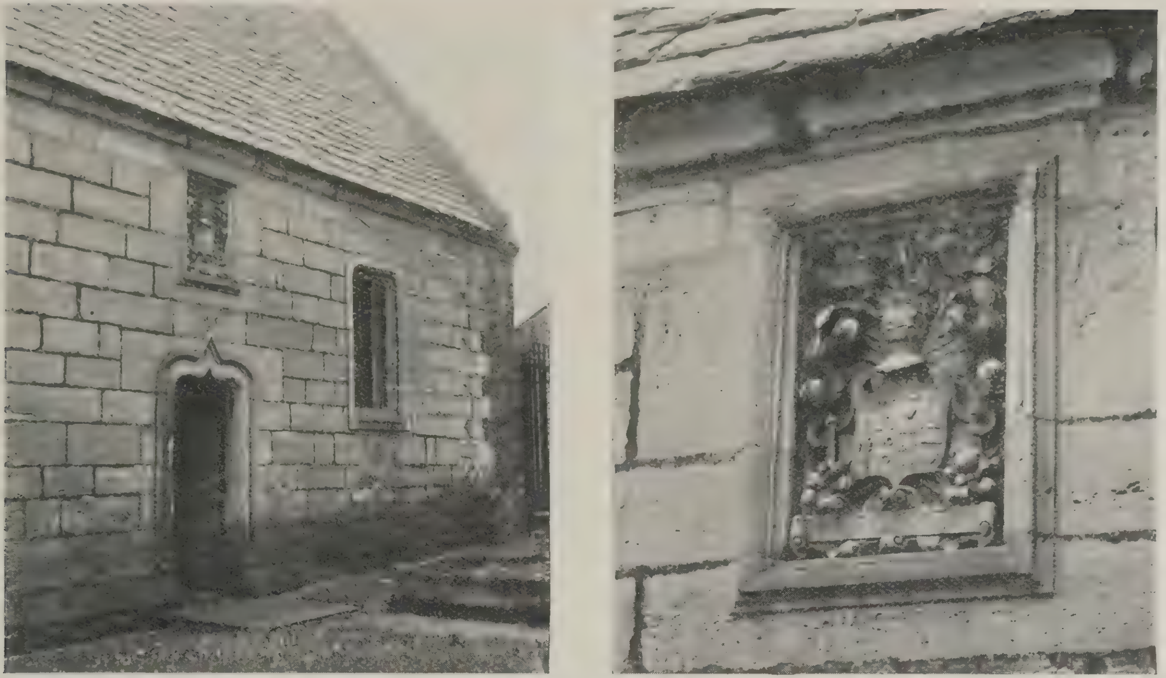
This snapshot of a detail of St. Paul's Cathedral is interesting for what it shows of Wren's treatment of an ornamental cill in conjunction with rustication.—G. P. R.



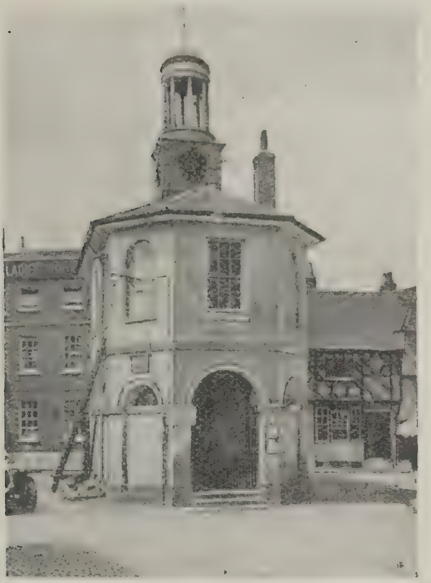
I send you a photograph of an arch at the west end of the south side of the nave of Ely Cathedral. It is a splendid specimen of late Norman work, the dog-tooth ornament being particularly fine.—W. R.



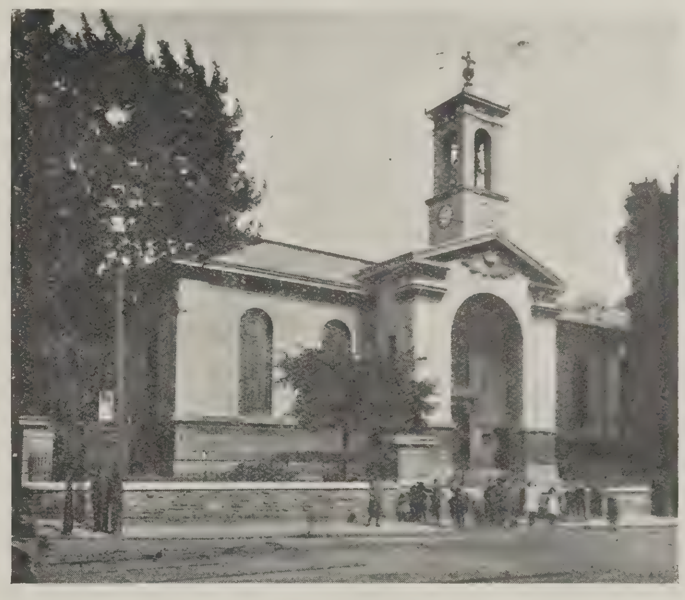
I send you a view of the semi-circular seat in the garden of the Musée Galliera, Paris, which was erected from the designs of Léon Ginain between the years 1878 and 1894. It is, I think, a charming as well as a useful adornment.—H. B. C.



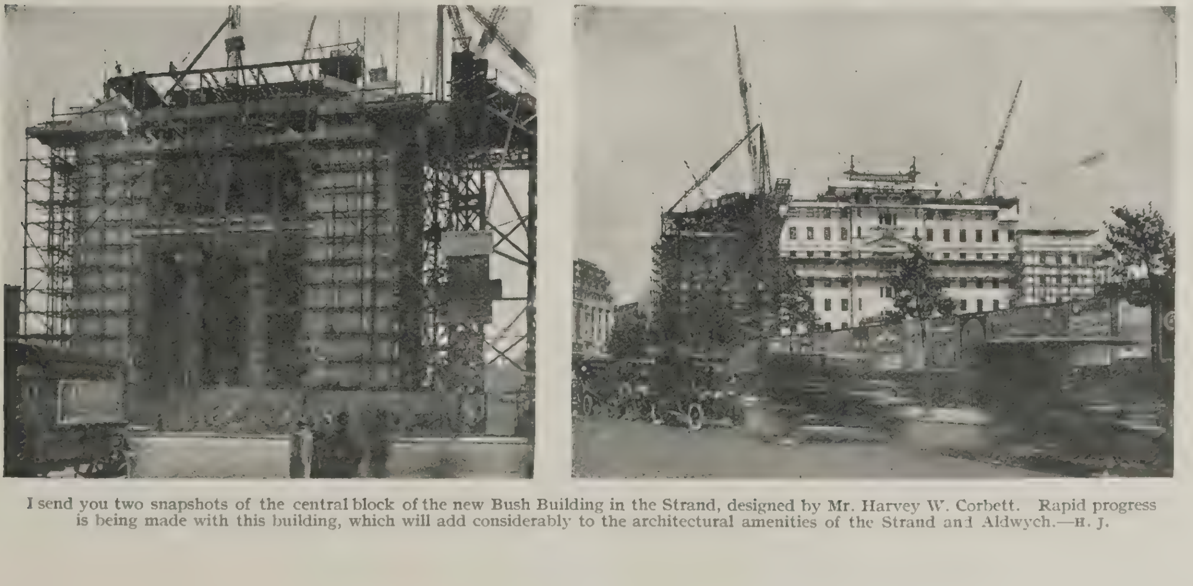
The first illustration shows part of the front of Skelmorlie Mausoleum, at Largs, built by Sir Robert Montgomerie in 1636. The second is a detail of the coat of arms of Montgomerie and Eglinton over the door. The scroll bears the words "The Lord only is my support," and, "Only to God be Laud and Gloir," while underneath the shield are the date and initials of Sir Robt. Montgomerie and his wife.—J. T. G.



The Market House at Godalming, a diminutive little structure, was built just over a century ago. Note its unique shape, generous eaves, and dainty cupola.—ANON.



Trinity Church, Hotwells, Bristol, was designed, in 1829, by Professor C. R. Cockerell, who persuaded the donor to accept a simple scheme, Tuscan in character. The pediment is enriched with a crush of sculptured ornament, executed by the sculptor Tyley. The cupola above the pediment foils the solidity of the building and gives a sense of grace.—ANON.



I send you two snapshots of the central block of the new Bush Building in the Strand, designed by Mr. Harvey W. Corbett. Rapid progress is being made with this building, which will add considerably to the architectural amenities of the Strand and Aldwych.—H. J.

Tests on Ranges and Cooking Appliances

Conducted by A. H. Barker, Whit.Sch., B.A., B.Sc.

THE combination of functions in a cooking range is a very wasteful feature. This is one of the many important conclusions reached by Mr. A. H. Barker, Whitworth Scholar, B.A., B.Sc. (Lecturer on Heating and Ventilating Engineering at University College, London), in his report, just issued, on his "investigation into the relative merits of various kitchen ranges with a view to determining types which might be standardized for use in housing schemes." It is pointed out that in so far as a cooking range is suitable for one purpose, it is almost of necessity extravagant for others. The essential principle of economy in the use of heat is that the heat developed shall not be allowed to escape in any other direction than the desired one. Where a range is used for warming a room, for instance, it is obvious that the ready escape of heat into the room is an essential feature of the apparatus. It cannot, therefore, be economical for other purposes such as boiler or oven heating, for which it is necessary that the heat shall not readily escape.

It must be recognized, however, that a deep rooted prejudice undoubtedly exists in various parts of the country, particularly in the North, in favour of certain old-fashioned types of open range, and this is a factor which cannot be ignored. The Yorkshire range, for example, which is to be found in most working-class cottages in mining districts in the North is designed to fulfil the following functions :—

(i) To throw out a considerable amount of radiant heat for heating and roasting purposes.
(ii) To provide an open fire for general cookery, boiling, etc.
(iii) To dry clothes.
(iv) To bake bread and serve for other oven-heating operations.
(v) To heat water for baths.

This strong prejudice in favour of an open-fronted fire appears to be peculiar to this country. In most other countries a cooking range fire is usually closed. In an up-to-date French range the fire cannot be seen unless the top covering is removed. The fire is enclosed to such an extent that only sufficient air is allowed to enter to create the necessary combustion.

Mr. Barker defines the kitchen range as "a combination of several different apparatus, such as a fire-heated oven, fire-heated hot plate, fire-heated hot-water supply boiler. It is frequently also intended, especially in small houses, to serve as a means for warming the room in which it is fixed. It has to serve for such purposes as boiling kettles, toasting bread, drying clothes, warming plates, and similar duties. All this work is designed to be accomplished by one fire." In the course of his reports he says: The technical "efficiency" of a range is difficult to determine definitely because it is shown to depend to a large extent on the kind of fuel used, the way in which the fuel is burnt, and other factors, also on the conception adopted of the meaning of the expression "efficiency."

Two complete series of experiments were made on each range, which may be generally described as (1) physical tests, (2) practical trials. The efficiency observed in the experiments under series (1) was the ratio between the work done and the amount of heat in the fuel consumed. The fuel was burnt on an artificial system so as to secure as far as possible constant thermal conditions in the plant itself, the "work done" being also reckoned on a similarly arbitrary and artificial basis, e.g., the heat communicated to certain vessels of specified size under certain arbitrary conditions which were made to resemble as nearly as possible the actual conditions prevailing when the appliance is used in practice. The efficiency of the hot-water supply was calculated as the ratio between the heat communicated to the water and that in the fuel consumed. All these were observed at several different rates of fuel consumption.

In each case, the plant tested consisted of the several different functions or parts of a range combined in one appliance. For the purposes of the test, it was necessary to assume that each such function was a separate appliance. It was assumed, for instance, that during the hot-water supply tests the range was required for no other purpose than that of hot-water supply. All the heat escaping into the other parts of the apparatus was regarded as lost for the purpose of this experiment. Similar observations were made in respect of each separate function. The total gross efficiency of the entire plant was taken to be the sum of the separate efficiencies taken when the appliance was used in one particular manner corresponding as nearly as possible to practical conditions.

Each range was so erected that any rate of draught could be exactly maintained by artificial means. Instruments were designed and constructed for observing the various quantities dealt with, such as the quantity of coal burnt and ashes produced, the intensity of the draught, the quantity of flue gas, the chemical analysis of the same, the quantity of hot water produced, the "temperature" or rate of transmission to vessels placed in the oven, the heat communicated to the separate hot-water supply and to vessels placed on the hot plate, and the like. Each delivery of fuel used was tested in the calorimeter. It was necessary, in order to obtain a sound basis for the experimental results, to make preliminary investigations of certain highly technical questions bearing on the efficiency.

One difficult question having an important bearing on the result was how to deal with apparatus having ovens of different size. After considerable investigation it was found that in two apparatus of the same design, but of different size, the consumption of fuel for equal effect varied in proportion to the surface area of the flues surrounding the oven on the one hand, and the surface area of the hot plate and the surface of the hot-water supply boiler on the other, and that two such appliances could be reduced to a common denominator by estimating the fuel consumption per square foot of such surfaces. This was done in all cases. It introduces great complication of calculation. It was shown by experiment that the rate of heat transmission to vessels of different size placed in the same oven varied as the superficial area of such vessel for small surfaces only : in other words, that both the consumption and the transmission varied as the square of any one linear dimension. For larger vessel surfaces the rate of transmission per square foot of surface decreases as the surface of the vessel increases. This question was investigated experimentally.

A series of experiments was made in order to determine the relative economy of open ranges of the type known as "Yorkshire," and closed ranges of the ordinary type. The extravagance of the Yorkshire type is obviously due to the great excess of air inevitably used for combustion in an appliance of this type.

Extended investigations were made of the degree to which losses were caused by the excessive aeration of the products of combustion. This was proved to be the principal cause of loss in a range. It arises through leakage into the furnace chamber and flues of cold air from the kitchen. The more perfectly this leakage can be prevented the greater is the economy. Apparatus were tested in their original form, and were so altered as to reduce the excess of air employed, and the differences in consumption noted. Prevention of leakage of cold air also has a most important effect on the draught induced by the chimney. A condition of air-tightness was shown to be inconsistent with some of the facilities usually demanded by the cook, such, for instance, as the ability to toast bread at the front of the range. It was proved that one condition of maximum economy is that the fire should be so completely enclosed that air cannot obtain access to the furnace or chamber flues otherwise than through the incandescent fuel. The thickness of the fuel should be adequate to carbonize as much as possible the air used for combustion. The composition of the flue gases is a reliable criterion of this effect.

In no case of an ordinary range did the analysis of the flue gases, which was made continuously throughout all the later tests, show more than 2 per cent. of CO_2, indicating that at least six to ten times as much air for combustion as is necessary is commonly used. The most economical results in general boiler practice are secured when the proportion of CO_2 in the flue gases is about 12 per cent., but no figure even approximating to this value was ever obtained throughout the whole experiments. Those ranges in which the fire is totally enclosed in some cases rose as high as 7 per cent., and showed a correspondingly high efficiency.

It was found that in two ranges of similar general construction, as the efficiency of the hot-water supply and of the hot plate rises, that of the oven decreases almost in proportion, the total efficiency of the appliance considered as a whole being roughly constant for apparatus of the same general construction. This proves the great influence which the hot-water supply portion of the plant has on the efficiency of the oven.

In order to investigate this matter two of the appliances were tested in the following way: continuous observations were taken for several weeks of the apparatus provided with the usual back boiler. The latter was then removed and replaced by firebrick blocks, and the same appliance then tested without the boiler. It was found in both cases that the total consumption was reduced by from 50 per cent. to 66 per cent. when the boiler was removed. This proved that the presence of a boiler in a range is a very extravagant feature considered in relation to the use of the apparatus as an oven. On calculating the total efficiencies by adding together the individual ones taken in one arbitrary condition, it was found that there was a surprising measure of uniformity between most of the ranges of the same general type. Some few of them of unusual type were widely different from the bulk, but in the main it may be said that the ordinary efficiency of such an appliance when all the functions are in use simultaneously for cooking purposes, with the oven regarded as the principal function, is in the neighbourhood of 7 per cent.

An investigation was made of the relative advantages and disadvantages of different positions of the oven in regard to the fire. It was found in all cases that those ovens which were placed immediately over the fire so that the fire played on the bottom of the oven before reaching the top were very much more efficient in direct transmission than in the opposite case. But it must not be lost sight of that for many oven purposes, the effect of what is called "top heat" is very different from that of "bottom heat." In some cases "top heat" is very necessary to produce crisp baking effects and the like. Also the arrangement of the fire below the oven hinders its effective use for hot plate and boiling purposes, and the simultaneous cooking in the same oven of articles requiring widely different treatment, e.g., baking bread and milk puddings. This difference again raises the question of the operation of radiated and convected heat in the interior of an oven, a scientific question of great difficulty. The result of the practical investigation shows that "top heat" is much more expensive in fuel than is "bottom heat," and this cost is rendered all the greater by the common practice of using the top part of the flue above the top of the oven as a hot plate, thereby producing heavy cooling effects.

The effect of hot plate was also investigated by clothing the hot plate in several of the appliances with a heavy asbestos mattress, which to a large extent diminished the heat lost from the hot plate. The effect on the oven economy was most marked. This device alone decreased the fuel consumption for a given effect by some 35 per cent., varying at different rates of consumption to some 20 per cent.

The general conclusions arrived at are that the combination of several different functions in one range renders each such function excessively extravagant when considered alone. The combination is only relatively economical when all the functions are in use simultaneously. Even in that case existing designs cannot be called really economical, because of the circumstance that the consideration kept in view in making such designs has been the convenience, compactness, and cheapness of the whole device, and not the conditions which would lead to a maximum of economy, which latter are in many or most cases inconsistent with the foregoing. Further, it is open to question to what extent all the parts of a cooking appliance are actually required simultaneously in ordinary practice. It is only rarely that this combination is required in a small house. No doubt during the preparation of a big dinner of several courses all parts of the plant might be required simultaneously, but generally in a small household only one part of the appliance is wanted at one time.

For instance, in a working man's house at breakfast time the hot plate is the only part of the appliance needed. All the operations necessary for the preparation of a working man's breakfast can be easily conducted on the hot plate only. If, therefore, the apparatus is such that the hot plate cannot be heated without simultaneously heating the oven and the hot-water supply, it necessarily involves great extravagance in fuel. Similarly, it may be that in a working-class family the children receive only a weekly bath, and that for the purposes of saving fuel they are all bathed on one particular night, generally Saturday night. On that occasion the hot-water supply portion of the plant only is needed, and any heating of the oven and hot plate is unnecessary, and even in summer very undesirable. A separate hot-water supply apparatus of simple character uses only one quarter of the fuel required by a range boiler. Several of these have been tested.

Thus, in the interests of economy, each portion of the plant should be designed for maximum economy separately. Whether or not this condition may be secured with only one fire is one of the principal practical questions raised by this investigation. The disadvantage—amounting to impossibility in many cases—of supplying more than one fire for a very small apparatus is, of course, recognized.

The diagrams and tables accompanying the report give generally the results of all the experiments made, each graph representing the results of about three or more weeks' experiment on the one apparatus. The varying shape of the graphs in some cases is noteworthy, and is fully discussed and explained in the report.

Physical Tests.

Of all the ranges tested the lowest efficiency recorded in oven transmission was 1 per cent., that is to say, that the ratio between the amount of heat communicated to the standard vessel in the oven and that in the coal consumed was in this proportion. The highest such efficiency was 5 per cent., except in specially designed appliances in which it rose to 17 per cent., the average of all commercial ranges being about 2½ per cent.

In all the apparatus submitted the lowest efficiency of the hot-water supply portion of the plant was 8 per cent., while the highest was 18 per cent. to 20 per cent. The latter figure was only reached in one case. The great majority of the ranges tested have an efficiency of 11 per cent. to 12 per cent. Special ranges designed by ourselves reached 45 per cent.

The efficiency of the hot plate varied between 1 per cent. and 5 per cent. 12 to 20 per cent. can easily be secured in specially designed appliances.

Considering the apparatus as a whole, the total amount of heat usefully employed when all the apparatus was in use together for cooking purposes was calculated in each case against the total heat in the fuel consumed. These efficiencies in all cases varied with the consumption. Generally it was found that the higher the consumption the greater was the efficiency, a somewhat surprising fact.

The lowest efficiency was about 5 per cent., the highest about 11 per cent., and the great majority about 7 per cent. 30 per cent. was easily obtained in apparatus of special design.

Practical Tests.

These tests were designed with the object of investigating the economy of the various appliances as they would be used in practice in the cottage of a working-class occupant. A standard menu was drawn up in consultation with a body of experts, consisting of Dr. Janet Lane-Claypon, Mr. Herman Senn, and Mr. M. T. E. Jackson. This standard menu was designed to test the capacity of the appliance for stewing, baking, casserole cookery, and light cooking, also for supplying definite quantities of hot water at definite times of the day. The standard menu was carried out on each of the ranges tested, and comparison made between the fuel required in each case.

It was found in all cases that the result of the physical tests described above was a very sound guide to the economy of the appliance in practice. A carefully detailed report on the performance of each range was drawn up at the conclusion of the experiments, based on the practical convenience, durability, rapidity, and economy of the appliance as appearing to the experimenters after a test, which in each case extended over about three weeks. Though it is possible that some of these criticisms may be to some extent matters of opinion, they were drawn up after very careful consideration being given to the matter by the members of the Building Materials Research Committee, whose opinion was in all important matters unanimous.

The Committee have arrived at the following conclusions as to the principles which should guide the construction of cooking ranges to secure fuel economy, so far as these may be applied consistently with convenience and other considerations.

(A) *Resulting from Physical Tests.*
  (i) Air should only have access to the fire through the grate bars; the fire should therefore be as completely enclosed as possible.
    (*a*) The furnace should be lined with non-conducting material except at any part where heat is required to be directly transmitted;

(*b*) The fire should have a minimum thickness of about 5 in.

(ii) In-leakage of air into the flues and oven should be prevented, hence

(*a*) loose rings in the hot plate and cleaning door should be reduced to a minimum;

(*b*) the cleaning doors, rings, and other parts of the range where leakage of air could take place should fit with as air-tight joints as practically possible;

(*c*) the fit of the oven door should be as good as practicable.

(iii) Loss of heat through surface radiation should be prevented whenever such surface is not required for cooking or heating purposes, hence

(*a*) the oven door and iron plates on the top and front of the stove should be lagged with non-conducting material;

(*b*) the flues adjacent to the faces of the grate, other than the hot plate, should likewise be lined with non-conducting material;

(*c*) only such area of hot plate as is required for cooking purposes should be exposed to direct heat.

(iv) For economy the hot gases should impinge on the bottom of the oven as soon as possible after leaving the fire, hence

(*a*) the fire is better placed relatively low to the oven;

(*b*) flues should be arranged so that the gases first pass under the oven and subsequently over it; top heat, however, is preferable for certain kinds of cookery; this may be provided for, though it should be borne in mind that top heat is relatively expensive in fuel.

(v) The fire should be immediately under, and able to radiate directly up to, that part of the hot plate where the strongest cookery or boiling effect is required.

(vi) Ranges should be designed to burn coke efficiently as an alternative to coal.

(vii) Appliances which combine several functions use considerably more fuel than would be required if each function were performed by a separate appliance.

(viii) The rising grate effects economy mainly by excluding cold air from the top of the fire when the grate is raised.

(B) *Conclusions derived from Practical Tests.*

(i) High rates of oven transmission are rarely necessary; they make the oven too hot for ordinary cooking.

(ii) The practice of using the interior of the oven as a hot plate and conducting therein many of the operations commonly done on the hot plate, is sound and economical.

(iii) Transmission of heat is facilitated by placing the vessel on the bottom of the oven; there is a danger, however, of the food burning.

(iv) An advantage of the movable grate is that it allows cooking to be conducted economically with the grate on the top notch, and, by lowering the grate, enables a toasting effect to be obtained, but at a great cost in fuel.

(v) Uniform oven temperature for a considerable period is desirable for certain operations, but a sharp rise in temperature is necessary for others, and a difference between top and bottom heat is very desirable.

(vi) Small ovens are generally much more economical in practice than large ovens, but skilful management is necessary to cook a large meal on a small range.

(vii) The height of the oven should be such that it is possible to examine the contents of dishes without removing them. The fireplace and the hot plate should be at a convenient height. An inner door to an oven having transparent panels is a great advantage.

(viii) A hot plate should provide a wide range of temperatures and only sufficient space to accommodate all the vessels ordinarily required during the preparation of a dinner.

(ix) Contact of the cold surface of a boiler with incandescent fuel is undesirable.

The report—"Fuel Research Board, Special Report No. 4"—is published by H.M. Stationery Office, price 2s. 6d. net.

New Inventions

Latest Patent Applications.

21186.—Baker, W. E.—Means for utilizing waste heat of fireplaces, etc., for warming rooms. August 3.

21375.—Chandler, H.—Composition for facing walls, etc. August 4.

21115.—Drake, B. M. — Improving acoustic property of rooms. August 2.

21334.—Fraser, J. J.—Manufacture of blocks, etc., of artificial stone. August 4.

20909.—Hobbs, J. E.—Machines for road construction, building, etc. July 31.

21187.—Ryan Manufacturing & Construction Co., Ltd.—Process of manufacturing ceiling, etc., slabs or building - blocks. August 3.

Specifications Published.

183206.—Heyd, W.—Plaster lathings.

183250.—Thompson, H., and Thompson, S. H.—Concrete and like building construction.

183255.—Greenwood, T. W.—Louvred or ventilating windows.

183307.—Shingleton, L. — Adjustable forms and bearers for supporting shuttering for concrete floors, beams, and the like.

183335.—Mosel, L. G.—Devices for the advantageous utilization of the heat from smoke in chimneys.

183402.—Pavletich, F. J.—Dancing floors.

Abstract Published.

181424.—Casting columns in situ. — Raskin, S., 1432 Montclair Avenue, St. Louis, U.S.A.—Shuttering for columns and the like is made adjustable so as to vary the diameter, and the sections telescope into each other to reduce the diameter as the height increases. The base section A, Fig. 4, is formed of substantially channel-shaped sections with upstanding flanges 7*a*, the ends interfitting to form a rectangular mould and the flanges preventing spreading under internal forces. Lugs 8 may be fitted at one end of each section to receive an end flange 8*a* on the intermediate or top sections, which are also provided with outstanding flanges 11 to interengage with the top flange 6 of the adjacent lower section, Fig. 1. Alternatively, a wedge cover 113, Fig. 5, may engage these abutting flanges and bind the sections together. Bolts 10 hold the sections in adjusted positions.

FIG. 3.

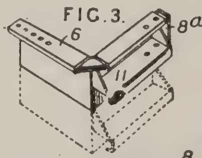


FIG. 4.

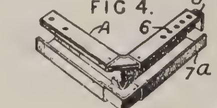


FIG. 5.

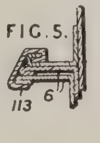
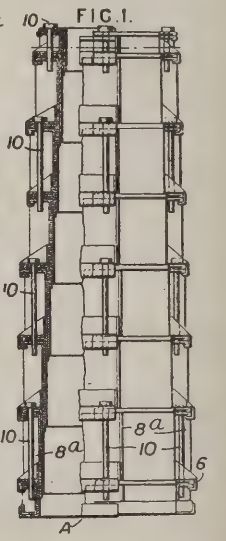


FIG. 1.



The above particulars are specially prepared by Messrs. Rayner & Co., of 5 Chancery Lane, London, W.C. 2, Registered Patent Agents, from whom readers of the Journal may obtain all information free relating to patents, trade-marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

List of Competitions Open

Date of Delivery.	Competition.
Aug. 31	Lay-out of Land at West Cliff, fronting the sea, in Promenades, Recreation Ground, Roads, and Building Plots. Premiums £300, £200, and £100. Apply Mr. A. Blasdale Clarke, Town Clerk, Albion House, Ramsgate.
Sept. 16	Nurses' Home, Chelsea Hospital for Women. Premiums: £150, £100, and £50. Assessor, Mr. H. V. Ashley, F.R.I.B.A. Names by above date to Mr. H. H. Jennings, Secretary, Chelsea Hospital for Women, Arthur Street, Chelsea, S.W. 3.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8,000 francs.
Nov. 1	Labour-saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C. 4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
Jan. 31, 1923	Labour-Saving Flats, Hampstead Garden Suburb. Premiums £500, £300, and £200. Assessors: L. Rome Guthrie, F.R.I.B.A., J. C. S. Soutar, Lic.R.I.B.A., and E. J. Cooper, Secretary, Second Hampstead Tenants, Ltd., to whom, at Temple Fortune House, Hampstead Way, N.W. 11, applications had to be made by August 11.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.

Competition News

Ideal Bungalow Competition.

The conditions of entry in connection with the "Daily Mail" Ideal Bungalow Competition have just been issued. Mr. E. Guy Dawber, F.S.A., F.R.I.B.A., and Professor A. E. Richardson, F.R.I.B.A., are the assessors, and prizes of £300, £125, and £75 are offered for the designs placed first, second, and third respectively.

Appended are extracts from the conditions :—

The bungalow is to have the following accommodation, which is to be provided on one floor: dining-room, drawing-room, kitchen (not to exceed 7 ft. by 8 ft.), four bedrooms, larder or pantry, bathroom, and one w.c. There should also be a maid's sitting-room adjoining the kitchen. The bungalow is to be suited to the country or to suburbs of a large city or town. The total floor area of the bungalow must not exceed 1,500 sq. ft., including walls. Competitors may by close planning get below this figure if so desired. The area of rooms, with the exception of the kitchen is left to the competitor.

Drawings to be in ink on unmounted white paper 30 in. by 22 in. to a scale of 8 ft. to an inch, within plain black border line, ¾ in. from all edges, the longest dimension being horizontal. All printing thereon to be in plain lettering. A scale to be drawn on the plan. The design to be shown on one sheet of paper and to be illustrated by: (*a*) A pen-and-ink perspective of the bungalow; (*b*) In bedrooms, 4 ft. 6 in. by 6 ft. 6 in. beds (double) or 3 ft. by 6 ft. 6 in. beds; dressing tables 1 ft. 8 in. by 3 ft. 6 in.; in dining-room the dresser or sideboard, table and chairs, and no other furniture to be indicated—all drawn to true scale in proper location on the plans. (*c*) Ground floor and elevations of principal front and of back, and one end of bungalow; a cross section from foundations to roof. (*d*) In a space within the border lines give a computation of the total area of the floor, including walls and the cubage based on these areas, and measured from bottom of foundations to one-half of height of roof, measured from plate to ridge. (*e*) A sheet, 30 in. by 22 in., of half-inch scale sketches of all novel suggestions or arrangements to be sent in to supplement this drawing, and all drawings and papers to be securely fastened together. (*f*) Not more than two sheets (30 in. by 22 in.) in all to be submitted. No name or mark or sign shall be placed on the drawings or on the package containing them, by which the author may be identified. Drawings to be packed flat, to avoid any creasing or crushing, in a sealed package, including an opaque envelope containing the name and address of the author, stating that the design is his or her own personal original work, and that the drawings have been prepared under his or her own personal supervision.

All packages to be addressed so as to be delivered to the Secretary, "Daily Mail" Ideal Bungalow Competition, 130 Fleet Street, London, E.C.4, *on or before* November 1, 1922.

Attached to the sheet of drawings must be a concise specification of materials to be used, the equipment of the bungalow, and explanation of suggested novelties, these not to exceed one sheet of foolscap, written on one side of the paper only. A water, electric and gas supply may be assumed, and no drainage need be shown.

Competitors may not enter more than one design. A high architectural standard of design is expected, but each design will first be considered from the point of view of labour-saving and economy of construction. An architect sending one entry of his own can collaborate with another (not an architect) in another entry.

"The Daily Mail" reserves the right to publish any design entered in the competition, with the name and address of the architect, also to erect bungalows or individual rooms according to any of the designs submitted; but, in the latter event, the author of the selected designs will be employed to superintend the erections, and will be paid for his services in accordance with the schedule of charges laid down by the R.I.B.A.

Any questions must be addressed to the Secretary, Ideal Bungalow Competition, 130 Fleet Street, London, E.C.4, on or before September 14, 1922.

Society of Architects' Design Competition.

Twenty-six, or about 75 per cent. of the provincial entrants, submitted designs in the preliminary test in connection with the Society of Architects' Second Half-yearly Design Competition, 1922, which closed on August 8, the subject being "A Memorial Tablet." The drawings were numbered as received, and the jury of assessors, Messrs. Percy B. Tubbs, L. Sylvester Sullivan, H. M. Robertson, and Thomas Wallis, after long and careful examination of the designs, selected the authors of the drawings marked 5, 8, 9, 10, 11, 17, 18, 20, and 24 to compete in part II of the competition. These were afterwards identified as follows :—

Licentiates: Arnold Taylor, of Bishop Auckland (11); Edward E. Bridge, of Liverpool (17).

Students: J. C. H. Bawcutt, of Oxford (5); Leo. E. McMullen, of Manchester (8); K. F. Harris, of Linton, near Maidstone (9); H. G. Avery, of Leeds (10); V. C. L. Saunders, of Ventnor (18); P. E. Tirley, of Warrington, Lancs. (20); W. J. Werry, of London (23); H. C. Wilkinson, of Nelson, Lancs. (24).

The final result of the competition, which is of the value of £40, will be published in the "Journal" in due course.

Improvement of Insanitary Areas in Scotland

The Scottish Board of Health have just issued a new leaflet with regard to the improvement of insanitary areas. As indicated in a previous circular issued by the Board, the Government have decided to give a grant of £30,000 per annum in aid of expenditure incurred by local authorities in respect of the improvement of insanitary areas. It is the intention that this sum will be available each year during the period of repayment of the loans, by way of contribution toward the annual expenditure of local authorities on these improvement schemes.

The proposed State contribution towards the improvement of insanitary areas is quite apart from the existing State scheme of financial assistance under which the liability of local authorities is limited to the annual produce of a rate of four-fifths of a penny in the £. If the local authority decide to formulate a scheme for the improvement of insanitary areas in accordance with the principles set forth in the circular, the annual State contribution will be a limited one and the local authority will be required to contribute out of the rates the remainder of the approved cost.

The usual procedure for the improvement of insanitary areas is that set forth in Parts I and II of the Housing of the Working Classes Act, 1890. Under Part I of that Act, which is applicable to Burghs, but which may be applied to districts other than Burghs by virtue of the terms of Section 28 of the Housing, Town Planning, etc. (Scotland), Act, 1919, a local authority may prepare what is termed an "Improvement Scheme" for the improvement or clearance of insanitary areas. Under Part II a "Reconstruction Scheme" may be prepared for a similar area, but which is too small to be dealt with by means of an improvement scheme under Part I. Under these schemes a local authority may be required to provide alternative accommodation for persons dispossessed of their houses in consequence of the scheme. In addition, therefore, to the cost of providing this alternative accommodation, local authorities may have to incur considerable capital expenditure in clearing the insanitary areas.

The object of the Government in giving the annual grant of £30,000 is to secure that, as far as practicable, the conditions under which dwellers in these slum areas live will be immediately improved. Slums will be cleared away, and existing houses repaired.

The Week's News

New Telephone Exchanges for Croydon.

Telephone exchanges are to be built at Thornton Heath and Addiscombe.

Wood Houses for Greenock.

Thirteen blocks of wooden houses, each containing four residences, are to be built by the Greenock Corporation.

New Baths for Birmingham.

Work has begun on the new swimming and private baths at Harborne and King's Heath. The cost is estimated at £43,000.

Herne Bay Improvements.

Herne Bay is considering a new sea wall, bathing pool, and roof promenade scheme.

Proposed New Library for Gateshead.

Gateshead Town Council are considering plans for a new, one-storey, library building.

More Houses for Jersey.

In Jersey Sir Jesse Boot is building an unlimited number of houses, and Mr. T. R. Mathews, forty.

Otley Parish Church.

Otley Church Council have inaugurated a scheme by which it is hoped to raise £1,250 to re-hang the bells and renovate the Parish Church and school buildings.

New Baptist Church for Clacton.

A new church is to be erected at Clacton by the members of the Pier Avenue Baptist Church. The cost is estimated at £15,000.

Stourbridge Consulting Engineer's Estate.

Mr. W. B. Collis, of Swinford House, Stourbridge, Worcs., consulting engineer, who died on April 24, aged 83 years, left £20,517, the net personalty being £18,749.

New Fleet Street Bank Premises.

New bank premises will shortly be erected in Fleet Street at the corner of Salisbury Court from the designs of Mr. C. J. Dawson, architect.

Restoration of Westminster Hall Roof.

It is expected that the restoration of the fourteenth century roof of Westminster Hall will be completed by March. The cost is estimated at slightly over £100,000.

Open-air Baths for Rhyl.

Rhyl Urban District Council have decided to proceed with an open-air baths scheme, estimated to cost £18,000, subject to the Government making a 50 per cent. grant.

Brussels Architectural Congress.

The Society of Architects will be officially represented at the Brussels Architectural Congress by its honorary secretary, Mr. L. Sylvester Sullivan, F.S.Arc., A.R.I.B.A.

New Church Hall for Merthyr.

The foundation stone has been laid of a new parish hall which is being erected in connection with the Cyfarthfa Church, Merthyr. Mr. E. W. G. Richards, of Merthyr, is the architect.

Forty-two Houses for Blaydon.

The Blaydon Urban District Council have approved a block plan, submitted on behalf of Messrs. W. & G. Gowland, showing the lay out for forty-two houses at High Horse, Close Wood, Rowlands Hill.

Hebburn Housing Scheme.

Hebburn Urban District Council have decided to seek the sanction of the Ministry of Health to build an additional twenty-five four-roomed houses, and seventy-five three-roomed houses.

Margate's New Houses.

The Town Council is about to erect twenty-two houses at Garlinge to £797 10s. per pair. About 100 houses have already been built by the Corporation in the southern part of the town.

University College : South-west of England.

The President of the R.I.B.A. has appointed Mr. G. C. Lawrence (President of the Bristol Society of Architects) as representative of the Royal Institute on the Court of Governors of the University College of the South-west of England.

The late Mr. Charles Trumper.

Mr. Charles Trumper, of the firm of Charles Trumper & Sons, Birmingham, a well-known figure in Midland building trade circles and a member of the Birmingham Builders' Exchange, has died at Sparkhill, at the age of 67.

Old Enfield Building in Danger.

The ancient building at Enfield known as the Palace, or Manor House, with its remains of Tudor domestic architecture and its historic associations, is in danger of being pulled down to provide a site for a picture theatre.

Sussex Church Tower in Danger.

Funds are being raised to repair a serious crack which is threatening the tower of Sompting Parish Church, Sussex. The tower was probably built in the early part of the tenth century, and is said to be the only Saxon-spired one in the country.

New Houses for Oswestry.

Oswestry Town Council have decided to make application to the Ministry of Health for a loan to erect pulveriser works to deal with the town refuse. The Council have received the consent of the Ministry of Health to erect twenty-five additional houses.

Bolton War Memorial Hall.

The foundation stone has been laid of a new war memorial hall at Bolton (Cumberland). Mr. A. Knewstubb is the architect. The building will have a main hall and be so arranged that a billiard room and reading room can be conveniently added.

Airdrie War Memorial.

The war memorial for Airdrie is to be erected at the west end of the burgh on ground given by Sir James Wilson. The memorial which will take the form of a cenotaph, was designed by Mr. J. Maurice Arthur, C.M.G., D.S.O., F.R.I.B.A., and selected by Sir John Burnet, A.R.A., in a limited competition.

New Bridge for Hendon.

One of the improvements which the Hendon District Council is undertaking this autumn is the rebuilding of the bridge over the River Brent at Decoy, near Temple Fortune. The old structure, which is more than a hundred years old, is altogether inadequate for the present traffic.

Mr. J. R. Wigfull, A.R.I.B.A.

Mr. J. R. Wigfull, A.R.I.B.A., has retired from the honorary secretaryship of the Sheffield, South Yorkshire and District Society of Architects and Surveyors, after a period of not less than seventeen years of service in this capacity. So long a term of office must be nearly, if not quite, a record in the history of the allied societies.

The Bournemouth Pavilion.

There is a controversy in Bournemouth about the new £100,000 pavilion scheme. A number of financiers want to float a company locally to build the pavilion at once on lines similar to those already proposed by the Bournemouth Borough Council, but the Corporation are anxious that it should be a municipal enterprise, and have already offered prizes for the best designs.

International Congress of Architects.

Mr. George Oakley Totten has been appointed representative of the American Institute of Architects to the International Congress of Architects to be held at Brussels in September. Mr. Totten will carry with him an invitation from the American Institute of Architects for the eleventh International Congress of Architects to be held at Washington in 1926, to which representatives of all nations are invited.

The late Prof. H. C. Butler.

We regret to record the death at Neuilly of Professor H. C. Butler, archæologist, of Princetown University, New Jersey. Professor Butler, who was 50 years of age, was a member of many scientific bodies in England as well as in America. He wrote a long work on "Scotland's Ruined Abbeys," and several books on archæology and ancient architecture. He organized many archæological expeditions, more particularly in Syria.

Staple Inn Hall.

Staple Inn Hall, Holborn, is in the hands of the builders. Recently it was discovered that the roof was on the point of collapsing. The damage is due to the ravages of some wood-eating insect, although the architect responsible for the work does not think the culprit is the "death-watch beetle," which did so much harm at Westminster Hall and Hampton Court Palace. By providing iron shoes for the feet of the roof-principals, and by replacing the affected woodwork, it is hoped to save the building and to preserve much of the original timber.

Housing in Scotland.

Large houses in the best-class districts of Edinburgh are being subdivided into three houses. Building in Edinburgh and Glasgow is being proceeded with, and the more important contracts include public baths at Govan, to cost £42,110, and an

Wednesday, August 30, 1922. Vol. LVI. No. 1443

THE ARCHITECTS' JOURNAL & Architectural Engineer

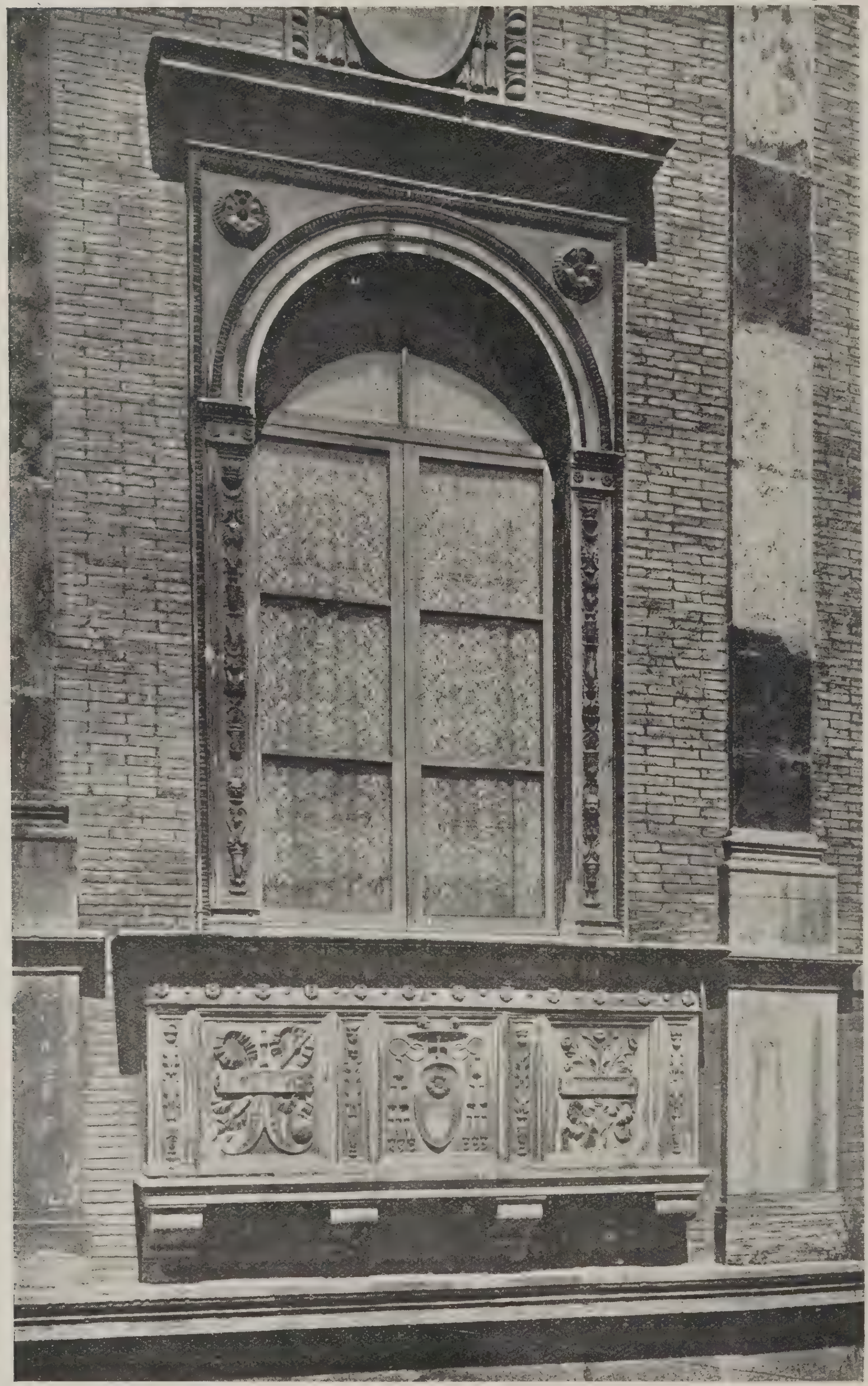
With which is incorporated "The Builders' Journal"

THE PALAZZO DELLA CANCELLERIA, ROME.
BRAMANTE, ARCHITECT.

27-29 Tothill Street, Westminster, S.W. 1.

Architectural Details. 32.—A Window and Balcony, The Palazzo della Cancelleria, Rome

Bramante, Architect



Cancelleria means a chancery or the residence of a chancellor, and this building was so named because the papal vice-chancellor's offices were here established soon after its erection. Although the Cancelleria Palace was built at the beginning of the culminating period in Rome, the detail, as this window shows, is distinctly primitive. Bramante had been working in the terra-cotta district of Lombardy, and here he introdued his terra-cotta ornament into the detail of a Roman building. Both the windows and the balcony are of marble.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, August 30, 1922 Volume LVI. No. 1443

Regional Planning

MANY of those local authorities whose population is such that it is incumbent upon them to produce a town-planning scheme by the summer of next year will already have begun their task; others, perhaps, not realizing the seriousness or the scope of the undertaking, may be deferring action until the conclusion of the holiday months. It may, however, be presumed that by the autumn work will have begun up and down the country on the preparation of schemes for the future development and improvement of various populated areas. The responsibility which rests with all authorities concerned is very great, and the future amenity of their districts is largely in their hands. But the task is a difficult one. Just as the alteration or adaptation of an existing building to meet new requirements is often a more severe tax on the skill and resources of the architect than the designing of a new building, so, too, to town-plan an existing area calls for even greater knowledge and forethought than the scheming of a new garden city on virgin soil.

In the first flush of its enthusiasm the Ministry of Health published a very useful manual on unhealthy areas which, although dealing with only one aspect of a vast subject, might well be consulted by every local authority which is engaged upon a scheme. During the last few years there has been a marked spread of enlightenment and a constant questioning as to the necessity for the dirt, squalor, and discomfort which exist in and around most of our manufacturing towns, but planning, in its accepted sense, is only partly responsible for the state of affairs. The recent report by the Committee on Smoke and Noxious Vapours Abatement shows conclusively how great are the ills that we endure through our wasteful habit of burning soft coal in the domestic grate. There are many alternatives, and now is the opportunity for local authorities to do all in their power to suppress smoke. Similarly, matters relating to water, railways, canals, drainage, mine pumping, and the like all come within the scope of a comprehensive undertaking in an industrial area.

For the purpose of developing extensive areas on comprehensive lines it is essential for several local authorities to combine and to work together, or at least to collate their activities. Unrestricted private enterprise produces chaos, as we know, since the amenities of life receive scant consideration in such matters as the placing or working of factories, but unrestricted municipal enterprise will not produce harmony or cohesion unless several authorities combine with the determination to seek their joint welfare. The result is a regional scheme prepared by a regional committee. The preparation of the scheme, as we have already indicated, is a work of immense labour covering, as it must, every department of social life, and requiring the co-operation of the medical, surveying, and engineering staffs of the municipalities concerned. The preparation of the scheme, however, is only the beginning of the difficulty; its execution presents an altogether new problem in local government, whose implication is, perhaps, scarcely realized.

According to the present organization of local government, the committee can prepare and recommend what, in its opinion and according to the advice of its technical experts, is the most suitable scheme for the future development of its joint area. But it is without jurisdiction or statutory power to enforce or execute the scheme, which then reverts for its accomplishment to the control of the separate authorities, who will be free to amend, alter, and, perhaps, ultimately to wreck the scheme, by failing to keep in sight the ultimate objective—the welfare of a large area—by concentrating too exclusively upon their own parochial affairs.

It would therefore seem that the existing machinery of local government is inadequate for the carrying out of comprehensive regional development schemes. It is possible that some slight readjustment would meet the case, but if it be decided to set up an authoritative body over the heads of the local authorities concerned, it is essential that it be made to operate under popular control. We know that popular control often succeeds in wrecking schemes devised for the general benefit, nevertheless, an uncontrolled spending department of such magnitude could not, either in theory or practice, be allowed to exist.

The patience of many local authorities has already been taxed to the utmost by the exasperating behaviour of the government in connection with housing. At one moment authorities were hustled and worried to prepare enormous schemes, and at the next were informed that even their most modest requirements could not be fulfilled. Meanwhile the town clerk's table was littered with diverse and contradictory instructions, and his waiting room filled with the importunities of harassing officials. With such experiences recently in their minds it may well be that a certain perfunctoriness will characterize the manner in which some authorities will undertake their new obligations. It is to be hoped, however, that their sense of obligation to the future will exceed their sense of irritation at the past. It is to be hoped, too, that the government will have learned from its recent experience, and that its method will be less hectic and more tactful, and that it will do all in its power to utilize to the full this stupendous opportunity for rectifying some of the mistakes and alleviating some of the misery and discomfort made during the nineteenth century.

There is evidence that certain districts are giving the matter their most serious attention. In the West Riding nine local authorities, including the West Riding County Council and the Doncaster Town Council, have appointed a joint Regional Committee, who, after exhaustive preparation and labour, have prepared, under the supervision of Professor Abercrombie, a comprehensive scheme of development for the whole district. Both in the method of approach and in the result, the labour of this committee may serve as an example and encouragement to other authorities, for not only would these appear to be exemplary, but the area which is the subject of the report is in itself one of unusual interest on account of its scope and diversity. Doncaster is already a town of some importance owing to the presence of the Great Northern Railway Engineering Works, and it is soon likely to become more so as the centre of a new coal mining area. Already the character of the surrounding rural districts is undergoing change as the inhabitants are drawn more and more for their employment to the growing industrialism. Never was there a more opportune moment, therefore, for the skilful application of town planning methods. The existing town, not yet very large, must be redeemed, and new areas must be allocated for specific activities; but this is no mere paper problem, for it depends upon the position of the coal which is to be worked. Yet some segregation of mining activities is essential. Open spaces and tracts of unsullied countryside must be preserved to compensate for the unavoidable ugliness inherent in mining enterprise. Residential districts—and in these we include the homes of workers and masters—must be so placed that the inhabitants receive adequate protection from aggressive sounds, sights, smells, and fumes, and they should be in easy juxtaposition to open spaces, the countryside, shops, and amusements. And alongside these considerations such matters as road, rail, water, and drainage, require equal attention.

Such, then, is the subject of Professor Abercrombie's report, and we hope that it will give encouragement and cause emulation to other municipalities, awakening them alike to their responsibilities and their opportunities, and above all to the necessity of retaining expert technical advice.

The Lower Cost of Building

Is a heavy fall in the cost of building imminent? According to Sir Charles Ruthen, Director General of Housing at the Ministry of Health, the tenders now being submitted for the erection of parlour and non-parlour houses show a great reduction in price when compared with those of a year ago. In June of last year the average tenders approved by the Ministry were: non-parlour, £693, and parlour, £792, and the prices have steadily declined to £379 and £422 respectively for June of this year. In Nottingham and Leicester houses of the non-parlour type are being built for less than £300 each, the average price for a similar house in April last year being £816. The price of each of the Nottingham houses including the cost of land, roads and sewers is a little over £349. The main factors which have been responsible for the decrease are stated by Sir Charles Ruthen to be the increase in the output of the workers, the reductions in wages and materials, and the smaller profits accepted by the builders. The reductions in wages and materials are responsible for one-third of the saving and the increased output for the overwhelming part of the remainder. Although Sir Charles Ruthen is of opinion that the prices still have a downward tendency it is difficult to see how they will become much lower for a very considerable time. Reasons are not far to seek. In June last the building operatives agreed to a reduction of wages of 2d. per hour all round on the definite understanding that the wages should remain stabilized until March 1 next; the markets for building materials are in many cases in a most unsatisfactory condition both for the producer and the consumer; and it is a well-known fact that the foremost builders have done their utmost to keep costs down by giving the very highest class of work at the very lowest possible figure. With regard to the cost of materials, many manufacturers are trading at a loss owing to the unprecedented slump, and in future the goods will have to be manufactured at a more profitable figure.

A section of the public are withholding work from the market under the impression that a still more remarkable decrease in the cost of building will take place shortly. This in view of present conditions is very unlikely, and it is not impossible that the future tendency may be for the cost to increase. Trade is beginning to revive but an immense amount of work is being held up intentionally, and there is still a great shortage of houses in all parts of the country. Now unquestionably is the time to build.

"Bungalow Town"

Efforts are being made to exterminate "Bungalow Town" on the Wirral peninsula near Manchester. It consists apparently of every kind of temporary residence, including caravans, and has a population which runs into thousands. "Bungalow Town" is a good instance of what has occurred in numberless seaside places since the war. Ramshackle colonies of tin sheds, wooden huts, caravans, and railway coaches, which formerly acted as summer camps, are now occupied permanently by householders without homes; but though these camps may be serviceable during a housing shortage, they have no legitimate claim to permanence. Their sanitary conveniences are of the most primitive, their protection of the flimsiest, and their contribution to the beauty of the seaside less than nothing. This is a pity because with a little forethought and arrangement, these colonies, put to their right use as summer camps, could easily become delightful both to look at and to live in.

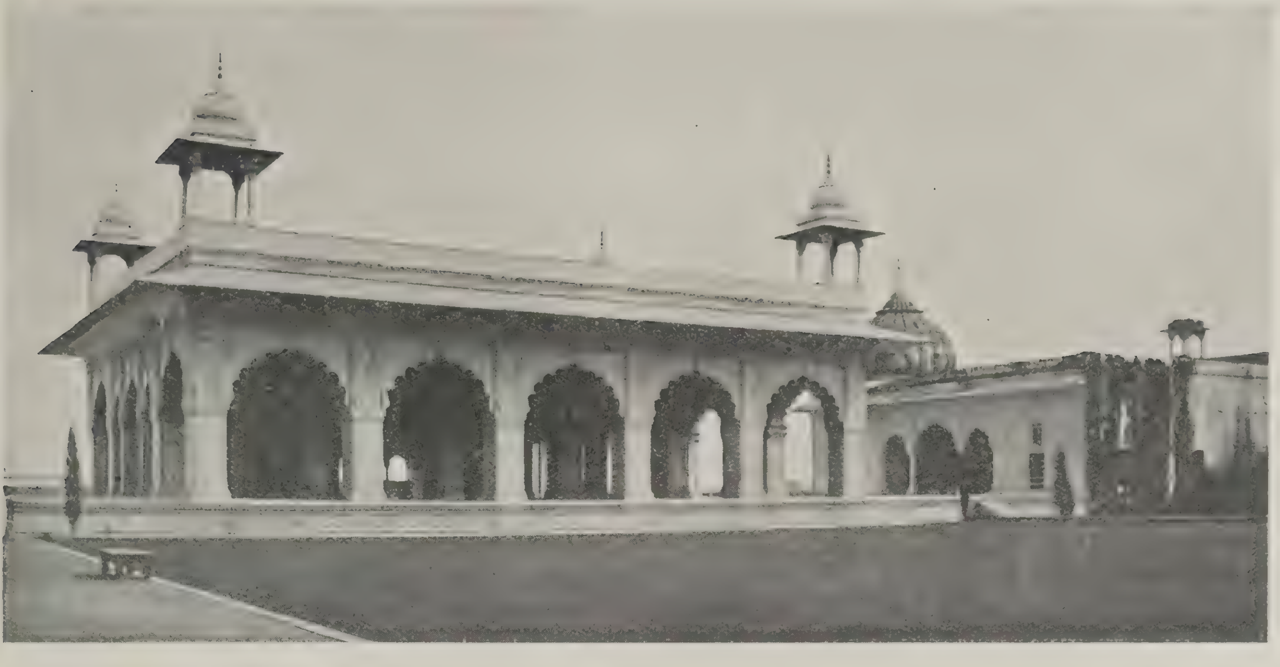
Seaside Resorts

The English seaside town to-day is nothing less than a scandal, as all who love the sea, the country, or the town, are bound to admit. The Marine Parade, the super-pier with its palace, the nigger minstrels, the pleasure places-de-luxe—of these we will say no more than that they are at least the genuine expression of an age which is vulgar but honest, and not ashamed of its vulgarity. But the hopelessly pretentious and hideous white-and-red summer-residences with their gables and verandahs, which scatter themselves across the countryside, provoke everybody's disgust. This is the only bad type of building which appears not to be dying out. Every year more "homes" of the same calibre spread across the cliffs and along the beach, and every year their small sisters, the seaside bungalows, multiply about them. The poor relations, too, come flocking round in the shape of Bungalow Town with its tin sheds and caravans. If you add to this a factory chimney belching smoke, a gas works, and the usual litter of refuse and of those half-finished schemes associated with suburbs, you get a life-like picture of the modern English holiday "Resort"—the sea road from Worthing to Brighton is an excellent example.

This cannot go on much longer. The public as well as the cultured are getting tired of ugly places; they are getting rapidly more critical. Gas works satisfy them no longer. Every town council must realize that the first essential in a holiday resort is that it shall be a beautiful place.

Piccadilly Circus

An article by W. Harding Thompson on the re-planning of Piccadilly Circus, in which Norman Shaw's ideas are discussed, will be found later in this issue. It is perhaps interesting in this connection to draw attention to the schemes which the Soviet Government of Russia are preparing for the development of Petrograd. According to "Garden Cities and Town-Planning" a Municipal Office for the consideration of new town plans has been instituted in Petrograd, and has already prepared plans which will cover the development of the city for a century, or until the time when the population of the city numbers ten million. The schemes include a new port, a new canal, and the electrification of the whole railway system. Here the Bolsheviks have set us an example in imaginative foresight which we should do well to follow. If Russia in her present condition can prepare great schemes for a century's development, surely England can prepare a scheme for a small square in the centre of her largest city. The plea of economy is surely too absurd even for an official to put forward. It does not cost a penny to *prepare* a scheme.

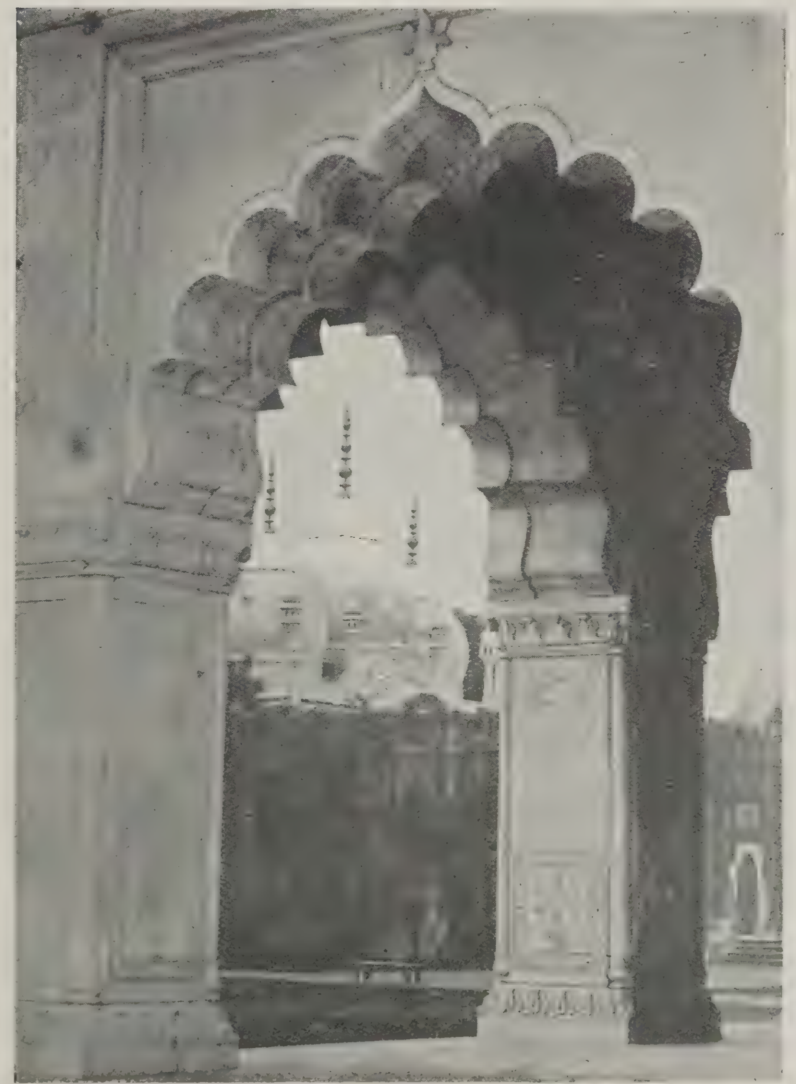


THE DIWAN-I-KHAS OR PRIVY COUNCIL CHAMBER, DELHI FORT. (1638–1648.)

Impressions of Delhi Fort

By H. O. LEE

ANY amateur visiting the famous Indian buildings must at once be struck by two basic differences between Indian and Western architecture. The first is that when you leave a cathedral or a town hall you remember a place or an architect, but when you leave an Indian palace, or tomb, or religious building, you remember a deity or a potentate. The Indian builder did not build to express himself or his people; his object was to express his patron or his patron's divine patron. To us it seems contrary to the course of nature that an artist should overcome egoism; to them it seemed quite obvious, and from the earliest times Indian architecture has been psychological and in the subtlest sense pictorial. This is not merely a result of the Moslem invasion. It is not true that owing to the Islamic prejudice against painting the architects of the Moguls were suddenly forced to express in stone what should have been expressed in paint. The Hindus had already been masters of painting for centuries, but they preferred to express divine or human characteristics in stone.



THE PEARL MOSQUE: A DETAIL

The archæologists are now beginning to explain to us the infinite symbolism of the old Hindu temples. We now know that when the architects of Humayun's tomb, of Fatehpur, of the Delhi fort, and of the Taj, made stone symbols of a bold and rather stolid invader, of a magnificent and intellectual prince, and of a monarch in his pride and in his lyric sorrow, they were doing nothing without precedent; they had already been talking about their own gods in the same language for hundreds of years. In an English building it is irritating to be told constantly, "This is the place where . . . . ." But in Delhi fort it is of the essence of the artist's purpose that you should be told it without remission. This, then, is the place where Shahjahan lived in his glory, among his women, his courtiers, and his flowers, and in the words of the very familiar inscription: "If there is a paradise on the face of the earth, it is this, it is this, it is this." "How comely it is and how reviving!"

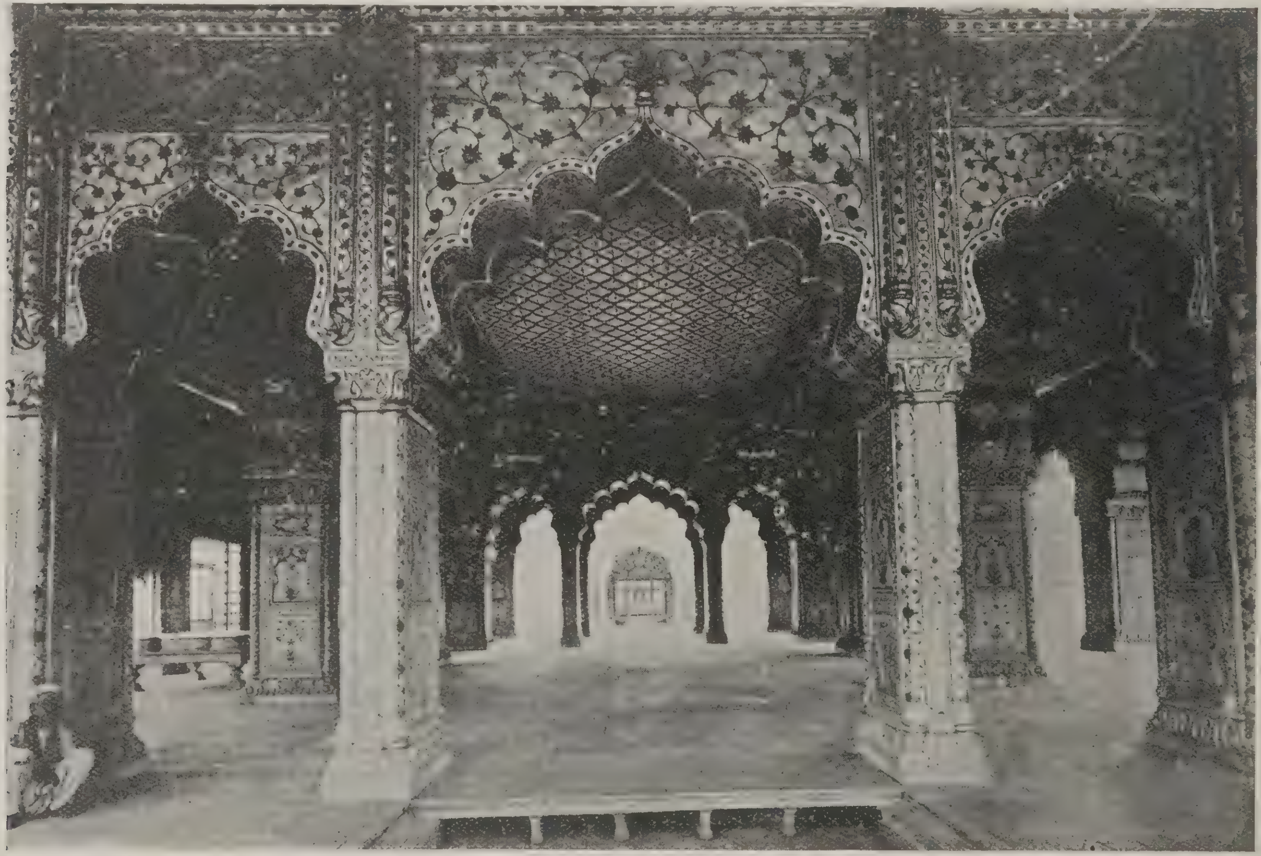
The splendour of Delhi fort still survives, though it is no longer the dream-like city castle of Shahjahan. The Peacock Throne has gone, the copper domes of the Pearl Mosque have been stolen, the silver has been taken from the ceilings, semi-precious stones have been prised out of the walls; in fact, everything that was portable and could be sold has disappeared, and the British *raj*, in a Cromwellian mood, pulled down many lovely buildings to make way for barracks and sergeants' latrines, and knocked about one of the remaining buildings to make it more suitable for a messroom. The enlightened *raj* of this century, led by Lord Curzon, has been extremely anxious to repair the damage and to prevent any new outbreaks, but the harm is largely irreparable, and the latrines and barracks are still there.

The fort is yet a very wonderful thing. Shahjahan's splendour and voluptuousness are still visible in his almost effeminately graceful pavilions. In the famous Diwan-i-khas, or privy council chamber, it is impossible not to feel his gaudy presence. The coloured lights and the costumes of his nobles were reflected in a canal which runs down the middle of the hall. Outside were the flowers and the Jumna. The coloured hangings and the jewelled and enamelled walls must have given the last touch to a scene designed to give effect to the inscription on the ceiling, and reproduce the Islamic conception of paradise. Feminine influence is very clear throughout the fort. The Hellenistic grace, the peep-hole constructed to satisfy the harem's curiosity, the phantasmal prospects, and the importance of the gardens, all denote the monarch who loved his women. Some of the glimpses of the gardens are so extraordinarily charming that it seems as if the pavilions had been made for the gardens and not the gardens for the pavilions. This relationship between palace and garden is a special characteristic of the uxorious fort, and is also to be seen at the Taj, and at Tahangor's tomb at Lahore. It constitutes the second difference between Indian and Western architecture which, at once attracts an observer.

THE PEARL MOSQUE, DELHI FORT

In England a garden is a desert for several months of the year, and across the windows of the house winter curtains are drawn. In the Indian light and heat the flowers and grass are as beautiful as any building can be, and doors and windows, except for a few weeks, are not discoloured with rain. The garden is therefore the better part of the house, and in architecture the Indian love of gardening comes out strongly. The only really delightful spot in the obscure station where I live is the garden in the station gaol.

The big Delhi mosque was built by Shahjahan. The size is tremendous, and the effect of size still more so. If there is a symbolical motive here too, it is to represent God as an immense and merciful void, a contrast in idea to the triumphant worldliness of the great fort.



AN INTERIOR IN THE DIWAN-I-KHAS THE HALL OF PRIVATE AUDIENCE.

The Reconstruction of Piccadilly Circus

By W. HARDING THOMPSON, A.R.I.B.A.

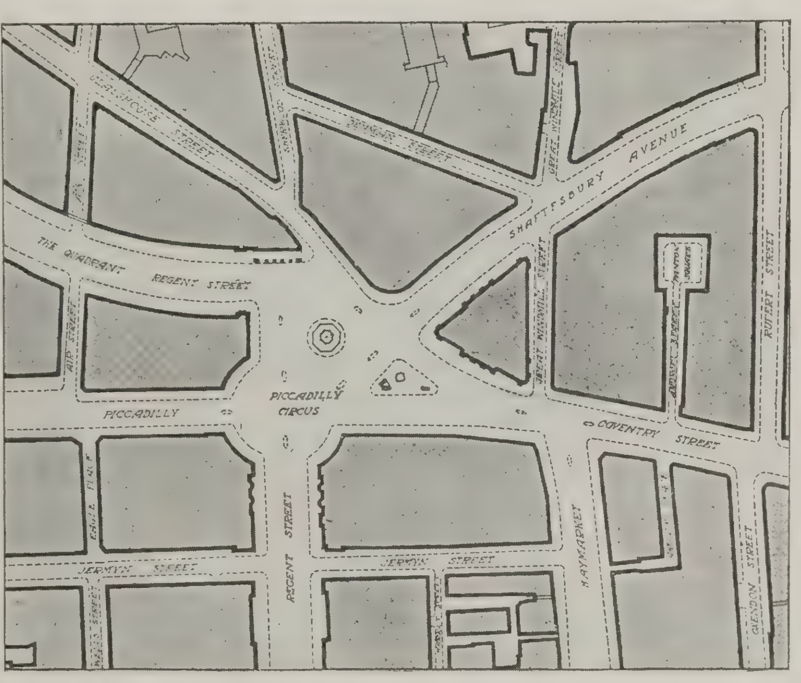
IT was but a few years after John Nash had completed his scheme for building Regent Street in a manner worthy of a great city that London began to suffer from the chronic disease of congested arteries due to a sudden growth in population and consequent increase in traffic difficulties. The pleasant little circular place in the new shopping area, with its roads intersecting at right angles, became no more than a street-crossing treated architecturally.

Compared with the traffic centres at the Bank and Trafalgar Square, the volume of traffic was still comparatively little, but with the advent of the Railway Age came those convulsive "growing pains" which affected the plans of Paris, Berlin, and Vienna no less than London.

Regent Street had been cut through dilapidated property by Nash to form what was and still is one of the most popular shopping streets in Europe.

Subsequent new streets leading to Piccadilly Circus were constructed primarily for a different purpose; they formed a part of London's growing system of arteries. Old Coventry Street, after passing through "Leicester Field," was soon connected directly with Long Acre and Covent Garden by a new street, and it became a valuable east and west traffic thoroughfare.

Bloomsbury, still growing and fashionable in the early nineteenth century, required a better connection with the West End, and this was accomplished about 1850 by Lord Shaftesbury's scheme for cutting a new street through slums direct to Piccadilly. Hence Shaftesbury Avenue, although necessary as a traffic connection between the Northern Railway termini and the West End, may be said to have created the main difficulty in the future architectural treatment of Piccadilly Circus, now a traffic centre of the first importance.



PICCADILLY CIRCUS AS IT EXISTS TO-DAY

It would appear highly improbable that Nash, when he conceived the idea of making a small circular place, had any conception that his shopping centre would have to deal with an immense volume of traffic, or be the amusement centre for every English and foreign visitor to the metropolis. The old Circus, therefore, in its restricted form, has to go, and the problem before Londoners now is to provide an open space large enough to deal with the future pressure of traffic, and, equally important, possessing an architectural unity and dignity in place of the existing muddle and frenzied exhibition of blatant advertisements. Let it be gay if you will, but the result must refute the statement that we are but a nation of shopkeepers.

If the ground were in the hands of a great number of owners, the problem of co-ordinating the different building enterprises would be extremely difficult; but when only two powerful authorities are concerned, H.M. Office of Woods and Forests and the L.C.C., it is surely possible to obtain that control of building operations which will ensure a readjustment of building lines and treatment of the façades as an architectural entity. We hope so.

At least two carefully considered schemes for remodelling the Circus have been before the public during the last twenty years; one by the late Mr. Norman Shaw, R.A., in 1906, and one by Mr. John Murray, of H.M. Office of Woods and Forests, a few years later. There have also from time to time been other suggestions for dealing with portions of the whole.

With regard to Mr. Shaw's scheme, although we may not agree with the heavy-handed modelling of the façades, it must be admitted that the new frontage lines he suggested would provide an open space of suitable shape as a traffic centre and capable of dignified architectural treatment.

As will be seen in Mr. Shaw's plan, his chief proposals were as follows :—

(i) The original Circus shape to be abandoned and replaced by square recessed façades at the north end of Lower Regent Street; the whole of the island site between Air Street and the Circus being rebuilt on its new building lines.

(ii) The County Fire Office, rebuilt, still to close the vista from Lower Regent Street.

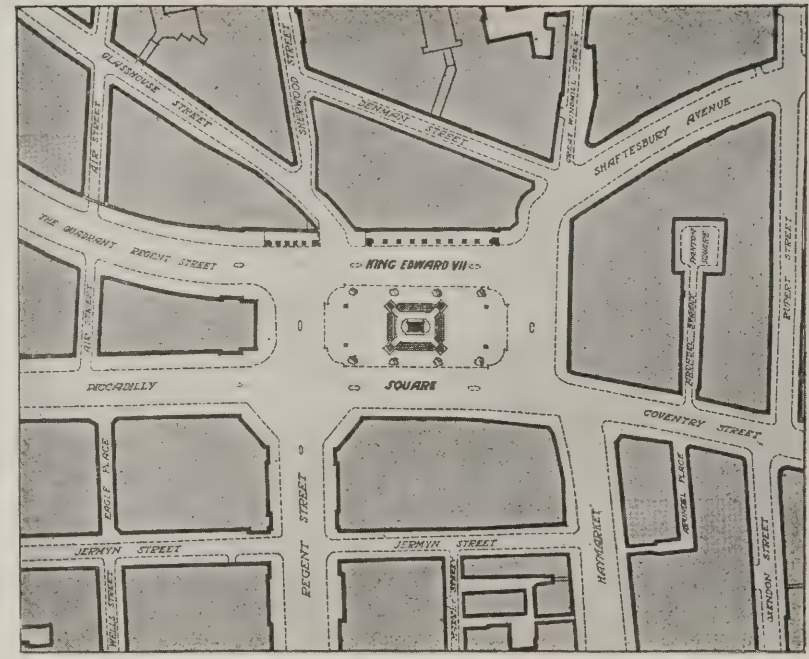
(iii) Glasshouse Street to be diverted just before entering Piccadilly Circus under an archway. (This would ensure a continuous façade to the north side of the new square.)

(iv) Shaftesbury Avenue to be diverted where it enters the Circus so that its northern side conforms with the proposed new façade to the Fire Office.

(v) The London Pavilion to have a new western façade to face "Swan and Edgar's corner."

In reviewing this scheme it should be noted that Mr. Shaw adhered to two sound principles in town planning, viz., that the greatest effect in open spaces can be obtained only by the use of simple shapes; and, secondly, that in a congested traffic centre it would be folly to build on what is already open space merely in order to give the "place" a definite architectural shape; consequently, with the exception of the proposed Pavilion portico, he refrained from encroaching on the present open space available, and he boldly proposed to pull down the Café Monico corner, thus making the new "square" approximately a rectangle 300 ft by 250 ft.

This then would represent a nett loss in ground area to the L.C.C., but on the other hand the scheme would entail (with the exception of the Café Monico) merely property ripe for reconstruction and potentially of great value. These particular buildings have already been abandoned in favour of spluttering night signs. Although one may criticize the twisted entrance of Glasshouse Street into the



PICCADILLY CIRCUS: JOHN MURRAY'S SCHEME

new Square, it must be admitted that the County Fire Office, whether rebuilt or not, forms a fitting climax to Lower Regent Street, which would not be provided by any building behind it.

Mr. Murray's scheme was bigger and more drastic, for he proposed to pull down the whole of the London Pavilion island property, so that the east side of Great Windmill Street would become the east side of the new Piccadilly Square ("Edward VII Square," as was suggested in 1909).

Although Mr. Murray's new square would undoubtedly provide a magnificent open space of good proportion, it would probably present a problem quite beyond the power of the present L.C.C. to grapple with, as the Pavilion site value cannot be disregarded lightly under post-war conditions. Again, the whole of the east side of Great Windmill Street would have to be rebuilt to obtain the architectural unity required; this would involve at least two large restaurants and St. Peter's Parish Church.

One objection may be raised to clearing the Pavilion site, and that is that Great Windmill Street serves a very definite function as a relief road for traffic making a short cut from Shaftesbury Avenue to the Haymarket without going through Piccadilly Circus. This cannot be regarded as a serious obstacle to the execution of Mr. Murray's plan; in fact, we may even find that Mr. Shaw's proposed square will prove inadequate in twenty-five years' time, in which case it would be necessary to clear the Pavilion site, thus providing a total open space about equal to Hanover Square.

It is difficult to estimate even approximately the expense incurred in compensation for unexpired leases without the necessary figures, but whatever the obstacles may be in the path of the L.C.C., two essentials must be provided to ensure that the new "Piccadilly Square" is a success: (*a*) rigid control over the design of the façades (taking our lesson from Parisian discipline in this matter); and (*b*) a simplified form of traffic circulation (gyratory or otherwise).

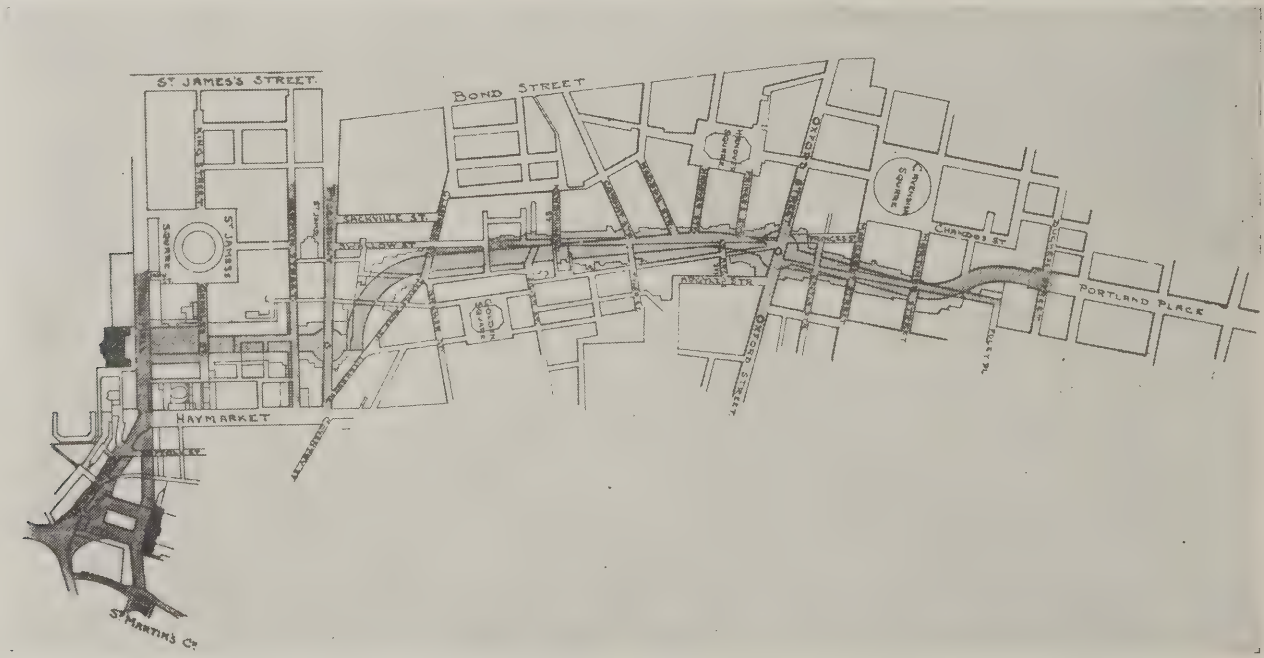
The reconstruction scheme now in progress by H.M. Office of Woods and Forests, under the skilful guidance of Sir Aston Webb and Sir Reginald Blomfield, hardly touches the fringe of the big problem, as it merely deals with the alteration of shape in Nash's original Circus, but it has nevertheless set the architectural standard to which the remaining façades of the "Place" must conform as soon as the L.C.C. carry out their portion of the scheme.

In conclusion, it should be possible, on the ground of economy, to carry out the complete scheme in sections, provided there is a preconceived plan of the whole; and it is hoped that, in connection with the pathetic disappearance of old Regent Street, we may take to heart the lesson it taught us, namely, that street architecture at its best is merely a restrained and rhythmic background to the street scene, with its exciting crowds and gaily coloured vehicles. This undoubtedly is the secret of that charm which was bequeathed to us by the eighteenth century architecture.

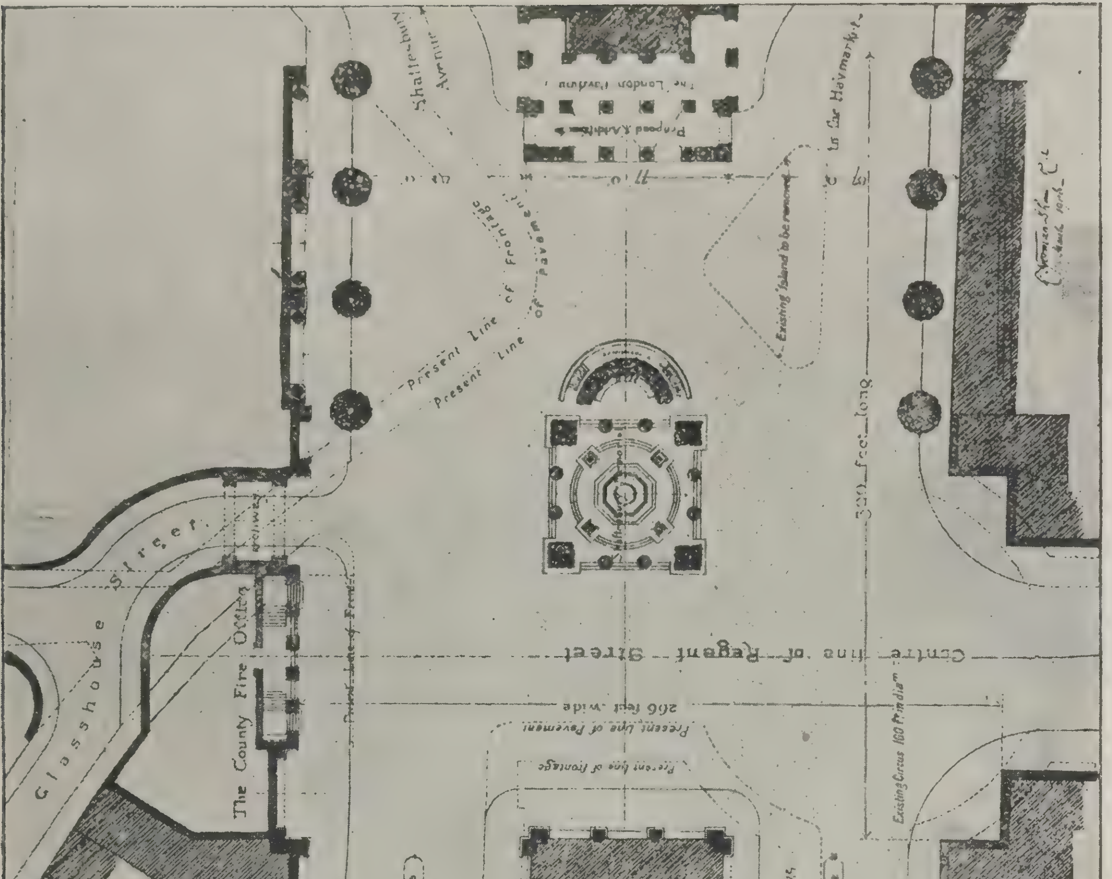
That precious virtue, the subordination of the parts to the whole, is the A.B.C. of Civic Design.

Will the L.C.C. or some superior authority pass on that lesson to the next generation?

Piccadilly Circus should be one of the Focal Points to which European culture can turn. It is worth the heavy drain on our coffers to make it a lasting example of how order may be achieved from the existing chaos.



NASH'S SCHEME FOR PICCADILLY CIRCUS AND REGENT STREET



NORMAN SHAW'S SCHEME FOR THE RE-PLANNING OF PICCADILLY CIRCUS.

The Late Sir Thomas Brock, R.A.

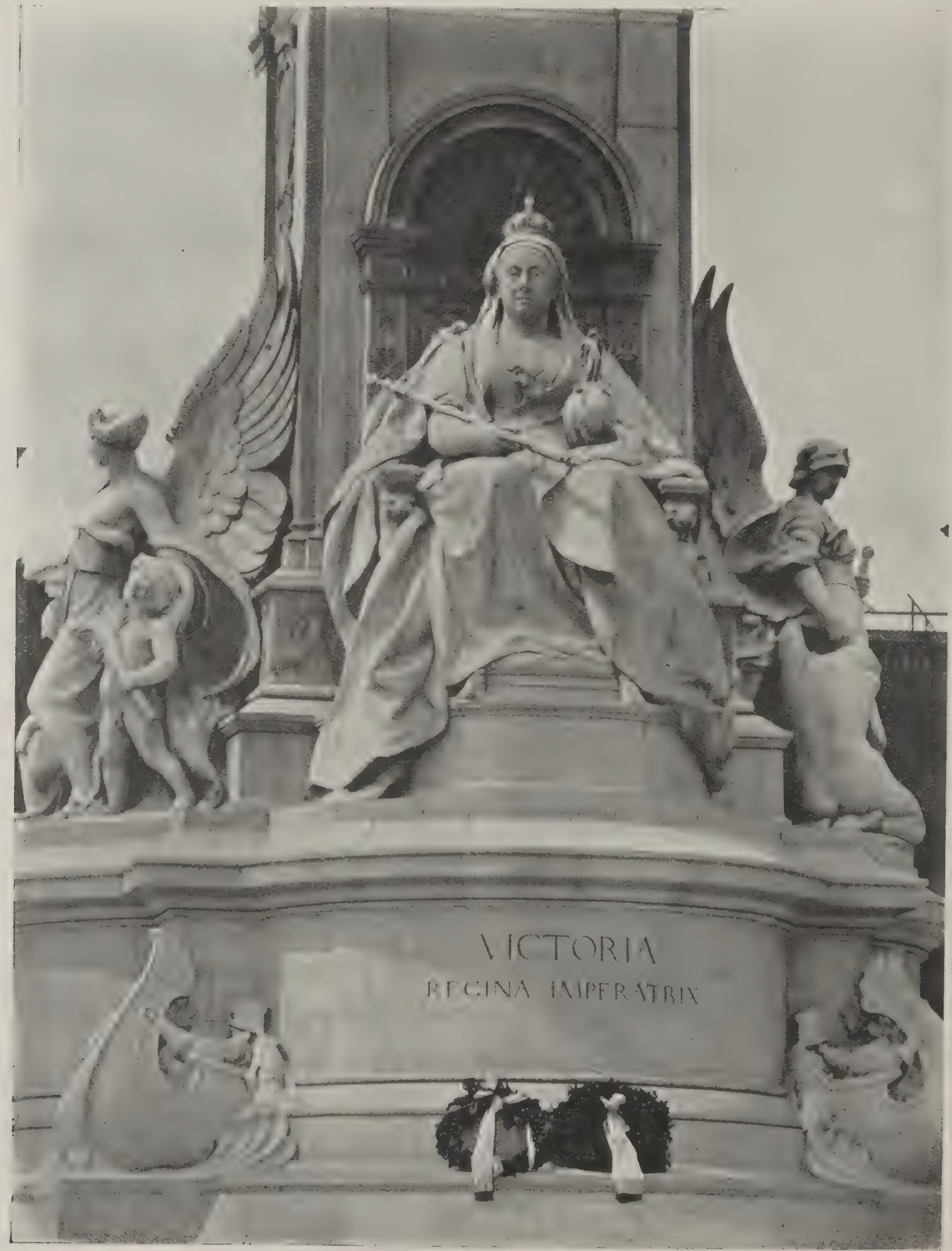
IT is with deep regret that we record the death in London of Sir Thomas Brock, R.A., the sculptor, at the age of seventy-five. Born in Worcester, the son of William Brock, a decorator, he was educated at the Government School of Design in that city, and later entered the studio of Mr. J. H. Foley, R.A., the sculptor, first as student and then as assistant.

In 1869 he secured a gold medal at the Royal Academy, in 1883 he was elected an A.R.A., and in 1891 an R.A., and in 1911 he received the honour of a K.C.B. He was also an honorary member of the Royal Scottish Academy, an honorary associate of the R.I.B.A., a D.C.L. of Oxford, and an honorary member of the Société des Artistes Français.

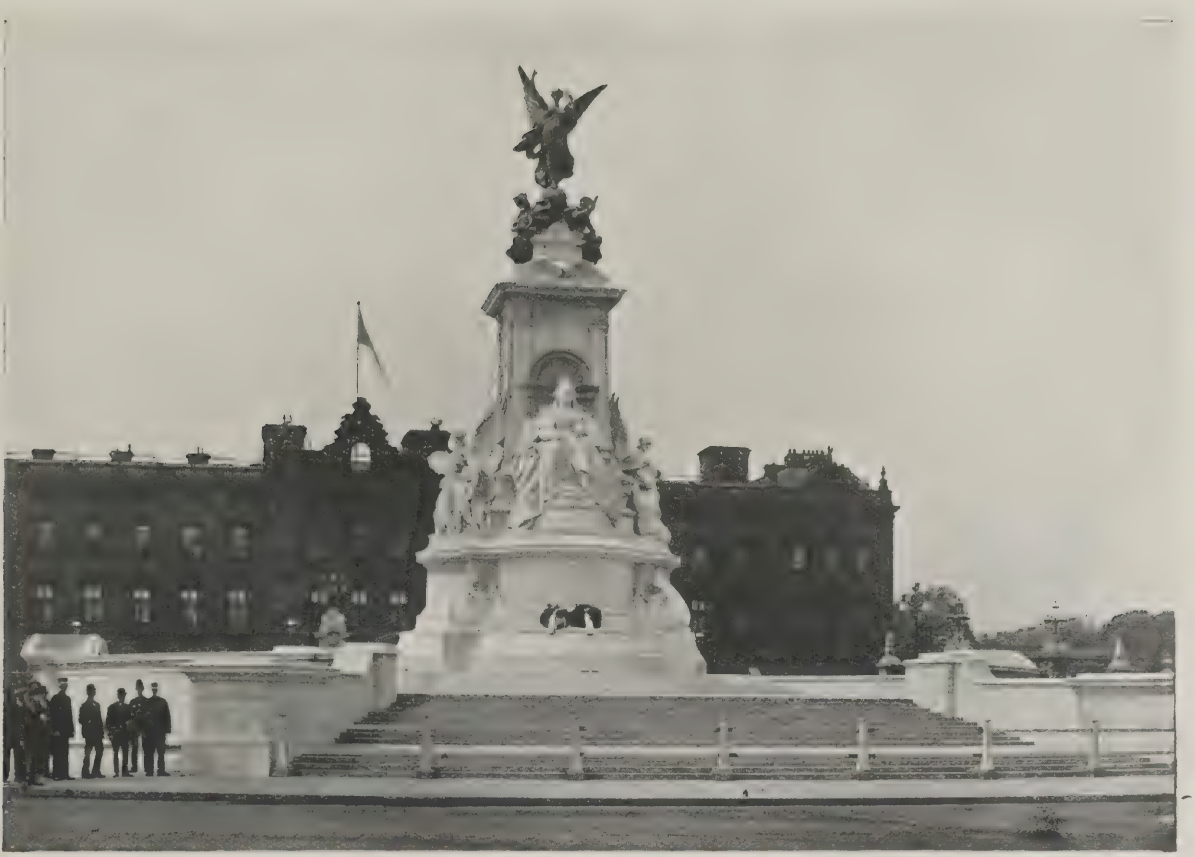
Sir Thomas is best remembered by the public for the Queen Victoria Memorial in front of Buckingham Palace, the Lord Leighton memorial in St. Paul's Cathedral, and the statue of Sir Henry Irving at the foot of Charing Cross Road.

From the year in which Foley died (1874) until 1901, when Sir Thomas was commissioned to execute the Queen Victoria Memoria', which took him nine years to complete, he carried out an enormous amount of work, and it was estimated at the time of his death that he had commissions to occupy him for about ten years.

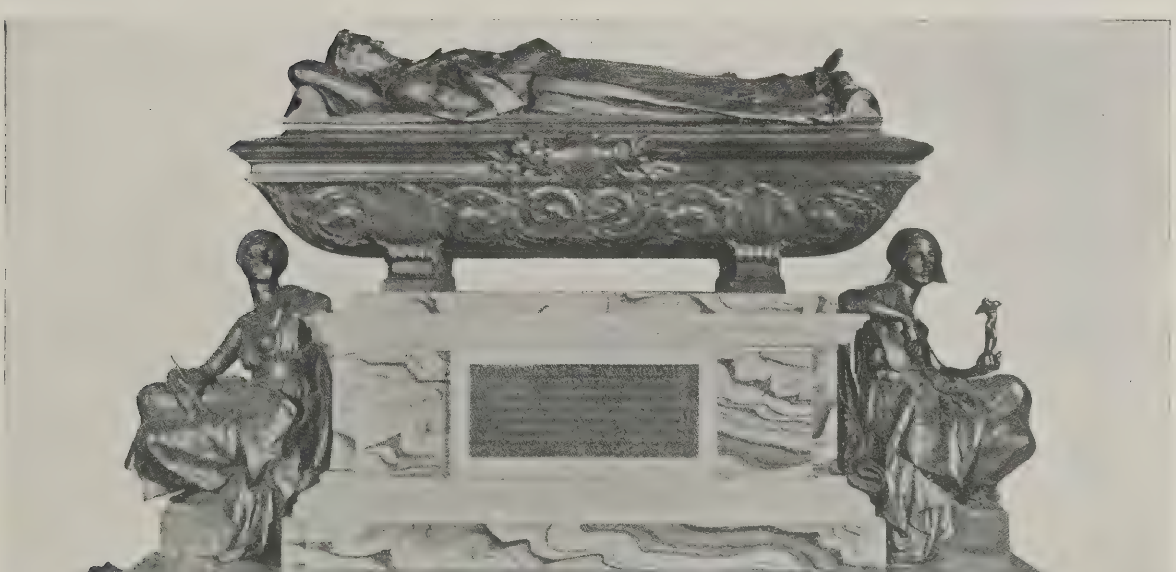
One of his earliest portrait statues was that of Richard Baxter, which he executed in 1876 for the town of



THE PRINCIPAL FIGURE OF THE QUEEN VICTORIA MEMORIAL



THE QUEEN VICTORIA MEMORIAL.
THE LATE SIR THOMAS BROCK, R.A., SCULPTOR.



THE LEIGHTON MEMORIAL IN ST. PAUL'S CATHEDRAL
THE LATE SIR THOMAS BROCK, R.A., SCULPTOR

Kidderminster, and in 1882 he modelled a statue of Rowland Hill for the same town.

London can claim much of his work. Of his portrait statues there are Sir Bartle Frere and Robert Raikes on the Thames Embankment, Gladstone in Westminster Abbey, Gainsborough at Millbank, Captain Cook in the Mall, Lord Russell of Killowen at the Law Courts; and of his monumental effigies there is that of Lord Leighton in St. Paul's Cathedral.

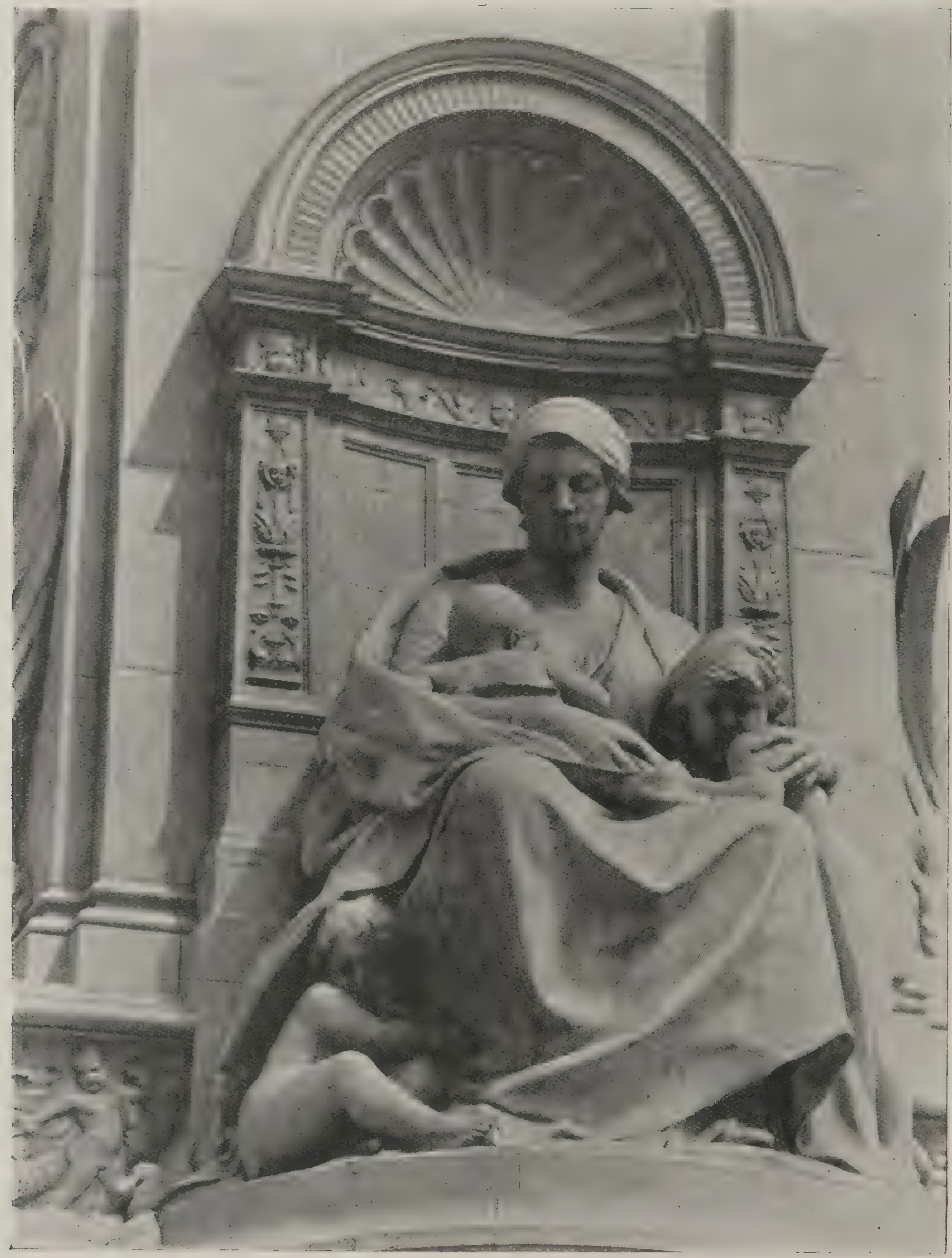
Of his busts, the best known are those of the Marchioness of Westminster; that of Longfellow for the Poets' Corner; of Sir Isaac Pitman; the famous bust of Leighton, which Brock deposited as his diploma work in the gallery at the Royal Academy; his bust of Sir Richard Owen; that of Queen Victoria, exhibited in 1901—one of the best portraits and most satisfactory representations of Her Majesty; and a bust of Sir Henry Tate, shown in the same year. He also executed a fine bust of King Edward VII, one on Lord Lister for the College of Surgeons, and one of Edwin Abbey, R.A., for the British School at Rome.

In addition Sir Thomas executed portrait statues of Sir Richard Temple and of Lord Sydenham for Bombay, and Brigadier-General John Nicholson for Delhi, and a seated figure of Dr. Phillpott for Worcester Cathedral.

He also modelled a colossal figure of the Black Prince for Leeds; and the " Moment of Peril "—an Indian warrior confronted by a huge serpent, now in the Tate Gallery. His charming figure of conventional " Eve " is also housed in the " Tate."

The equestrian statue of King Edward VII at Delhi and many memorial statues of Queen Victoria are by Sir Thomas, and his design for the head of Queen Victoria on the coinage was accepted in 1891.

Sir Thomas leaves a widow and several children.

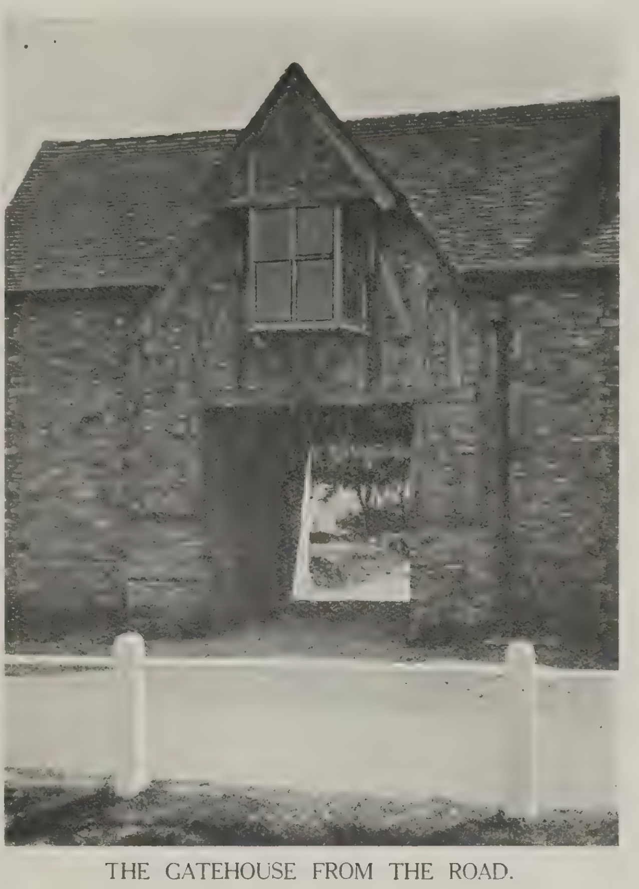


"MOTHERHOOD": A DETAIL OF THE QUEEN VICTORIA MEMORIAL.
THE LATE SIR THOMAS BROCK, R.A., SCULPTOR.

Little Garth, Syresham

By C. H. Biddulph Pinchard, F.R.I.B.A.

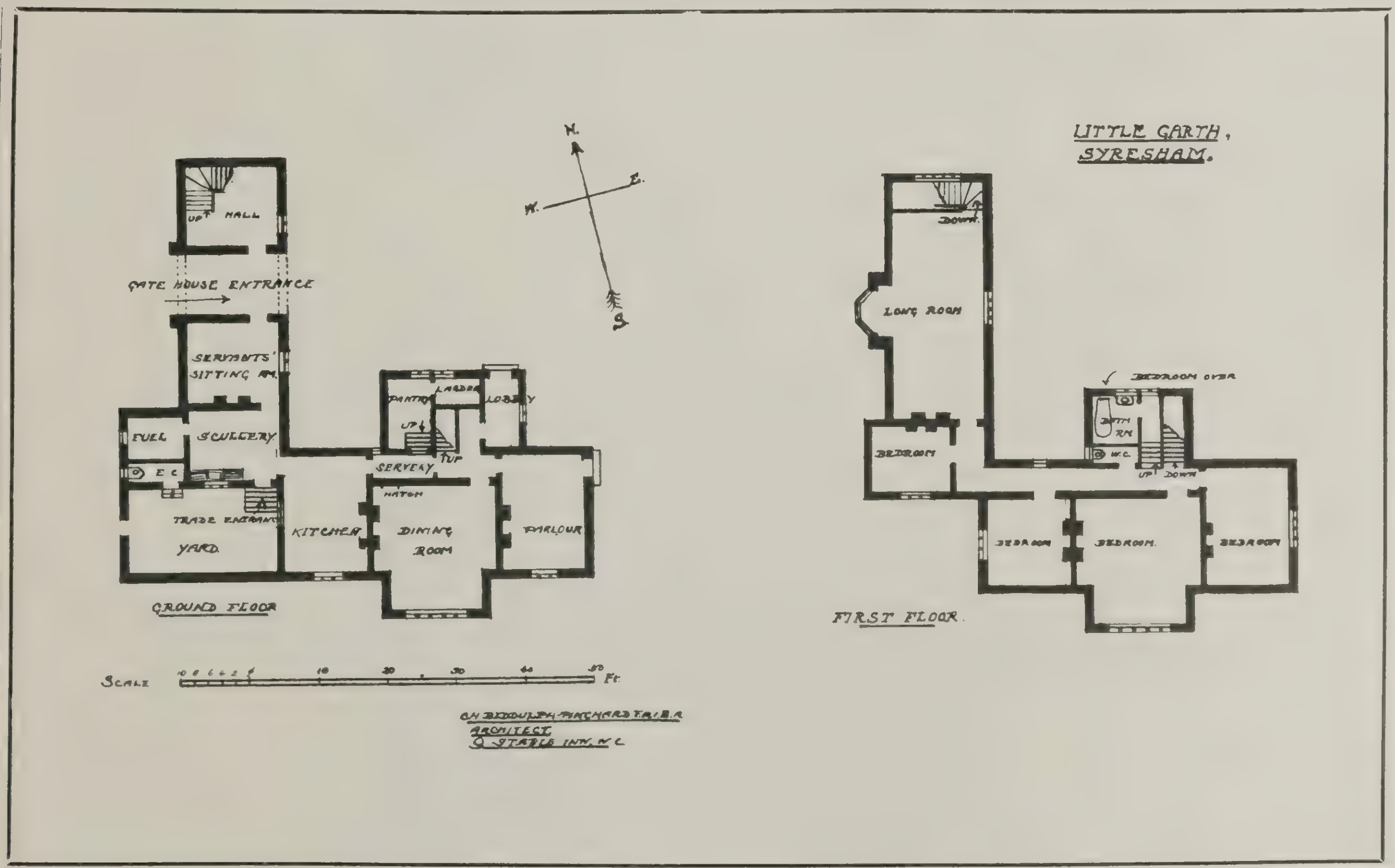
THIS house stands in the old village of Syresham, near Brackley in Buckinghamshire. Mr. Pinchard designed its rather unusual L-shaped plan with a special purpose, for one of the village roads runs flush against the house, which is screened neither by hedges nor by trees, with the result that very little privacy would have been obtained by the owner had the house been built on a square plan. The architect's solution is rather interesting. He has made the house itself act as a screen by running the arm of the L plan along the border of the road, thus obtaining, with the added help of a high bank, complete privacy for the garden and grounds. The entrance is reached through a gatehouse which faces the road, the front door itself opening upon the courtyard within. The opening of the gatehouse goes only to the height of one storey, and is flanked on the ground floor by a servants' sitting-room and a hall. This hall has a staircase which leads up to the great feature of the house—the long room—which runs over the gateway and connects on the first floor with the main landing and various bedrooms. It is thirty feet in length.



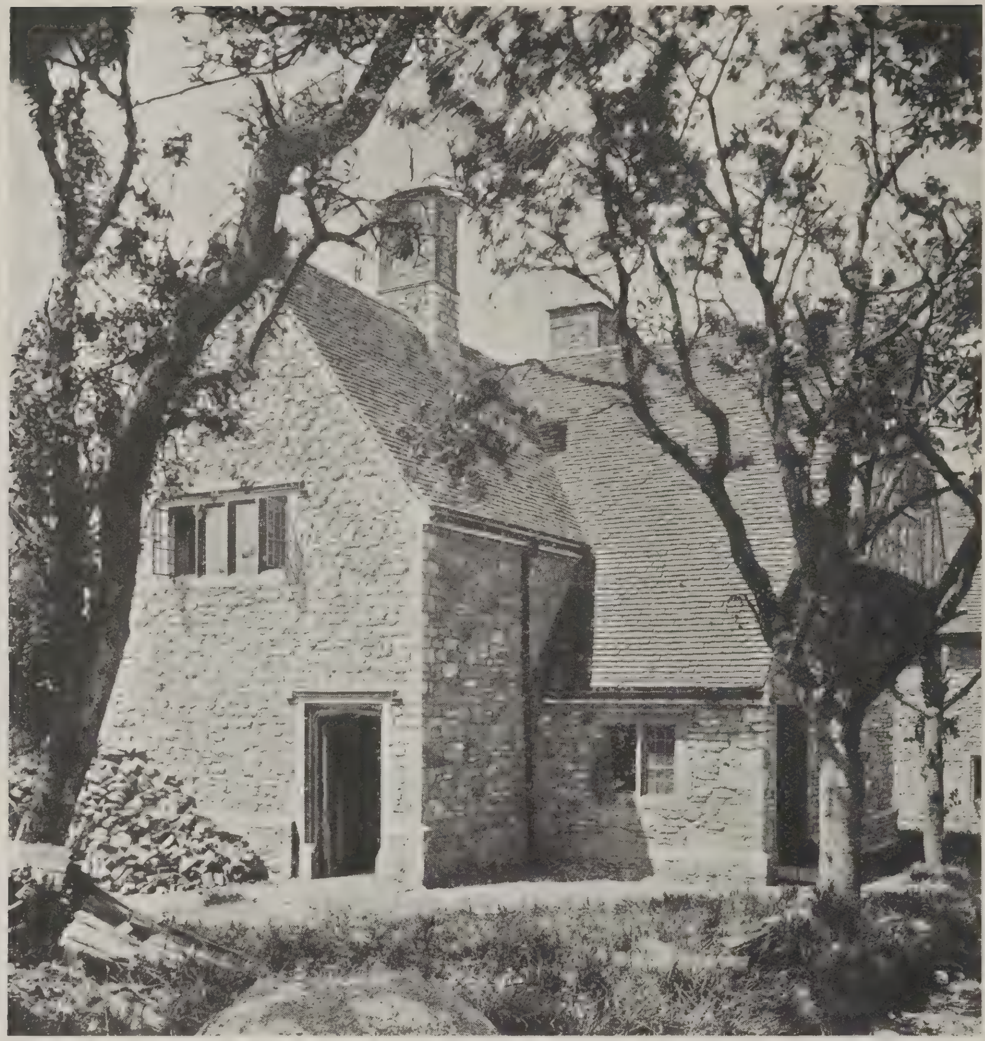
THE GATEHOUSE FROM THE ROAD.

There existed originally on the site of the house some old stone barns and a brewhouse. These have been pulled down, and their materials used in the construction of the new building. A quantity of old oak timbering and oak flooring was also discovered, and these have been put to good use as well as the old stones and tiles. With the old tiles, therefore, and the oak half-timbering, and the rich and mellow colour of the stone, the whole building has assumed the appearance of great age. But there is no faking of materials.

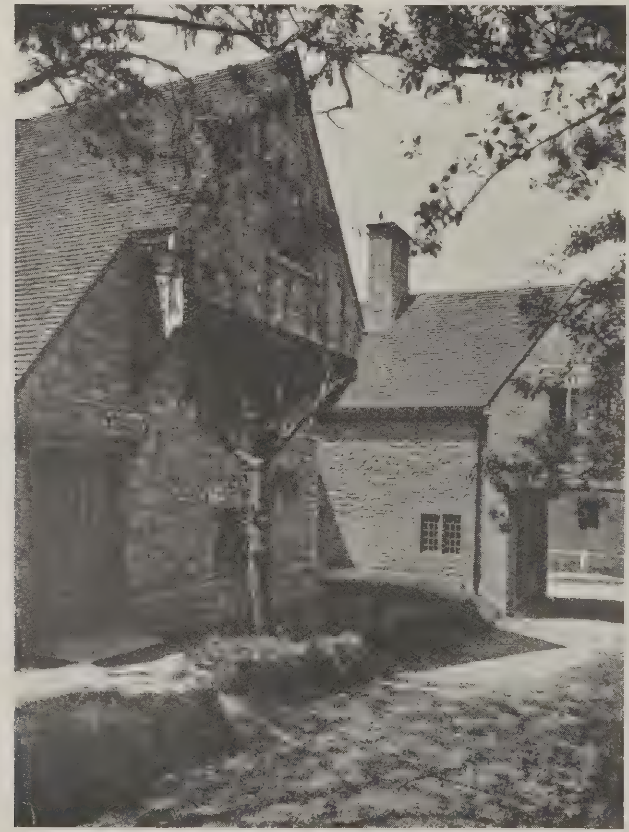
The interior is finished with rather rough plastered and distempered walls, and stone mantlepieces which are founded on the work of the late seventeenth century.



GROUND FLOOR AND FIRST FLOOR PLANS.



A VIEW FROM THE EAST, SHOWING THE PARLOUR ENTRANCE.

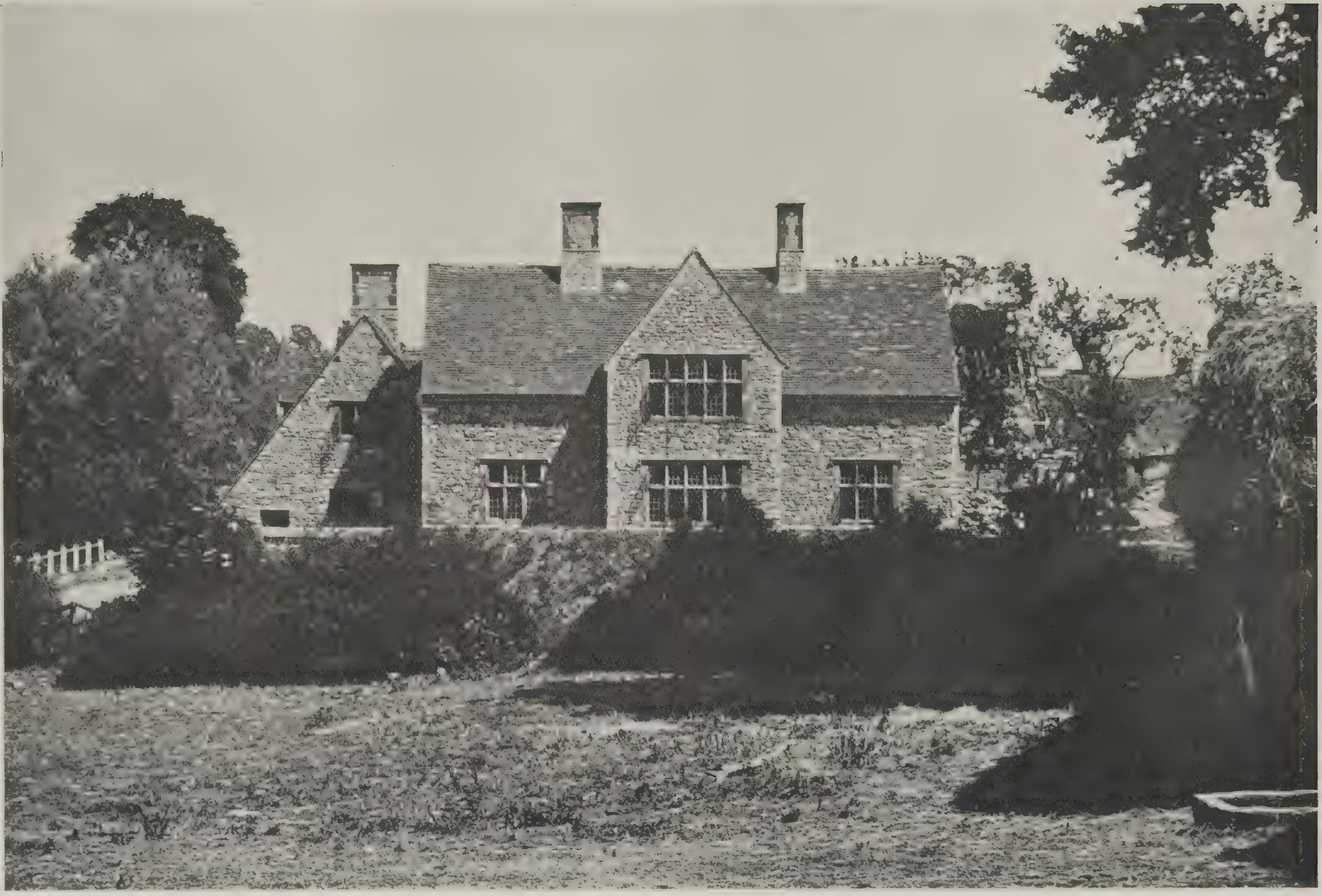


THE FRONT DOOR AND GATEWAY FROM THE COURTYARD.

LITTLE GARTH, SYRESHAM, BUCKINGHAMSHIRE
C. H. BIDDULPH PINCHARD, F.R.I.B.A., ARCHITECT.

Modern Domestic Architecture. 46.—Little Garth, Syresham, Buckinghamshire.

C. H. Biddulph Pinchard, F.R.I.B.A. Architect.



The planning of this house in the shape of an **L** has afforded the architect opportunities of obtaining various quaint and picturesque effects. The site was originally occupied by several old stone barns, which were pulled down, and their stones and tiles used in the construction of the building. Thus no crude appearance of newness spoils either the house or the charming village to which it belongs. The above view is taken from the south; the windows belong to the kitchen, dining-room, parlour, and bedrooms.

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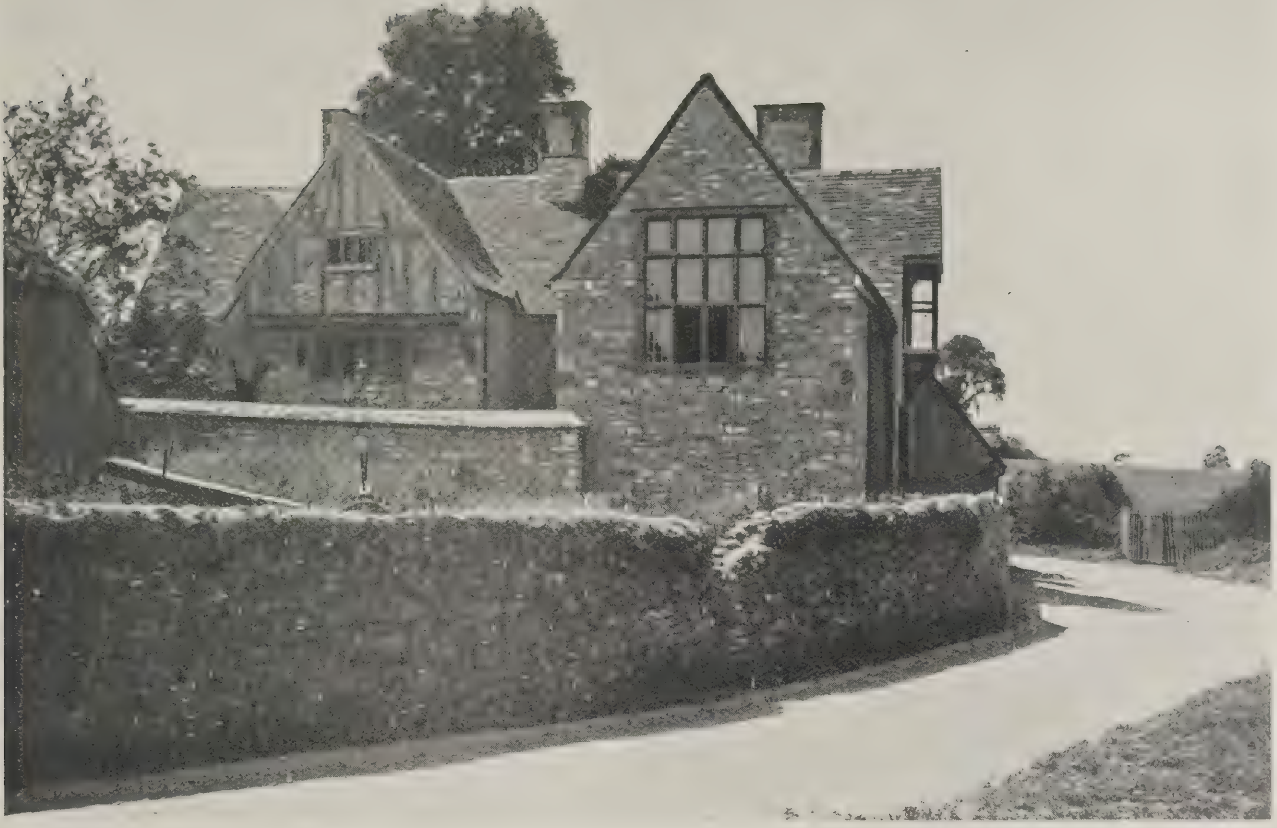
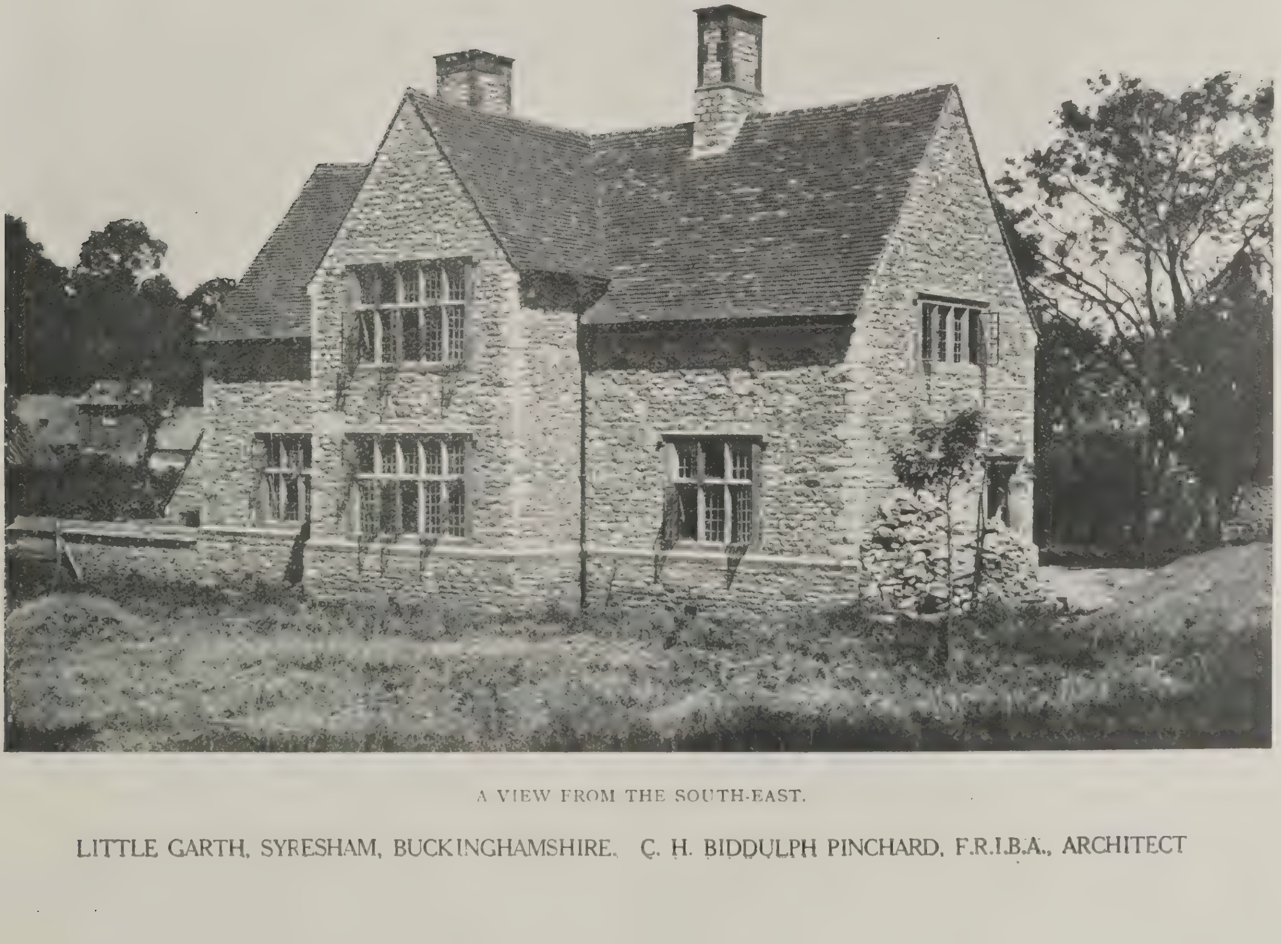


THE HALL AND ENTRANCE FRONT FROM THE NORTH.

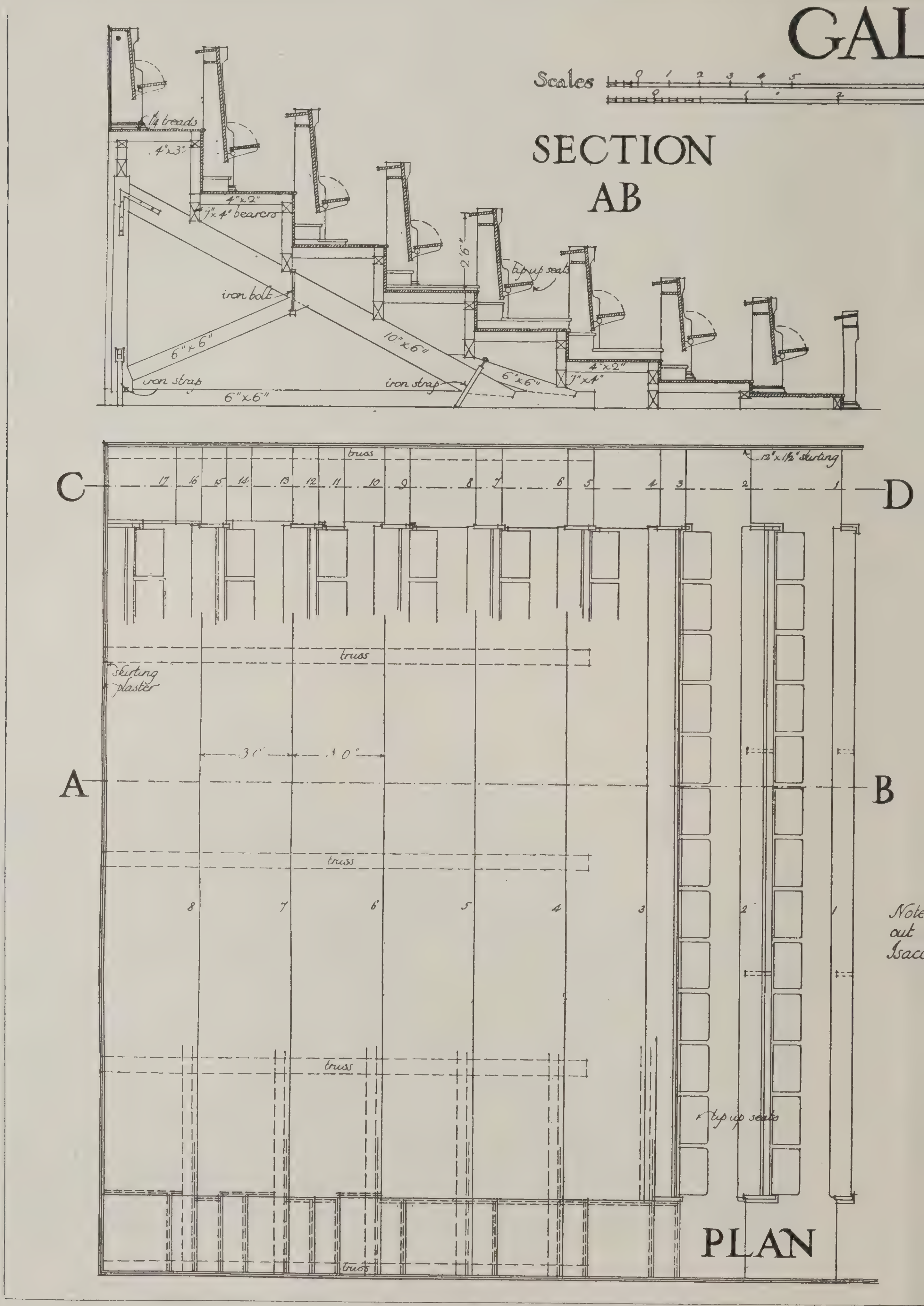


A VIEW FROM THE SOUTH-EAST.

LITTLE GARTH, SYRESHAM, BUCKINGHAMSHIRE. C. H. BIDDULPH PINCHARD, F.R.I.B.A., ARCHITECT

Practical Notes for Architectural Draughtsmen (Series II) Technica

A. W. S. Cross, M.A., F.R.I.B.A., an

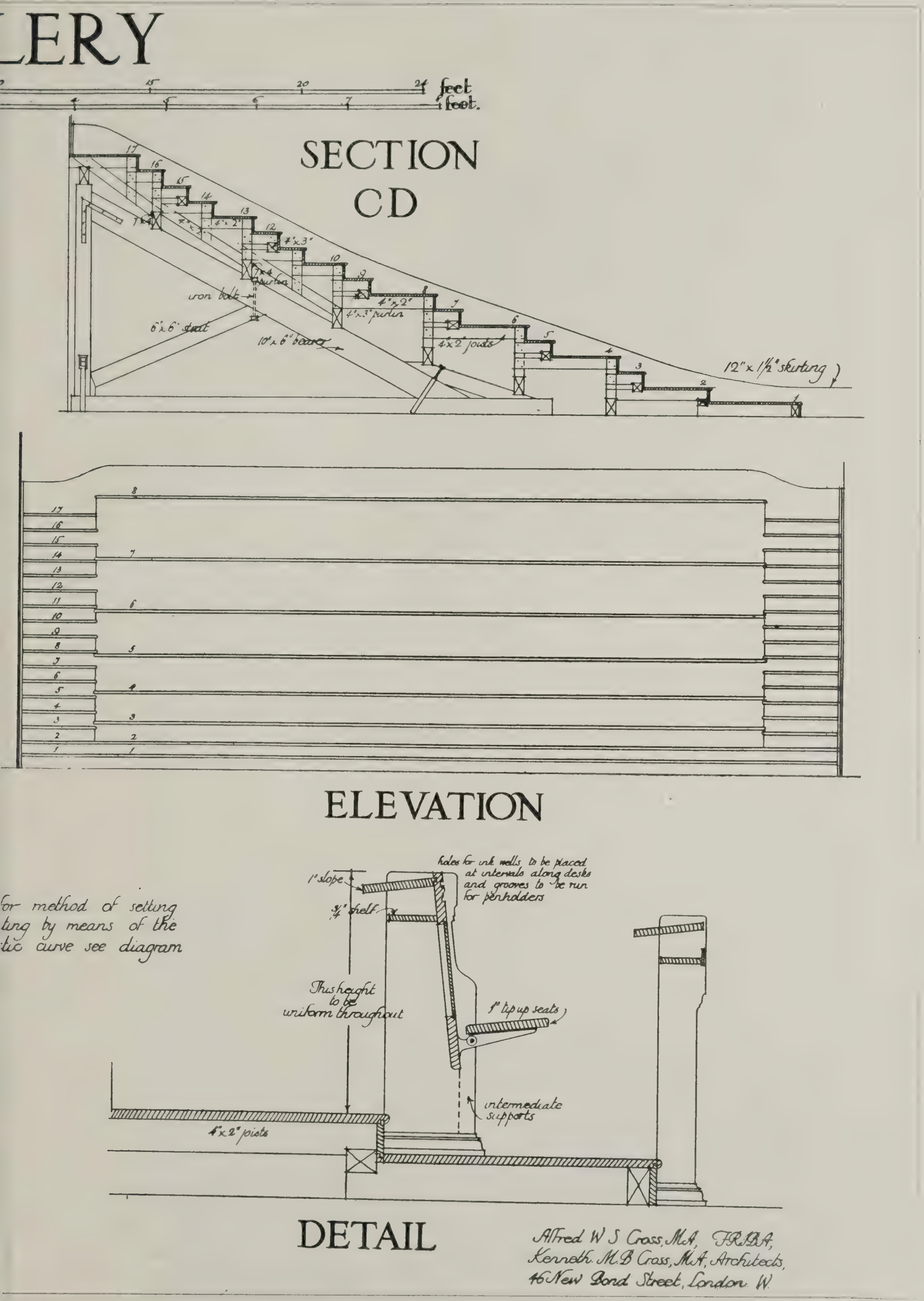


The above drawings show the construction of a rising gallery for a lecture theatre providing accommodation for 104 stu

setting out the seating is ex

Schools and Science Buildings. 15.—Gallery for a Lecture Theatre

Kenneth M. B. Cross, M.A., Architects

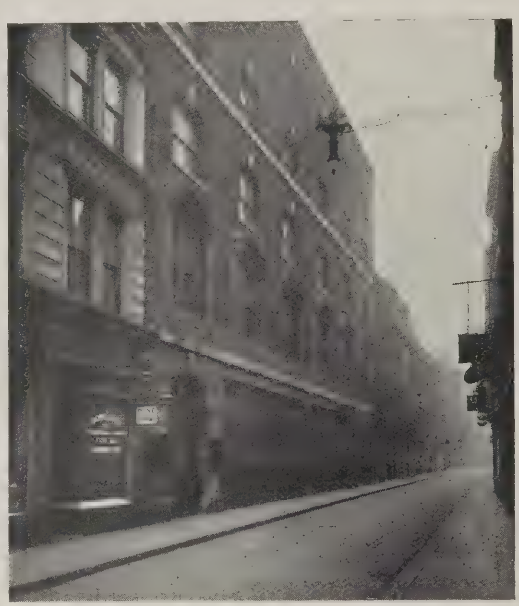


ts. Tip-up seats are provided, together with a book-rest and a small shelf for the use of each student. The method of ined and illustrated on page 297.

The Commercial Cable Company's Offices

By Edward Maufe, M.A., F.R.I.B.A.

ONE of the most important remodelling schemes carried out in London recently is that which has just been completed in Wormwood Street for the Commercial Cable Company. The building, originally an old warehouse, has been "gutted" by the architect, Mr. Edward Maufe, M.A., F.R.I.B.A., and converted into a modern head office for the executive and operating staffs of the company for the United Kingdom.



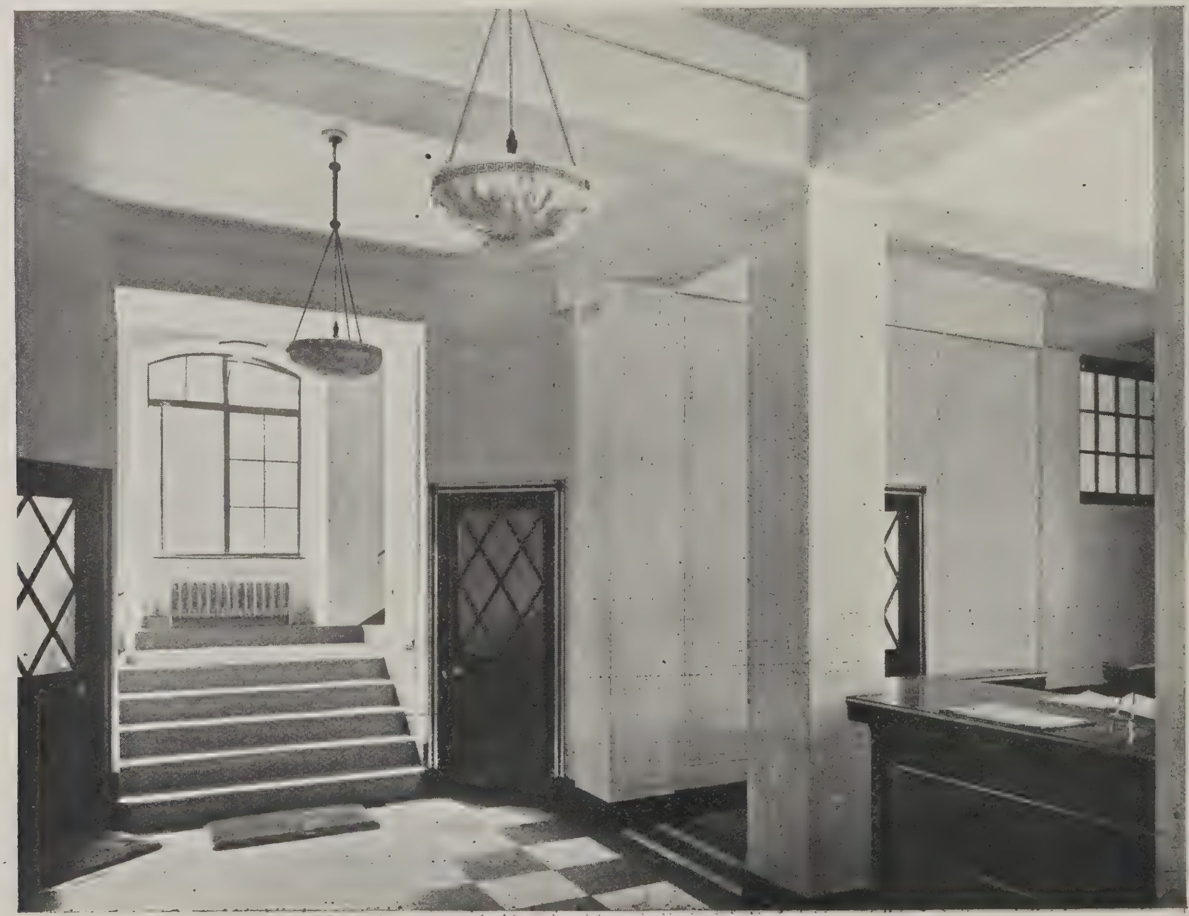
THE OLD BUILDING.

The first floor forms the instrument room, which will place London in instantaneous communication with New York without manual relay.

By comparing the accompanying exterior view of the old building with that of the new, it will be seen that the architect has entirely transformed the appearance of the building while retaining the principal outlines of the façade. Thus the main entrance and the windows occupy their old positions, although the building assumes a new character. Many desirable improvements have also been made. On the ground floor the window space has been given good proportions, the upper windows have been fitted with casement and pivot-hung sashes, and a clock in a case of cedar finished in black and gold has been added.

The rooms are well lighted, and the whole interior has been designed, planned, and equipped with a view to securing the highest efficiency in the running of a huge trans-Atlantic cable company, owning five cables connecting the United States, Canada, and Great Britain. The instrument room is one of the finest possessed by any cable company in any part of the world.

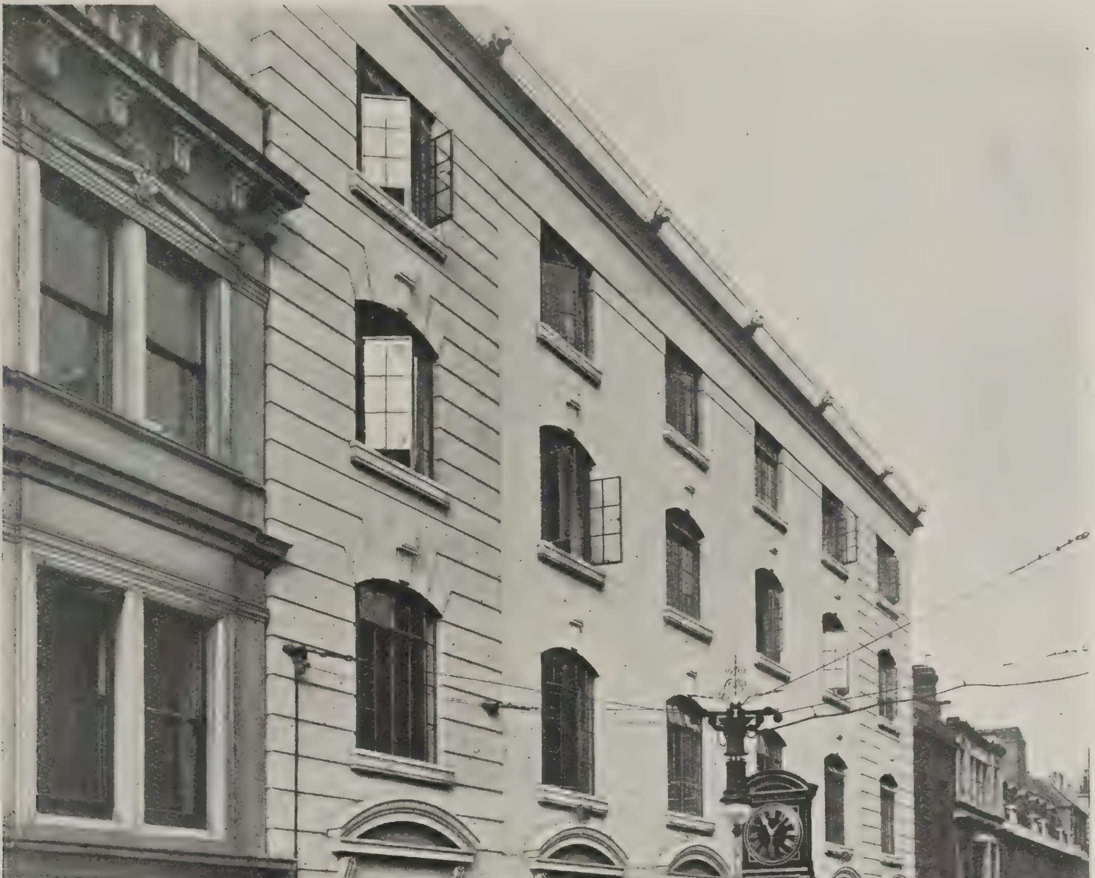
Messrs. Walter Lawrence and Son, Ltd., were the general contractors, the sub-contractors being as follows: Messrs. Smith, Walker, Ltd. (steel construction); Art Pavements and Decorations, Ltd. (wall and floor tiles and mosaic flooring); Henry Hope and Sons, Ltd. (casements and casement fittings); Luxfer Co. (patent glazing and fittings); Bratt, Colbran & Co., and G. Matthews, Ltd. (stoves, grates, and mantels); H. Pontifex and Sons, Ltd. (sanitary ware and fittings); Hollis Bros. & Co., Ltd. (wood block parquet flooring); F. G. Edey & Co., Ltd. (electric wiring); John Tanner and Son (Atlas cement and stuc work); Joseph Armitage (clock case in cedar, finished black and gold); Crittall Freeman Bronze, Ltd. (bronze doors and grilles); F. Geere Howard, Ltd. (electric light fixtures); James Gibbons and Sons, Ltd. (door furniture); Haywards, Ltd. (bronze and wrought iron handrails, balusters, folding gates, shutters, etc.); Waygood-Otis, Ltd. (lifts); Young, Austen and Young (heating and ventilating); Reliance Telephone Co., Ltd. (telephones); Hobbs, Hart & Co. (strong-room doors, safes, etc.); Standard Time Co. (clock); James Gibbons, Ltd. (cloak-room fixtures); Heal and Son and D. Maclean (furnishing); Walter Lawrence and Son, Ltd. (instrument-room fittings, etc.).



THE ENTRANCE HALL.

Current Architecture. 165.—New Head Offices for the Commercial Cable Company, Wormwood Street, London

Edward Maufe, M.A., F.R.I.B.A., Architect



This building has been converted from an old warehouse into modern offices. In designing the exterior the architect has retained the main outlines of the old structure. The manner in which the façade has been transformed may be seen by comparing the above illustration with that of the old building on the previous page.

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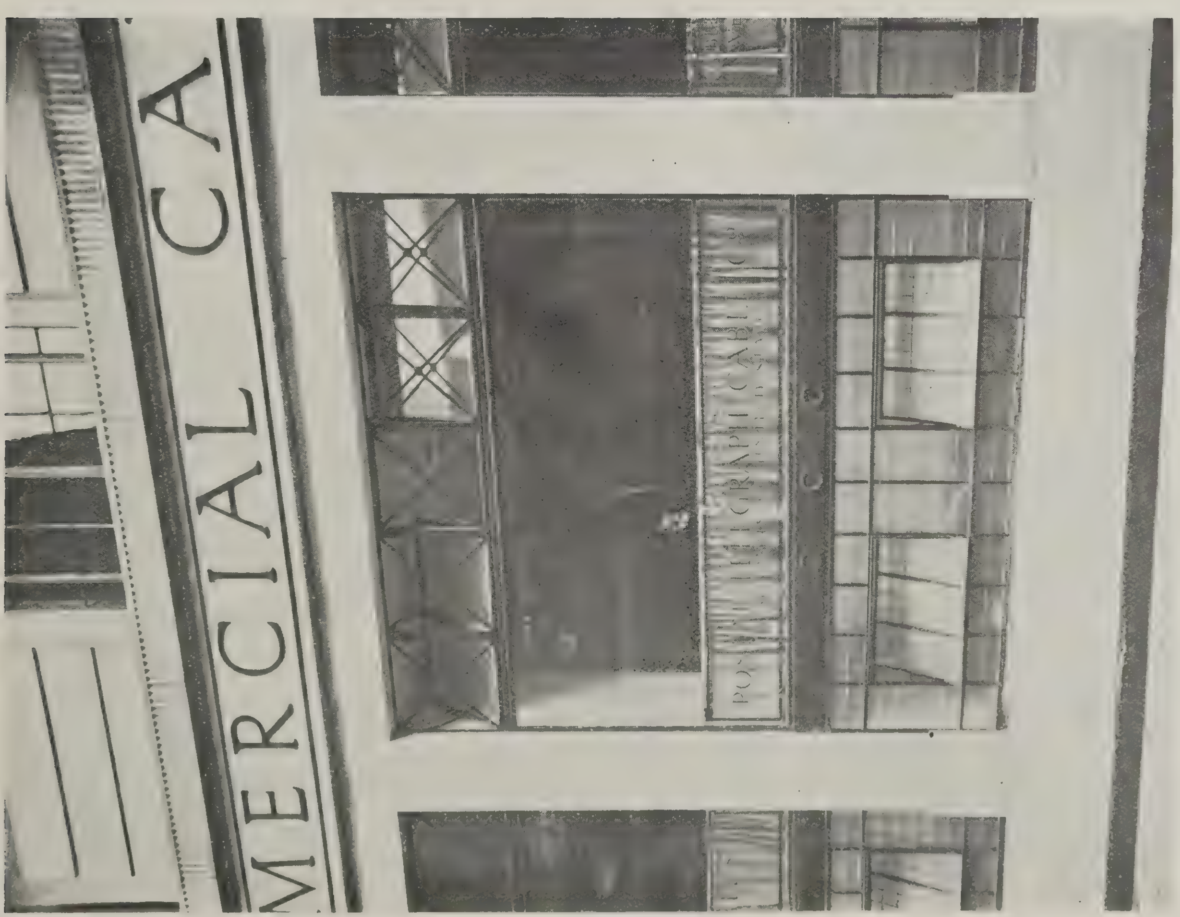
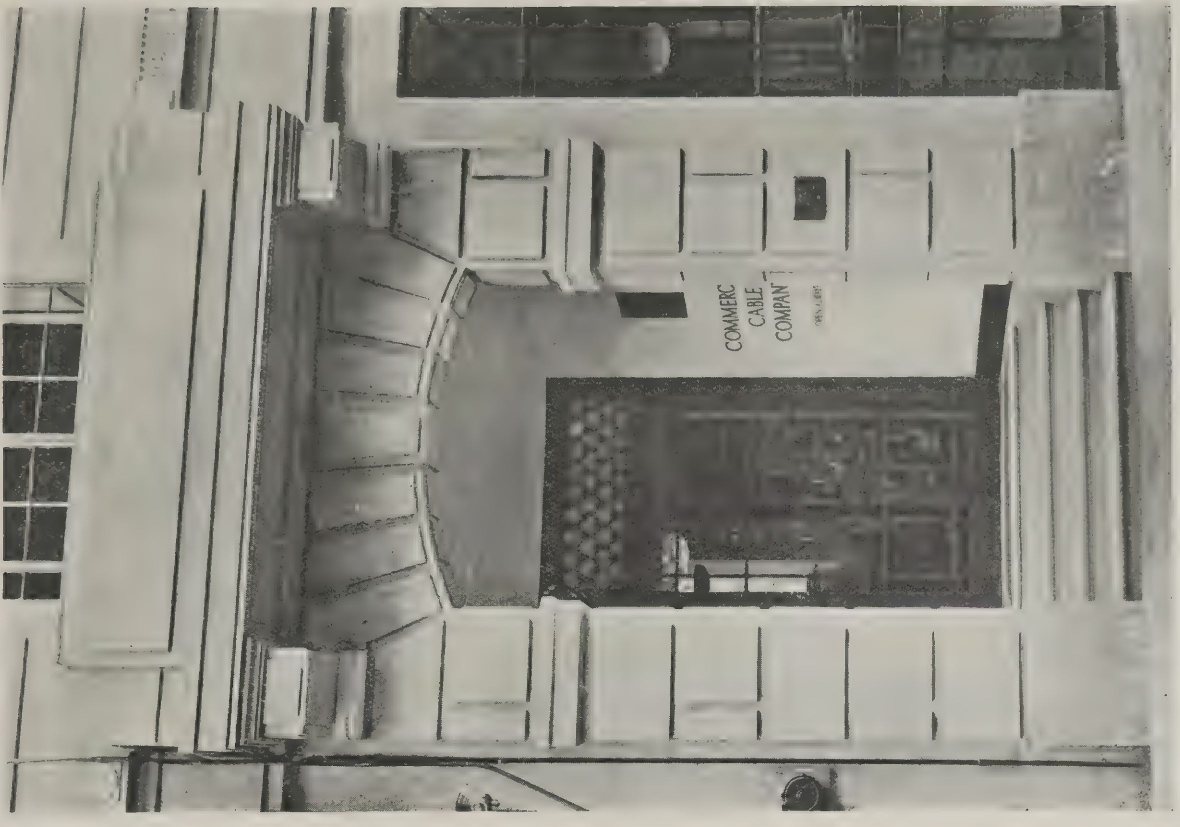
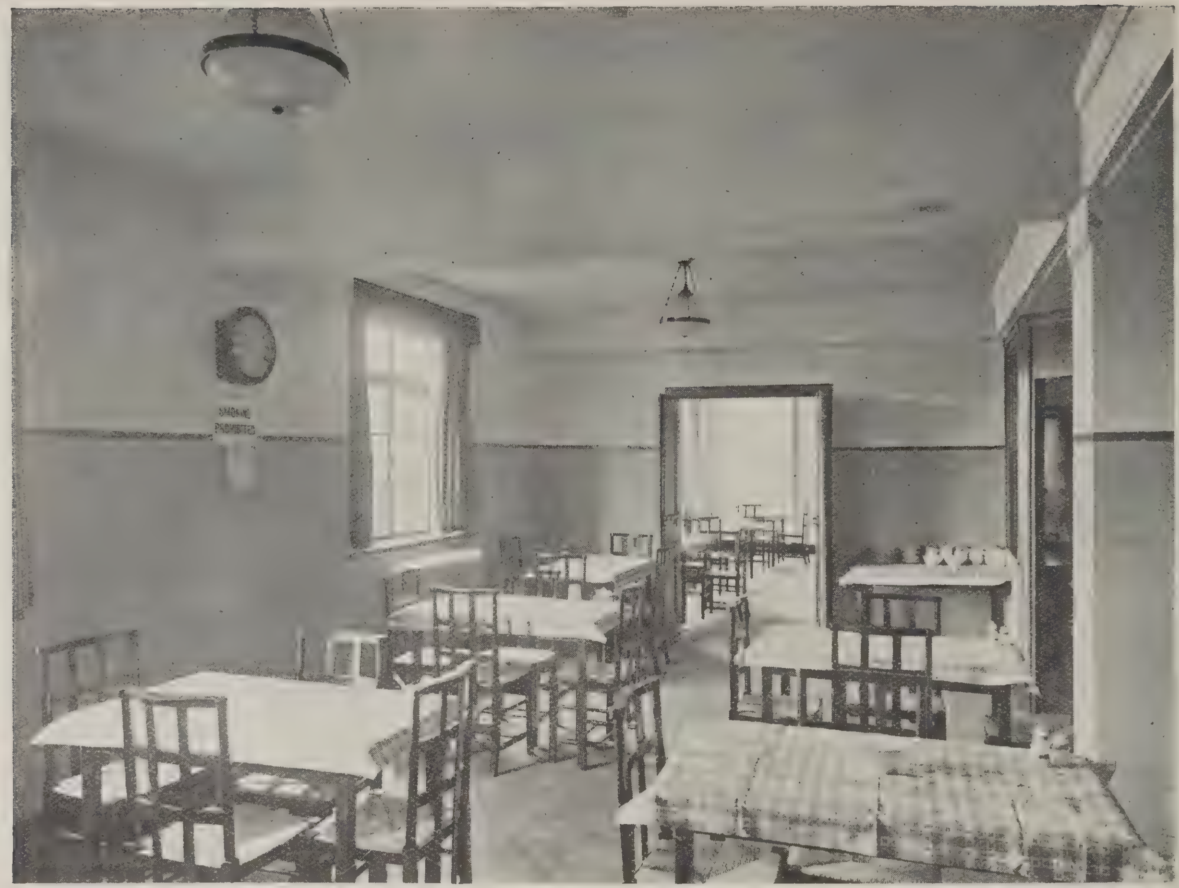


A DETAIL OF THE FRONT.

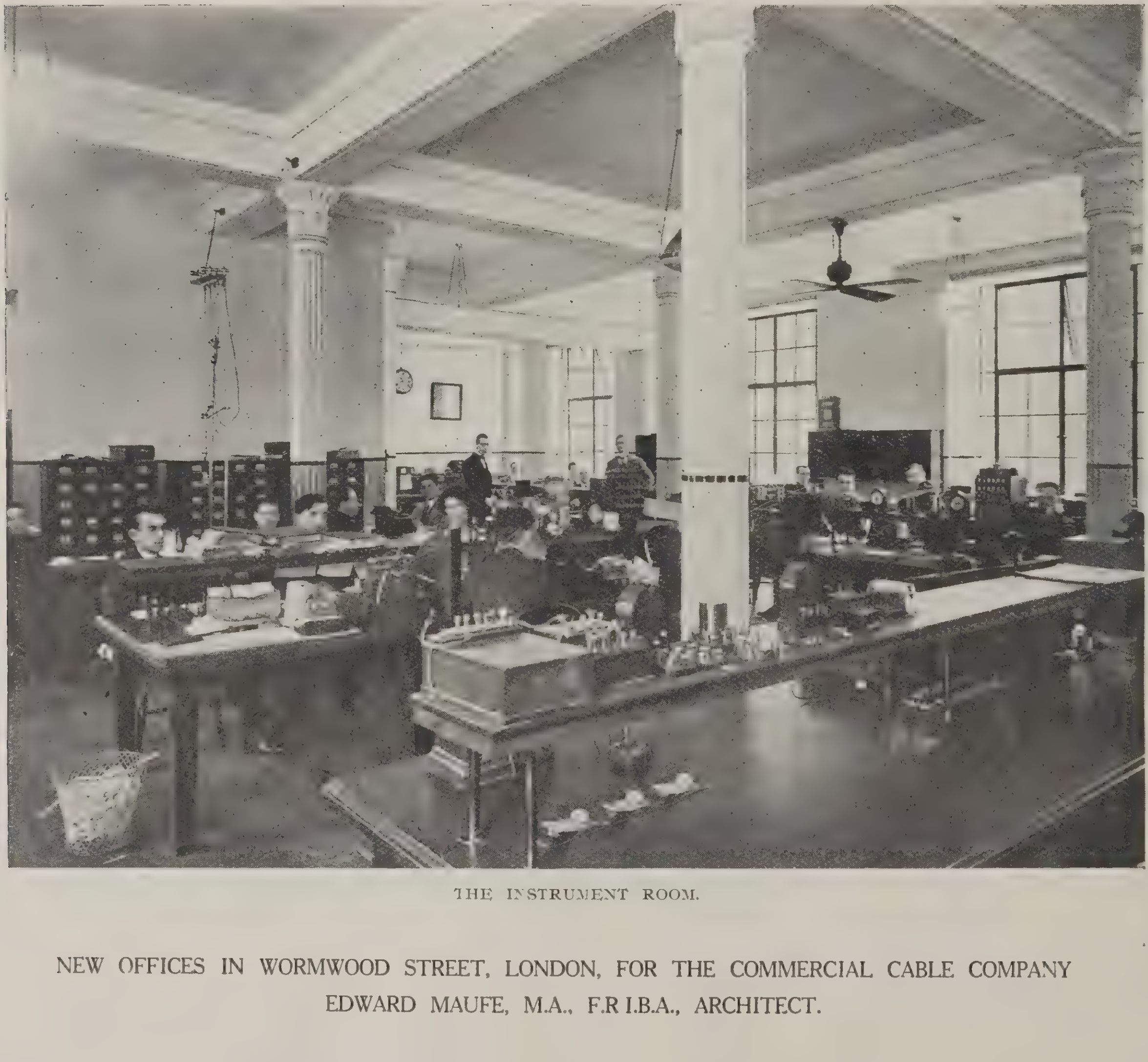


THE MAIN ENTRANCE.

NEW OFFICES IN WORMWOOD STREET, LONDON, FOR THE COMMERCIAL CABLE COMPANY. EDWARD MAUFE, M.A., F.R.I.B.A., ARCHITECT.

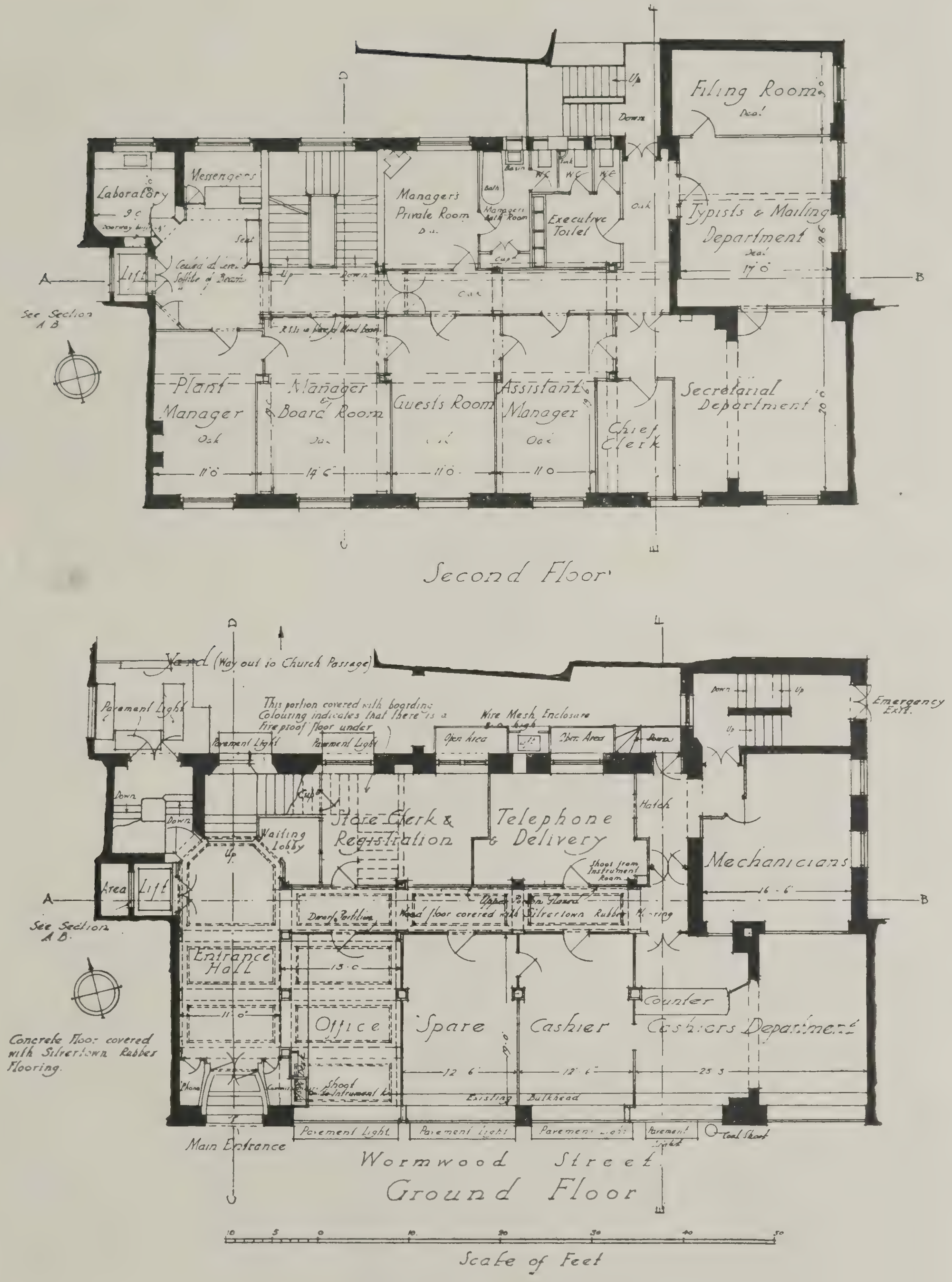


THE MESS ROOM.



THE INSTRUMENT ROOM.

NEW OFFICES IN WORMWOOD STREET, LONDON, FOR THE COMMERCIAL CABLE COMPANY
EDWARD MAUFE, M.A., F.R.I.B.A., ARCHITECT.

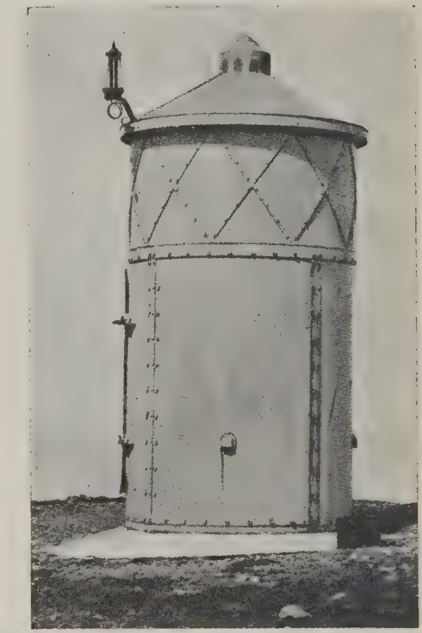


GROUND AND SECOND FLOOR PLANS OF OFFICES IN WORMWOOD STREET, LONDON, FOR THE COMMERCIAL CABLE COMPANY.
EDWARD MAUFE, M.A., F.R.I.B.A., ARCHITECT.

Magazines of the Month*

A Literary and Pictorial Digest

THE CORNHILL MAGAZINE for August contains an article by A. C. Benson on Winchelsea. Winchelsea, says the writer, " is consecrated to recollection and repose, and lost in pleasant reverie; the presiding spirit of the place would seem to be given up to meditation, and to be engaged in recalling, neither regretfully nor complacently, a glorious and active past "—like a retired admiral with an adventurous career behind him. " Anyone who went to Winchelsea expecting something romantic and forlorn would be disappointed; what he will find is a place most picturesquely situated, with enchanting views and prospects in every direction, a noble fragment of a church, leafy avenues and steep-sloping copses, an engaging assemblage of very decorous and comely houses, and a pair of crumbling mediæval gateways which seem almost out of harmony with the trim security of the place." Winchelsea suffered much in early days from attacks by the French, so much indeed that her old prosperity was ruined. In 1538 Henry VIII built the great castle of Camber in the marsh to protect Rye and Winchelsea, but there was then little of Winchelsea left to protect. A pleasant characteristic of this little town is its wealth of curious names. " Bear Square recalls the popular amusements of the age; more innocent is Ballad Singers' Plat. Paradise is the agreeable title of an old house and garden. Trojan's Hall has a high romantic flavour, while Tinker's Garden comes at the other end of the scale. As to the meaning of Grind-pepper Well, the mind loses itself in fond conjecture. Pewes and Holly Rood are innocent meadows lying under Great Gallows Hill. Fryers Orchard and Saffron Garden have the true mediæval flavour. The Firebrand is an uncomfortable name for a house, but The Salutation is an excellent sign for an inn." Finally, there is St. Leonard's Well, which has a tradition that if anyone drinks of its cool waters he cannot cast the memory of Winchelsea out of his mind " but is bound to return to it some time, however far he may wander. That is a delicate allegory of the charm which Winchelsea, and places like Winchelsea, exert on the human mind and heart."



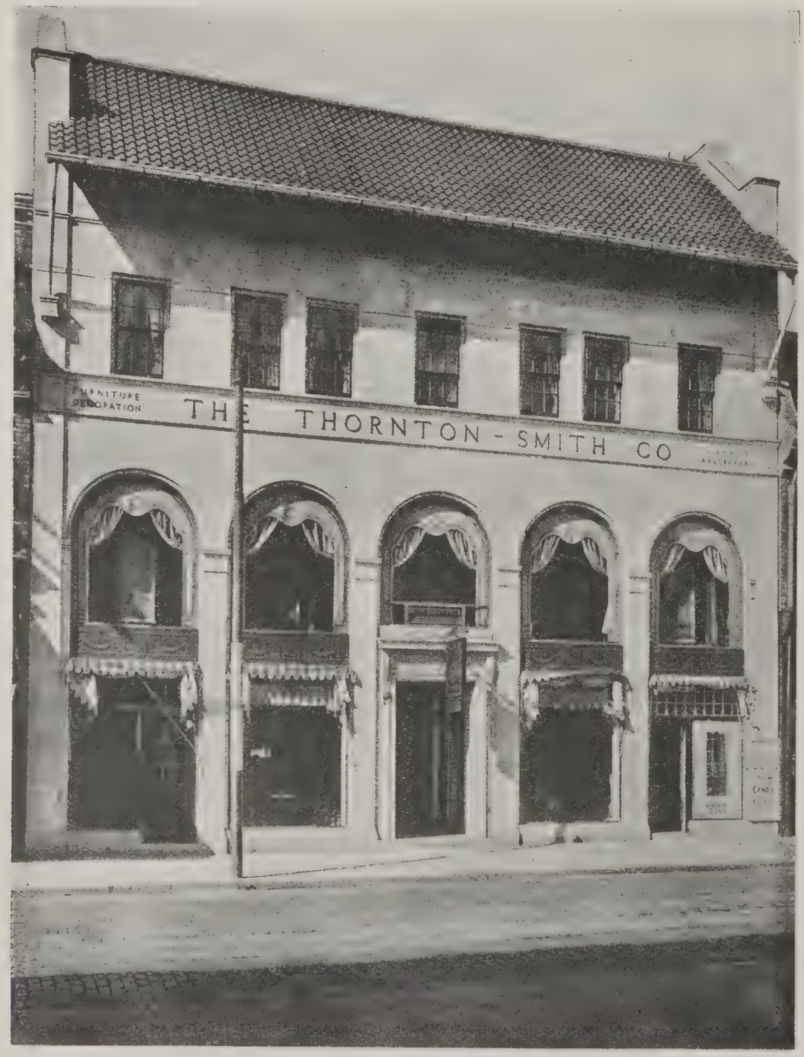
A LIGHTHOUSE IN THE BRISTOL CHANNEL.
(*From " Everyday Science.*")

The August issue of EVERYDAY SCIENCE contains an illustration of a remarkable lighthouse just erected at Barry Holmes, Gower, in the Bristol Channel. This lighthouse lights itself at dusk and extinguishes itself at dawn, and, except that the chemicals which supply the light have to be renewed every two years, it needs no keeper and no attention. The power which operates the lamp is selenium. When the daylight falls below a certain strength the main lamp is electrically switched on; and it does not go out until the daylight returns in sufficient strength to switch the lamp off. Thus the lighthouse becomes illuminated in fog as well as at night time.

The August ARCHITECTURAL REVIEW contains articles on American Architecture, Modern Dutch Architecture, the sculpture of Bernini, and illustrations of work by Walter Cave, C. H. Reilly, C. F. W. Dening, E. B. Musman, and Messrs. Wood, Sarvis, and Muir.

There are certain characteristics, says H. M. Fletcher, writing on American architecture, which may be recognized as American—lucidity, courage, certainty. The great thing we can learn from America is lucidity of expression—the excision of the superfluous. Many American buildings "are reduced to the bare bones of wall, doors, windows, and roof, and in most the proportion of mouldings and features to the square foot of wall-space is absurdly small, judged by our standard. But how clear and emphatic is the statement, and how much the rare features gain in value by contrast with the surrounding spaces! It is no easy matter to attain such economy without crudity and ungracefulness."

Of external influences the most important is the French. The teaching of the



THE THORNTON-SMITH CO. STORE, TORONTO, CANADA.
JOHN M. LYLE, ARCHITECT.
(*From " The Architectural Record.*")

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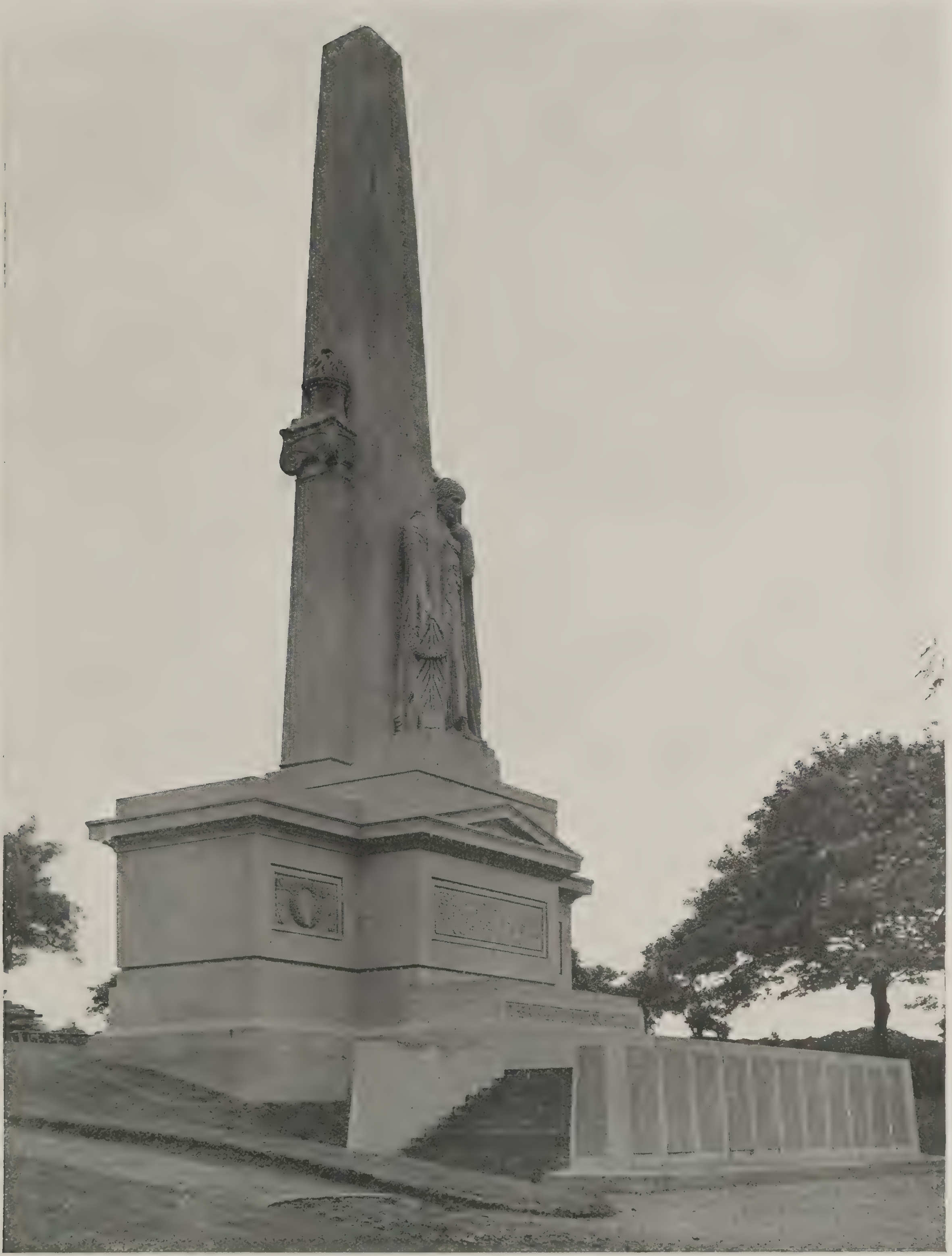
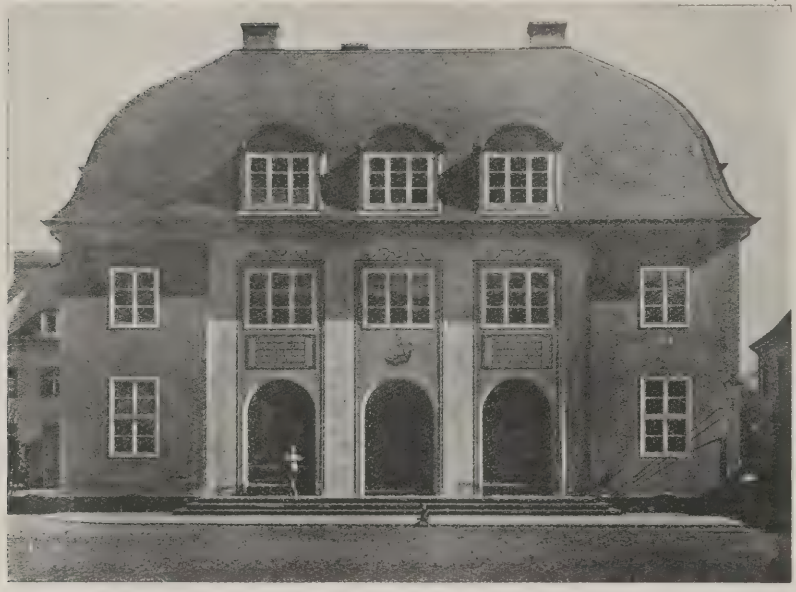
* All the above magazines and many others may be seen in the Reading Room at 29 Tothill Street, Westminster.



ACCRINGTON WAR MEMORIAL. C. H. REILLY, F.R.I.B.A., ARCHITECT.

(From "The Architectural Review.")



A HOUSING SCHEME IN POTSDAM. HANS KAISER, ARCHITECT.
(*From "Moderne Bauformen."*)

Ecole des Beaux-Arts has fundamentally affected American planning. But turning from plan to treatment, we find English and Italian influences predominant, while the last few years have shown signs of a renewed study of the Greek originals. The Massachusetts Institute of Technology, and the Temple of the Scottish Rite at Washington, are both examples of the recent Greek revival. Notwithstanding their close study of European architecture, however, the American architects of to-day are probably "paving the way to an independent homogeneous national architecture."

Totally different, yet in its way equally interesting, is the modern Dutch movement, to which, says Howard Robertson in his article on modern Dutch architecture, it is impossible for us to remain indifferent. For better or worse, the Dutch movement is bound to have its reaction in this country. "Abundant vitality and intense individualism are the foremost characteristics of the modern Dutch expression in design." The buildings illustrated "are typical of the new Dutch school, wilfully breaking with tradition, contemptuous of all attempts to carry on an architectural expression which, in the eyes of these modern disciples, has already worked itself out to a final and somewhat effete conclusion." The founder of the modern school is Berlage, whose followers form the group of "Moderate Modernists." Inspired by Berlage, but much more extreme in their expression, are the younger men like de Klerk, Kramer, La Croix, and Wijdeveld. De Klerk is perhaps the brightest star in the constellation. The two most striking characteristics of his buildings are their magnificent breadth of handling, and their extraordinarily fine brickwork, which is laid with perfect craftsmanship. "Broad swept curves, tiny apsidal turrets, chevron arrises and string-courses, bricks in chequer, wave, herringbone, and vertical pattern, all are conceived and executed with a perfection which places the modern Dutch builder in the forefront of technicians and craftsmen. Many may quarrel with the fantasy so lavishly run riot; and certainly there are questionable features. The projecting balconies, oddly reminiscent of a man-of-war, with parapet and soffit of brick laid on end, are entirely unstructural . . . but the fact remains that the supreme gift of imagination is present throughout the work. Such designs must have been visualized in both form and colour; the latter is magnificent, the bricks and tiles having a depth and richness of coloration which is enhanced by the surface texture possible with narrow bricks. De Klerk certainly knows and feels his materials, and is no mere paper draughtsman."

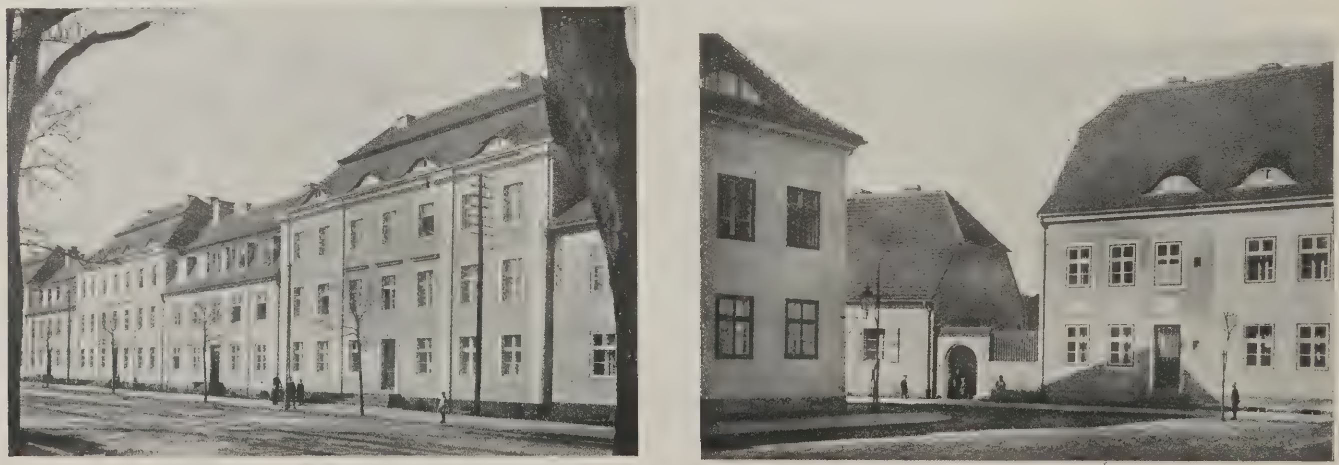
The monument on the preceding page has been designed by C. H. Reilly, for the Accrington War Memorial. The sculptor is H. Tyson Smith.

The Journal of the R.I.B.A. for August contains a full account of Dr. Thomas Ashby's address on "Recent Excavations in Rome," and some "Further Notes on the Composition of Ancient Mortars; and Mortar and Plaster from St. Paul's Cathedral."

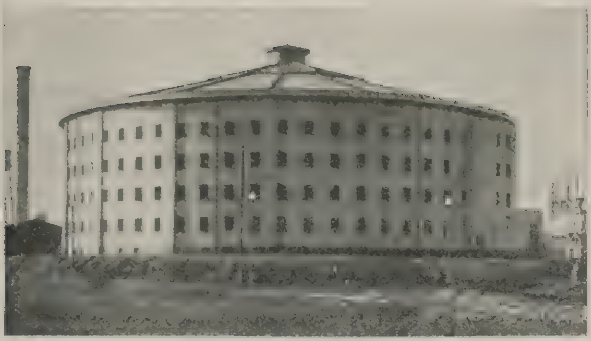
The Architectural Association Journal includes a "Report on Architectural Training in Holland," by Howard Robertson, a "Report on the Architectural Profession in Holland," by F. R. Yerbury, and a criticism of the annual exhibition of A.A. students' work, by H. S. Goodhart-Rendel. There are also illustrations of some of the students' work now on exhibition.

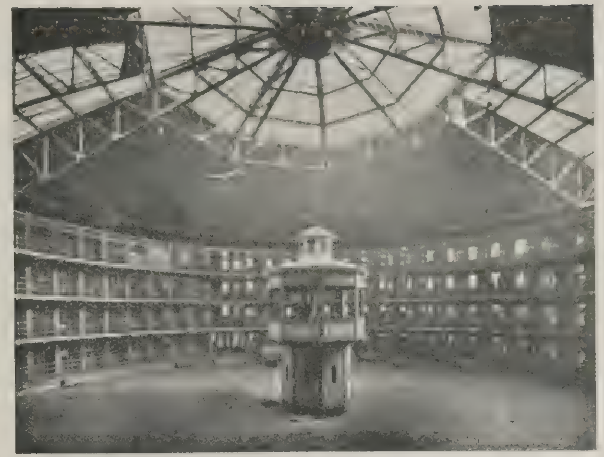
Moderne Bauformen, Stuttgart, contains illustrations of an interesting housing scheme carried out at Potsdam by the architect, Hans Kaiser. Three views of the scheme are illustrated on this page. The architect's method of gaining variety by means of his roofs is particularly worthy of study.

Garden Cities and Town-Planning, the journal of the Town-Planning Association, contains an important review of "Town-Planning in Russia," by Etienne de Groër. During the Middle Ages the development of Russian towns did not differ from that of other European cities, says the writer. But with the foundation of Petersburg in 1703, town-planning in Russia entered upon a new phase. The chess-board plan became fashionable. You find it in most Russian towns of the eighteenth century—for instance, in Odessa, Taganrog, Ekaterinoslav, Rostov, and in many others. Some towns, however, were arranged fanwise, as Kostroma on the Volga. There was a universal effort to secure regularity. In the nineteenth century there was a tendency in the principal towns towards the creation of vast ornamental centres, such as the place of the Winter Palace at Petersburg. Several of these centres are masterpieces of the monumental and grandiose style. The twentieth century saw the division of towns into districts, the classification of the streets, the establishment of civic, administrative, and com-



TWO VIEWS OF A HOUSING SCHEME IN POTSDAM. HANS KAISER, ARCHITECT
(*From "Moderne Bauformen."*)





TWO VIEWS OF THE NEW ILLINOIS STATE PENITENTIARY.
ZIMMERMAN, SAXE, AND ZIMMERMAN, ARCHITECTS.
(From "The American Architect.")

mercial centres, and the founding of the Russian Garden Cities Society. The English garden city movement was reflected in all parts of the Russian Empire. A similar society was formed in Poland. Garden cities were established at Warsaw, Riga, Helsingfors, Kief, Odessa, Petrograd, and Moscow. Even to-day, however, 60 per cent. of the population of Petrograd live in flats with at most two rooms. In the poor quarters some rooms have as many as ten occupants, while at Moscow "corner lodgers" (that is to say, people who occupy one quarter of a room) number 200,000. Consequently death-rate and disease are enormously high. Since the revolution Municipal Offices for the consideration of new town plans have been founded both at Moscow and Petrograd. At Petrograd the work of planning has been considered on a scale which will cover development for a century, or until the time when the population of the city numbers ten million. The schemes include a new port, a new canal, and the electrification of the whole railway system. But it is a significant fact that while in 1916, before the revolution, the population of Petrograd numbered 2,600,000, at the end of 1920 it had sunk to 750,000.

The August ARCHITECTURAL RECORD, of New York, contains articles on "The Early Architecture of Pennsylvania," a new housing scheme by the Metropolitan Life Assurance Company, "Mosaic Designs by Frank Brangwyn," "The Law of Squares" (a study of proportion), and "The Church of St. Sophia." In its portfolio of plates it also includes the Thornton-Smith Company Store in Toronto, by J. M. Lyle, which is illustrated on page 292. The gaiety of this building is pleasing and apposite to its purpose. It is to be hoped that the store sells frivolous articles.

The July ARCHITECTURAL FORUM, of Boston, contains, besides its usual features on decoration and furniture, engineering, etc., articles on "The Boston Architectural Club," and on some "Recent Printing and Publishing Buildings."

THE AMERICAN ARCHITECT, of New York, contains in its issue for August 2 two illustrations of the New Illinois State Penitentiary, illustrated above, but as there is no reference to the building in the number, we know no more about it than that it has architecturally a fine monumental simplicity both inside and out, and is a better piece of architecture than many buildings put to better purposes.

In the same issue are articles on the housing project of the Metropolitan Life Assurance Company, on "Cardboard Models," and on the "Decorative Possibilities of Stained Glass."

"L'ARCHITECTURE," of Paris, devotes most of its August number to the Congress of French Architects at Strasbourg, which took place between June 19 and 23. There are in this issue a great many delightful views of that city.

The Tenth International Congress at Brussels

The Tenth International Congress of Architects will be held under the auspices of the Société Centrale d'Architecture de Belgique in Brussels from September 4 to 11, and will be accompanied by an International and a National Retrospective Architectural Exhibition.

It will be remembered that the outbreak of the war interrupted the preparations for the Tenth Congress of the regular series, which was to have been held in Petrograd in May 1915 under the patronage of the late Tsar.

The Société Centrale de Belgique will be celebrating the fiftieth anniversary of its foundation at the time of the Congress, and the architects of Belgium extend a cordial invitation to their foreign colleagues to join them in the celebration.

The Congress will include delegates from many foreign countries. The Belgian Committee is under the chairmanship of M. J. J. Caluwaers, with M. R. Moenaert as secretary.

Programme.

September 4, Morning.—Meeting of the Permanent Committee of the International Congress of Architects. 2 p.m.: Formal opening in the Palais des Academies. Evening: Reception.

September 5, 10 a.m.—Opening of the Architectural Exhibition in the Palais d'Egmont. 2–6 p.m.: Conferences. Evening: Receptions.

September 6, 9 a.m. to Noon.—Visits to buildings of interest in Brussels. 2–6 p.m.: Conferences. Evening: Receptions.

September 7.—Visits to the devastated zone, stopping at Ypres, and spending the night at Bruges.

September 8.—Visits about Bruges, returning to Brussels in the evening.

September 9.—Excursion to Antwerp, visits about the city and up the Scheldt. 2–5 p.m.: Conferences, returning to Brussels in the evening.

September 10, 9 a.m. to Noon.—Visits to the Exposition. 2–6 p.m.: Conferences. Evening: Receptions.

September 11, 10 a.m.—Closing exercises.

Subjects for Discussion.

1. The responsibilities of the architect.
2. Schedule of charges.
3. The appointing of State and Municipal architects.
4. The rights of authorship of the architect.
5. The profession of architecture: its aims and its rights.
6. Women architects.
7. Public, national, and international competitions. The position of the winning architect in an international competition or of one working in a foreign country.
8. Town planning.
9. Small houses.
10. The influence of locality on architecture.
11. The preservation of historic monuments: with consideration of their economic, hygienic, and social aspects.

An Architectural Exhibition will open September 5 in the Palais d'Egmont, lasting two weeks.

It will be divided in two general classes: (*a*) Belgian—1 Retrospective, 2 Contemporaneous; Jury, Messrs. Maukels, Mercenier, and Van Montfort. (*b*) Foreign—there will be as many sections as there are countries represented.

The dues for members will be 50 francs; for ladies accompanying members (wives and daughters only), 30 francs, which will give them the privilege of visits, excursions, and receptions.

Official delegates may address the meetings in their own language. The official language of the Congress will be French, though any other language may be used provided a résumé in French is submitted at the same time.

All British architects are cordially invited to take part in the Congress.

All those desiring to attend or to receive further information should communicate with The Secretary, R.I.B.A., 9 Conduit Street, W.1.

The President and Mr. Edward P. Warren have been appointed delegates of the Institute.

Correspondence

Our Knowledge of Acoustics

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With reference to the article on the above subject in your issue for August 2, and the letter by Mr. Bagenal in your issue of August 16, it may interest you to know the following facts.

Having seen the letters of Sir W. J. Pope and Sir Joseph Larmor, in "The Times," I wrote to the editor, pointing out that these letters seemed to be written under a misapprehension as to the amount of work that has already been done, and I gave references to the publications where the ascertained facts could be found. This letter "The Times" acknowledged, but did not publish, although Professor Turner and Sir W. J. Pope had subsequent letters on the subject which appeared.

The result of the whole correspondence is undoubtedly to give the public an entirely erroneous view of the present state of knowledge. Any of your readers who wish to satisfy themselves on this point will find an admirable summary, with bibliography, in the current number of "Science Progress."

ALEX. WOOD,
Emmanuel College, Cambridge.

Sham Gothic

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Had Mr. Clutton Brock kept strictly to the lines of his able address reported in your issue for August 16, one would not feel compelled to object. But one feels it developed into a subtle and covert attack on a style it is now so fashionable to deride. I would hold no brief for any particular style; fashion would be a better word in these restless times.

I must agree that imitative architecture of any style whatsoever is bad; but the imitative style, lacking any logical and consistent development, is a modern fashion. It had its beginning in the revulsion from Gothic which marked the end of historical development, leaving the pointed arch as its highest constructional achievement and the spire as its crown.

How well the story of that critical period is to be read in stone. When began that rise of commercialism that has brought us relentlessly to the sordid materialism of the present era? Can we wonder that our architecture lacks life and spirit in an age that has been full of shams and pretences?

Nay, was not the Gothic Revival, synchronizing as it did with the other movements, religious and social as well as artistic, of the same period—all equally abortive—an eager attempt of a few sensitive souls to bring back something of the Sacred Past in which men were more important than machines, and Art was the vital expression of a living faith?

The march of materialism was too strong, and now in a weak acquiescence with the spirit of the age, we continue to seek its expression in the continuous revival of pagan forms.

Architects are not constructing to-day. The engineers, themselves the product of the age and finding their full development in it, are leading us by the nose. They are the real architects in their logical, if ruthless development of the materials with which science provides them. Our buildings are simply decorative engineering, for which reason meaningless pagan symbols of material splendour are more suitable than the true principles of constructive Gothic.

Now I will quote the particular passage in Mr. Brock's address that provoked me: "Gothic leads nowhere. It cuts the architect off from the whole of that future which he might enter into. Gothic, I am convinced, is now simply a bad habit, and it is a bad habit encouraged by the clergy because they think it religious. They have identified the Gothic style with the Christian religion in some mysterious way—perhaps they suppose the early Christians built in Gothic—and they do not realize that nothing can be less religious that a style which is mere imitation."

On which I beg respectfully to comment as follows:—

(1) "Gothic is now simply a bad habit." He does not say "Sham Gothic." It is a bad habit to imitate Gothic. It is, I protest, not a bad habit to build, so far as one can, in an age antagonistic to it, in the spirit of those true and inspiring principles that developed the style, though it would be absurd to expect these principles to evolve the forms that distinguished the style in the past.

(2) Not only the clergy, but all who retain a modicum of the faith and principles of traditional Christianity must encourage the consistent evolution of these principles, because their Christian culture is the very basis of them.

There is nothing mysterious in this connection. It is actual historical fact that the style was developed in the Christian Era and fell with the break from tradition. Christian culture must continue to foster its principles because it has remained, and must remain, antagonistic to the onslaught of materialism that progresses by the rejection of these same principles. It is natural to expect that the re-action is bound to produce some "sham." But if the age fosters pretence, it is better to strive to revive the real than to imitate the false. One has no other alternative.

I will conclude by quoting another passage which is a ready definition of what "Gothic" means to Mr. Brock: "If you can grasp the fact that Gothic is original architecture in which men were really expressing themselves, and really solving the structural problems of their time; that it has the thrill in it of people making discoveries, a thrill which nobody can imitate, then you will not try to imitate it."

It is very good indeed. Pagan forms may be suitable to the commercial buildings of to-day; but if men are to begin "to express themselves, and really solve the structural problems of our time, and so have the thrill of making discoveries" (instead, I would interject, of leaving these to the engineer), surely, according to Mr. Brock's above statement, they will be working essentially in the Gothic spirit. Which is what is required.

Certainly, so long as traditional Christian churches continue to be built, I trust they will be inspired and fostered by that same spirit of Protestant Gothic—and risk the sham.

In the light of the above statement I cannot understand what Mr. Brock means by his statement that "Modern Gothic is more Gothic than the real." I presume he is thinking of, and protesting against the imitation of the forms.

My whole contention is that the spirit that evolved the Gothic style is a more vital and inspiring one than the spirit, also appropriate to its own era, that evolved the Pagan style.

JAMES O'HANLON HUGHES, M.S.A.

Architectural Education

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Referring to the recent discussion in your columns on Architectural Education, I am a strong supporter of the "Articles" System. It produces an intelligent architect well versed in modern economic and commercial designing; and whenever a proposal is made to erect a large and impressive public building we invariably have an open competition, so that if competitors are turned down for lack of designing, there is no harm done to the community or anybody concerned. It really comes to this: that no architect can force a design on the public, nor can he build unless the design satisfies his client; and even where an architect brings out a good sound architectural design, in nine cases out of ten his client will turn it down because he refuses to pay for matter which will not serve his commercial ends.

This country to-day is crying out for practical architects who can design on modern lines, who can design a building on economic and useful lines. Again, in nine cases out of ten we have such buildings to design, and the odd chance of a town hall or architectural edifice can be tackled by such men who specialize in artistic design.

I think we are practically the only country where an architect is required to master so varied a course of subjects. In this respect this country has always been at fault; the average Britisher practises every known craft and ultimately is sure of nothing at all. To tackle one subject well is to be a master of one's profession, and the examinations as set down by the R.I.B.A. do not give fair play to an articled pupil. They expect in so short a time what it is impossible to produce, for modern building, with its scientific modern principles, gives no time for the minute study of doorways and pretty mouldings, etc., which our forefathers so revelled in.

The articled pupil is a practical proposition. He it is who will erect the hundreds of buildings to suit the modern commercial world; he will rebuild the world, or that part effected by the late war.

In the majority of cases a man between twenty and twenty-five, brought up under articles, is an infinitely cleverer and more up-to-date all-round practical architect than the student of a university. The former is the man for whom the public are calling, and yet, because a university man can dazzle the world with a majestic design for an art gallery or world centre, approached by many thousands of steps in all directions, and descending to the water edge of a huge lake (and the whole costing many millions which modern exchequers could never produce), he can thus obtain his degree against the student who, though a thoroughly trained architect, has not developed that transcendently glorious conception of design which is practically the only sure point on the part of the university man.

To sum up briefly: the articled student is barred recognition because he has not had the training in design of a university student. This latter can fully qualify in design, having been exempted in various subjects, and can turn out into the world fully armed to fight against the very existence of the office-trained practical man.

To quote the intermediate examinations, there are many students who, given reasonable time, could efficiently design a feature equal to any university man. Because one man is less rapid in design than another, it does not mean for a moment that he is no good as an architect. It is not fair so to judge him. I sincerely trust that matters may be adjusted and given careful consideration because, financially, architectural education is a large item, and it does not seem fair that architectural students should be tossed about unmercifully and have to bear the hardships consequent on an overcrowded profession. They should be advised in the first place as to their efficiency or their prospects instead of being treated as school children until thirty years of age. I should like to see genuine fair play. Many of the powers who enforce these stringent examinations entered the profession through this side door, or, even earlier still, through the large door where no examinations at all existed as barriers.

"FAIRPLAY."

Details of Science and Technical Buildings

On our double-page plate we illustrate a rising gallery suitable for a lecture theatre providing accommodation for 104 students. The timber-framed construction of the staging is also indicated. The seats are tip-up, and a book-rest and small shelf are also provided as illustrated in the large scale detail. Care should be taken to enable each member of the audience to receive a direct and uninterrupted wave of sound, and an equally uninterrupted view of the lecturer. The first published description of the way in which it was desirable that seats in any large hall should be arranged so that the occupant could both hear and see the speaker was given by Mr. Scott-Russell in a paper published in 1839. The seats were to be arranged not as tangents to a straight line, but on a concave curve determined as follows (see diagram below): A line was drawn from the position of the speaker's mouth touching the point where the auditor's head in the front row would come, and, at a suitable distance behind, the seat for the second auditor was marked, and on the line indicating the back of this seat a height of 18 in. or less was set upwards from the point where the ray from the speaker's mouth touched, this marked the position of the head of the second auditor. By repeating this process points were found all ranged in a curve, which is known as the "isacoustic" curve. Each seat is placed about 2 ft. 9 in. below the mark indicating the top of the head of its occupant. The degree of steepness required will, of course, vary in different circumstances according to the nature of the lecture or demonstration. These illustrations form the fifteenth of the series of drawings of science and technical buildings specially prepared for the JOURNAL. By Messrs. A. W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, M.A., Architects.

Destruction of an Old Wooden Church

Mr. A. R. Powys, Secretary of the Society for the Protection of Ancient Buildings, in a letter to "The Times," says:

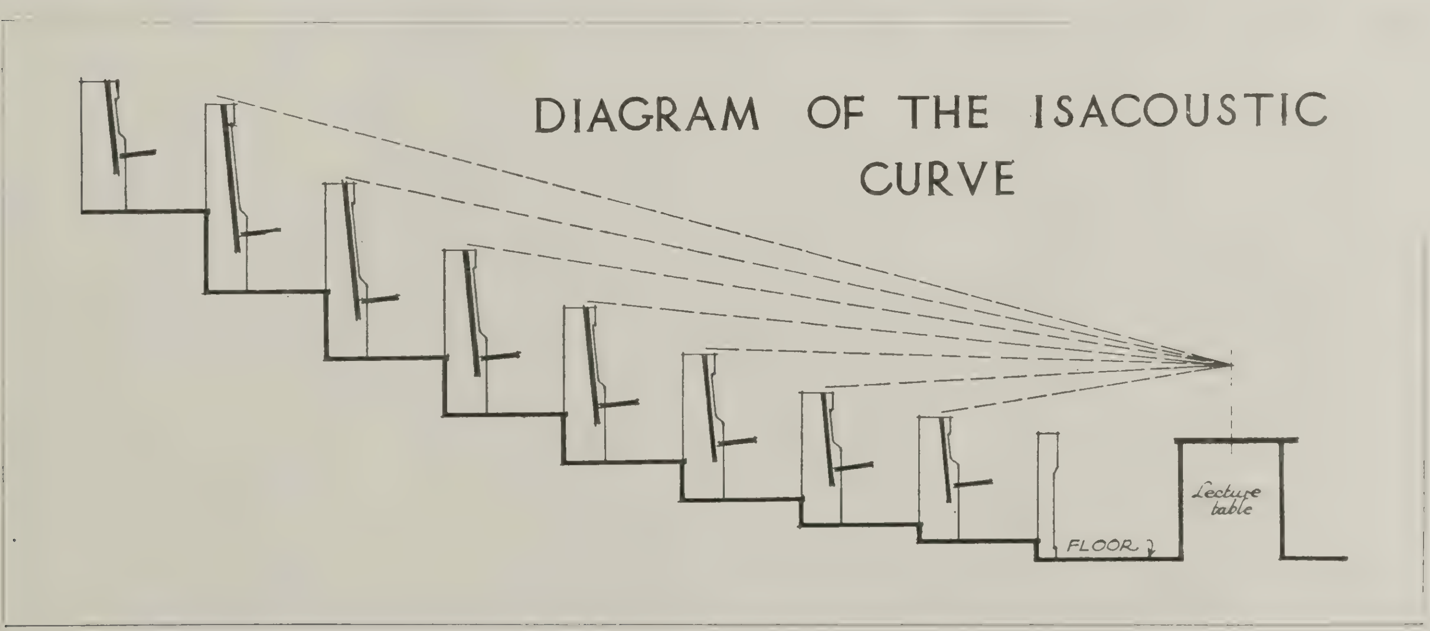
It does not seem generally known that the curious old wooden church of Hazeleigh, or Haseley, in Essex, near Maldon, is to be pulled down to save expense of upkeep. It is true it is remote from the village, and has long been disused save for funerals.

It is a building of real value, extraordinarily quaint and interesting. We have few wooden churches in England of any kind, and few parish churches of such diminutive size. There was a church here before 1390. This building is said, and in fact appears, to be Elizabethan, but it was considerably repaired in the eighteenth century. Elizabethan churches are exceedingly rare. It follows the traditional local plan of a small church, having chancel, nave, south porch, western bell-cot, the whole framework being of wood plastered inside and out.

It is utterly wrong that a Parochial Church Council can decide, as we understand has been done in this case, to hand a valuable little building like this over to a contractor in Maldon for destruction before anyone can intervene to stop it. The instructed public will wish to know whether the Diocesan Advisory Committee of Chelmsford consented, or whether it was arranged behind their backs.

If the former, before advising the Chancellor to grant a faculty for pulling down an old church, the Diocesan Committee would have been well advised to have referred such a case, which concerns the continued existence of an old church, to the Central Committee. Many parishes do not realize the existence of these committees: some try to evade them. Their influence will prevail in time.

Meanwhile we hear that destruction has actually begun. I venture to appeal to you to give the matter publicity in the hope that even at the last minute what seems to be a public scandal may be averted.



METHOD OF SETTING OUT THE SEATS IN A RISING GALLERY FOR A LECTURE THEATRE

List of Competitions Open

Date of Delivery.	COMPETITION.
Aug 31	Lay-out of Land at West Cliff, fronting the sea, in Promenades, Recreation Ground, Roads, and Building Plots. Premiums £300, £200, and £100. Apply Mr. A. Blasdale Clarke, Town Clerk, Albion House, Ramsgate.
Sept. 16	Nurses' Home, Chelsea Hospital for Women. Premiums: £150, £100, and £50. Assessor, Mr. H. V. Ashley, F.R.I.B.A. Names by above date to Mr. H. H. Jennings, Secretary, Chelsea Hospital for Women, Arthur Street, Chelsea, S.W. 3.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8,000 francs.
Nov. 1	Labour saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C. 4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
Jan. 31, 1923	Labour-Saving Flats, Hampstead Garden Suburb. Premiums £500, £300, and £200. Assessors: L. Rome Guthrie, F.R.I.B.A., J. C. S. Soutar, Lic.R.I.B.A., and E. J. Cooper, Secretary, Second Hampstead Tenants Ltd., to whom, at Temple Fortune House, Hampstead Way, N.W. 11. applications had to be made by August 11 last.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.

Competition News

Society of Architects' Victory Scholarship.

The Society of Architects' Victory Scholarship was founded in 1919 to commemorate the war service of its members and to perpetuate the memory of those who fell during 1914–18. It is awarded annually for competition in architectural composition and design and is of the value of £100, which must be used by the winner in advancing his or her professional education. The competition is open to any British subject, man or woman, under thirty-five years of age, without any fee, and is divided into two sections: Part I, the open eliminating competition, and Part II, the final competition restricted to ten competitors selected by the jury of assessors.

The jury of assessors is composed of the Patron of each of the Royal Academy Ateliers, two representatives of the Society of Architects, and a representative of each of the architectural schools entering two or more candidates for the competition.

Part I consists of an *esquisse* prepared "*en loge*" at various centres within twelve hours, and Part II of a large *projet* for which an *esquisse* is prepared under similar conditions at the First Atelier of Architecture in London, the competitors afterwards being given a month in which to complete their final designs, which must not depart from the general lines of the twelve-hour final *esquisse*. These final designs are developed at any place convenient to the competitors.

This year (1922) there were sixty-six entries, including a woman architect, for Part I of the competition, which was held in co-operation with the Architectural Schools in London (two centres), Glasgow, Leeds, Cambridge, Liverpool, and Sheffield on June 10.

The subject was a ceremonial staircase, and fifty-six of the candidates prepared *esquisses*. The jury selected the following ten candidates to compete in Part II in London on July 15:—

J. A. Jellicoe (London), J. C. Shepherd (London), N. C. Mackey (London), D. Brooke (Liverpool), G. F. Shanks (Glasgow), E. N. Channon (London), H. St. John Harrison (London), A. S. Knott (London), Keith D. P. Murray (London), P. Hardy (London).

The subject for Part II was "A Stadium for Olympic Games." Each of the ten selected competitors prepared final *esquisses* and eight afterwards developed their designs, which were adjudicated upon by the jury in London on August 23. The following award has been made, subject to confirmation by the Council of the Society of Architects:—

No. 97. H. St. John Harrison (London), £60 and the Gold Medal.
No. 68. N. C. Mackey (London), £20.
No. 107. K. D. P. Murray (London) £20.

The report of the jury states that while the general standard is much higher than in previous years there is no design of outstanding merit beyond those of other competitors. The jury therefore has felt bound to divide the prize again. Mr. Robert Atkinson on behalf of the jury of assessors will shortly give a public criticism of the designs.

The record number of entries received, and the assistance so freely given to the Society by the architectural schools in organizing and holding local centres is evidence of the value set upon the competition from the educational standpoint and of the soundness of the conditions and system under which it is conducted.

The competition drawings and *esquisses*, which are an object lesson not only in the skill of the competitors in architectural composition and design, but also in their ability to grasp and delineate in a few hours the essential features of a complicated and unusual programme, will be on view at the Society's rooms, 28 Bedford Square, W.C.1, from 10 a.m. to 5 p.m. between September 4 and October 13 inclusive, except on Thursdays and Saturdays, and will afterwards be at the disposal of the schools of architecture in the provinces for exhibition purposes.

Cape Institute of Architects

The many ways in which the Cape Institute of Architects are protecting the interests and uplifting the status of the profession in South Africa are shown in a convincing manner in the year book of the Institute, a copy of which has just come to hand. As in this country, great efforts are being made to secure registration. Valuable assistance is being rendered to the R.I.B.A. by the Institute, who have appointed the following Board to conduct the Royal Institute examinations in Cape Town: W. J. Delbridge, A.R.I.B.A.; W. A. Ritchie - Fallon, A.R.I.B.A.; F. Kendall, F.R.I.B.A.; Arthur H. Reid, F.R.I.B.A.; and C. P. Walgate, A.R.I.B.A. Prince Arthur of Connaught is patron of the Institute, and the office bearers and council for 1922–23 are as follows: President: W. A. Ritchie-Fallon, A.R.I.B.A. Vice-President: W. J. Delbridge, A.R.I.B.A. Council — Fellows: H. J. Brownlee, A.R.I.B.A.; F. K. Kendall, F.R.I.B.A.; J. Perry; A. J. Thompson, F.R.I.B.A. Associates: L. A. Elsworth, A.R.I.B.A.; F. W. M. Glennie, Hon. Sec. and Treasurer; C. P. Walgate, A.R.I.B.A. Hon. Auditor: W. G. Fagg, Licentiate R.I.B.A. Secretary: T. A. Dalgleish, Markham's Buildings, Cape Town.

New Inventions

Latest Patent Applications.

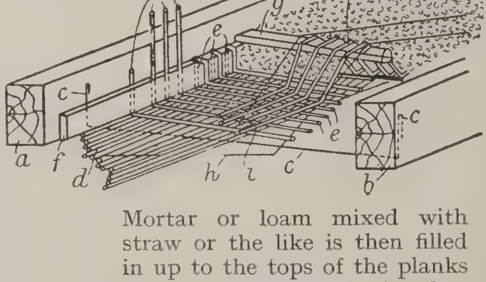
21908.—Cantley, H. S.—Casement windows, etc. August 11.
21803.—Lutz, C. T.—Erecting masonry constructions. August 10.
21991.—Selwood, V. G.—Wall ties. August 12.
21375.—Wilkins, R. F.—Composition for facing walls, etc. August 4.

Specifications Published.

183506.—McArtney, J.—Method of securing a cement or plaster facing to building slabs or the like, troughings, and to the coverings of girders, boilers, and the like.
183509.—Malcolm, A. J.—Blocks for building and constructional purposes.
183530.—Griffiths, W. H.—Roof and the like coverings.
183615.—Morton, B. — Revetments, groynes, foundations, and walls, or the like.
183640.—Holcroft, C. W. — Kinema theatres and other structures.
183737.—Anderson, T.—Means for binding hollow walls.
183743.—White, J. S., and White, J. P.—Doors, shutters, or the like.
183753.—Frankfurter, H., and Jansen, E. A.—Process for the manufacture of coverings for floors and walls.

Abstract Published.

182016.—Ceilings.—Hartmann, J., 38 Schlachthofstrasse, Cassel, Germany.—Reeds *d* are supported by wires *c* secured to the beams *a*, *b* and by wires *h* passed under the wires *c* and over planks *g*; transverse straws *e* are laid over the reeds and secured by laths *f*, and longitudinal straws *i* are laid over the straws *e* and planks *g*.



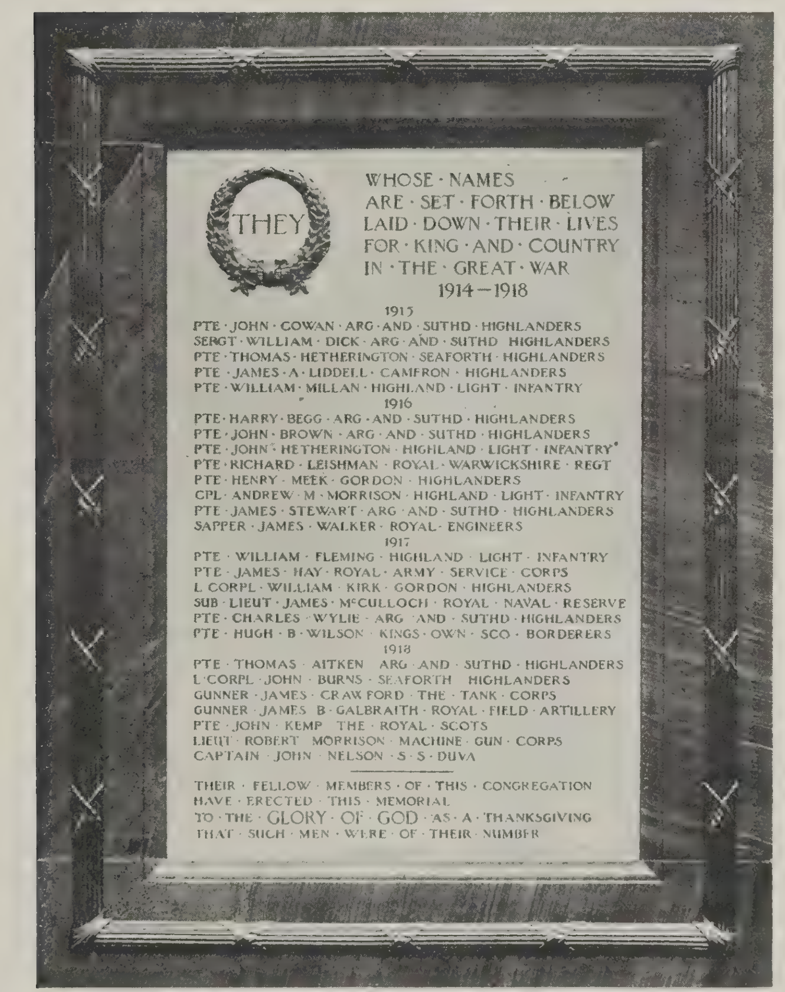
Mortar or loam mixed with straw or the like is then filled in up to the tops of the planks *g* and the underside is plastered. The usual coke filling may be placed above the loam.

The above particulars are specially prepared by Messrs. Rayner & Co., Registered Patent Agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

Wednesday, September 6, 1922. Vol. LVI. No. 1444

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



THEY

WHOSE · NAMES
ARE · SET · FORTH · BELOW
LAID · DOWN · THEIR · LIVES
FOR · KING · AND · COUNTRY
IN · THE · GREAT · WAR
1914—1918

1915
PTE · JOHN · COWAN · ARG · AND · SUTHD · HIGHLANDERS
SERGT · WILLIAM · DICK · ARG · AND · SUTHD HIGHLANDERS
PTE · THOMAS · HETHERINGTON · SEAFORTH · HIGHLANDERS
PTE · JAMES · A · LIDDELL · CAMERON · HIGHLANDERS
PTE · WILLIAM · MILLAN · HIGHLAND · LIGHT · INFANTRY
1916
PTE · HARRY · BEGG · ARG · AND · SUTHD · HIGHLANDERS
PTE · JOHN · BROWN · ARG · AND · SUTHD · HIGHLANDERS
PTE · JOHN · HETHERINGTON · HIGHLAND · LIGHT · INFANTRY
PTE · RICHARD · LEISHMAN · ROYAL · WARWICKSHIRE · REGT
PTE · HENRY · MEEK · GORDON · HIGHLANDERS
CPL · ANDREW · M · MORRISON · HIGHLAND · LIGHT · INFANTRY
PTE · JAMES · STEWART · ARG · AND · SUTHD · HIGHLANDERS
SAPPER · JAMES · WALKER · ROYAL · ENGINEERS
1917
PTE · WILLIAM · FLEMING · HIGHLAND · LIGHT · INFANTRY
PTE · JAMES · HAY · ROYAL · ARMY · SERVICE · CORPS
L CORPL · WILLIAM · KIRK · GORDON · HIGHLANDERS
SUB · LIEUT · JAMES · McCULLOCH · ROYAL · NAVAL · RESERVE
PTE · CHARLES · WYLIE · ARG · AND · SUTHD · HIGHLANDERS
PTE · HUGH · B · WILSON · KINGS · OWN · SCO · BORDERERS
1918
PTE · THOMAS · AITKEN · ARG · AND · SUTHD · HIGHLANDERS
L CORPL · JOHN · BURNS · SEAFORTH · HIGHLANDERS
GUNNER · JAMES · CRAWFORD · THE · TANK · CORPS
GUNNER · JAMES · B · GALBRAITH · ROYAL · FIELD · ARTILLERY
PTE · JOHN · KEMP · THE · ROYAL · SCOTS
LIEUT · ROBERT · MORRISON · MACHINE · GUN · CORPS
CAPTAIN · JOHN · NELSON · S · S · DUVA

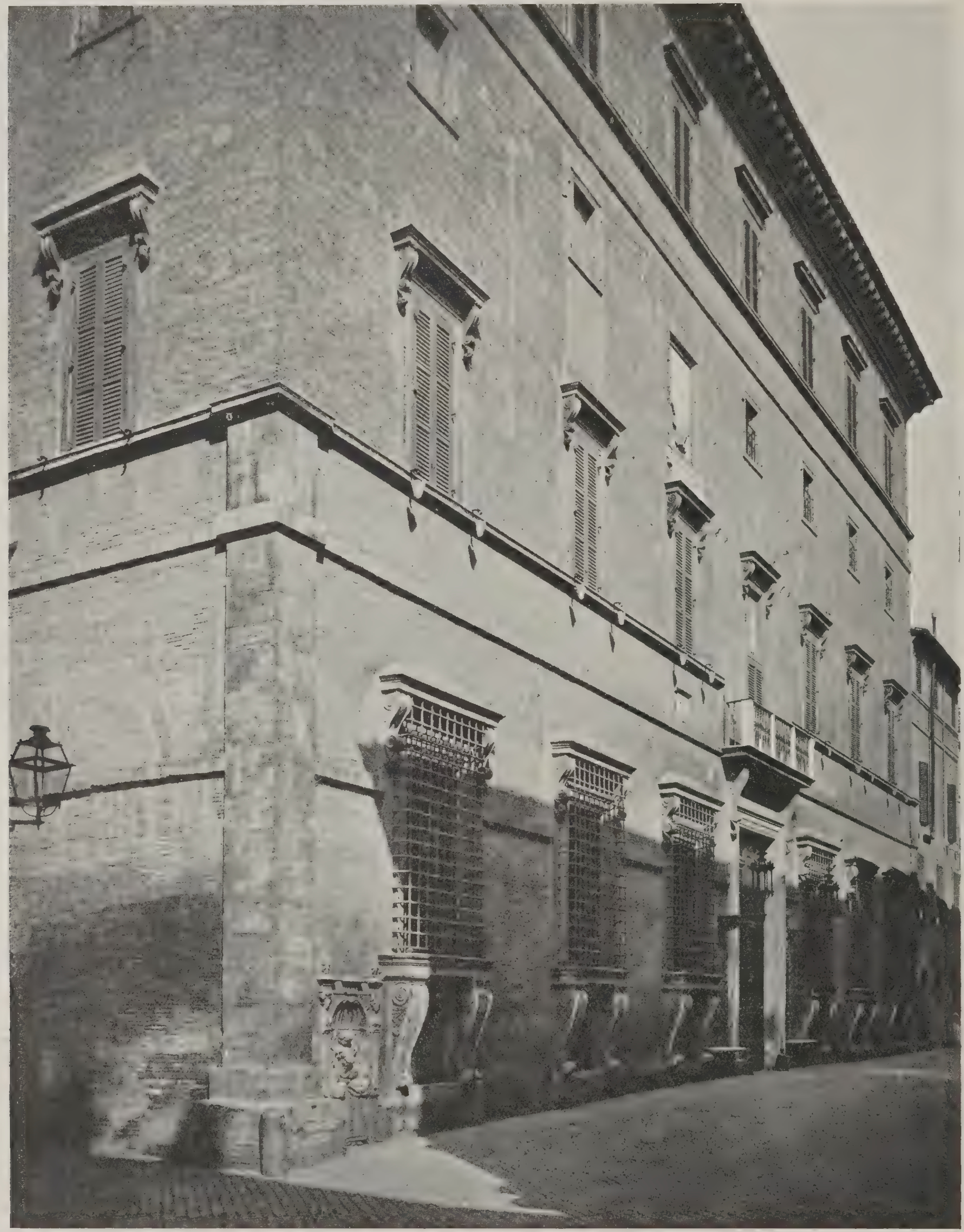
THEIR · FELLOW · MEMBERS · OF · THIS · CONGREGATION
HAVE · ERECTED · THIS · MEMORIAL
TO · THE · GLORY · OF · GOD · AS · A · THANKSGIVING
THAT · SUCH · MEN · WERE · OF · THEIR · NUMBER

WAR MEMORIAL TABLET IN ERSKINE CHURCH FALKIRK.
ALEX. BLACK, ARCHITECT.

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 19.—The Palazzo Sacchetti, Rome

Antonio San Gallo, Architect



Though designed in the most reticent manner of which the architects of the fifteenth century were capable, the Sacchetti Palace, by its great scale and fine proportions of wall and window area, retains that air of magnificence which is the only quality common to all Italian architecture. At the corner of the building in the above illustration a small and charming street fountain can be seen.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, September 6, 1922 Volume LVI. No. 1444

Professional Prospects

THE war hit architects, in common with many other professional men, very hard. During the feverish boom that followed the armistice many architects became very busy, partly in carrying out building schemes deferred from pre-war days and partly in the preparation of new work, a good deal of which unfortunately did not get beyond the drawing-board stage. At the close of the war assistance was very difficult to obtain, and the salaries of trained and capable assistants rose to double and treble the pre-war rates. The wastage of war had played terrible havoc in the ranks of the younger men, and architectural education was from 1914 to the end of 1918 practically at a standstill. For the last year or more the profession has been experiencing a somewhat severe slump, and though there are signs of improvement it will probably be some time yet before architects generally become really busy.

One result of this rather depressing state of affairs is that those students who have just finished their course at one or other of the architectural schools are finding a difficulty in getting into suitable offices, and a still greater difficulty with regard to remuneration. Many of these students are of a greater age than the average architectural student was when he had finished his course in pre-war days.

A great number are ex-Service men who took advantage of the Government's offer to pay their fees at a recognized institution in order that they might study for a profession when they returned to civil life. Many of them are ex-officers, who, in spite of their youth, enjoyed comparatively high rank in one or other of the Services, with a corresponding income, and they were initiated into a scale of life in which they did not in all cases have to consider expense too carefully. Every architect feels the deepest sympathy for the ex-Service man, and would do anything in reason, sometimes even a little out of reason, to help him, but we are all, and architects perhaps more than other men, bound by the hard economic facts of the moment.

The way of the young architect is not an easy one. The fortunate few who are endowed with sufficient of this world's goods to make the question of earnings of a secondary importance, and those who have fathers before them in the profession, may be excepted from our considerations, but for the majority the effort to establish themselves in practice is generally a long and difficult business.

Architecture as a profession, or perhaps it would be better to say as an art, holds out many rewards and compensations to its devotees, but these rewards are not conspicuously of a financial nature. It is probably easier to earn a moderate income, not to speak of a fortune, in any other walk of life.

The architect's chief reward always has been, and must always be, in the interest of his work. We are afraid that all who enter the profession do not fully realize what they are doing. Those who imagine it is a nice, soft job, with a certain amount of social distinction, and with rich rewards for little effort, will be bitterly disillusioned. The right man will always win through, but not without his times of trial and tribulation, some of which he might have been spared had he understood more clearly the difficulties in his way.

Under the old system of articled pupils it was much easier for the pupil to pass into the successive stages of improver, paid assistant, and eventually practising architect, than it is under the system of education at the schools which obtains to-day.

The practising architect, unless his practice is so small that he can do all the work himself, must have assistants, and it is only right that he should pay them a proper salary, but this salary can only be proportionate to the services rendered.

Now what are these services? They are first and foremost the preparation of working-drawings, the interpretation of sketches and notes into legible instructions for the builder. This is what the ordinary architect expects of his assistant, and this is what he is prepared to pay for.

Of course, any reputable architectural school includes such subjects as building construction and the making of working-drawings in its curriculum, but it does not, cannot, in fact, give that hard and intensive training in the preparation of working-drawings which can only be acquired in an architect's office. Even the most brilliant of students will, on leaving the schools, have to go through a period of some six months or more before he is worth even a very modest salary.

To the enthusiastic young architect who has just finished a long and expensive training at an architectural school it is a sufficiently chilling experience to pass from the full life of the school, with its varied interests and rich associations, into the work-a-day world of an average office, with its regularity of hours and what at first must seem its monotony of work; but when, in addition, he is told that he must spend some further period in the gaining of experience before he can hope to earn a salary, it is little wonder if he begins to doubt the wisdom of his choice of a vocation. Or he will begin to question the training that the school has given him, and to wonder whether it could not better have combined the practical with the theoretical.

It is only when he is established in practice himself that he will realize to the full what his early training has done for him and how much he owes to it; that its purpose was not to equip him for the immediate earning of his bread-and-butter as soon as he left the portals of his school or university, but to fit him for that much more important part he will have to play as an independent architect. The nearer the bread-and-butter line one starts, as a rule, the nearer one finishes. The wages of the average labourer are much the same for the man of twenty as the man in the prime of life.

And if the young architect is unduly depressed with the difficulty of establishing himself in his profession let him ask himself whether it is much easier for a lawyer, doctor, or even a divine to establish himself in his. But what is wanted is that he should realize all the difficulties that lie in his way and then make up his mind to overcome them or quit architecture. For his difficulties, even when he has successfully established himself, are by no means over.

The successful doctor or lawyer, once having secured his clients, may reasonably hope to keep at any rate a great majority of them throughout his and their lives; but the architect is, as it were, always making a new beginning. The average man does not as a rule continue building for ever; he builds one house or one factory and then he has finished, and the architect must seek a new client. One of our most successful architects confessed in an expansive moment that many of his jobs came apparently out of the blue—when things were looking their blackest something turned up!

Mr. Micawber's spirit of waiting is not to be despised if one is ready and qualified to take advantage of the mysterious something when it does turn up. Just at the present time things are looking a little dull in the architectural world, but as Monsieur Coué would say, "this will pass."

Our present troubles are mainly political and industrial, and when these have been overcome, as they must be, then architects should reap a royal harvest. Building owners have been putting off the time of building for many and varied reasons—they have been waiting for the price of materials and labour to come down, they are awaiting a revival of trade and a stabilizing of conditions—but they cannot put off building indefinitely.

And the life of the nation is being starved for the want of adequate buildings. Whether it is factories, houses, places of amusement, hotels, and the like—we hear the same demand on every hand for more and more buildings. Whole areas in the centres of our great cities are decayed and derelict, and await rebuilding, the housing problem has only just been touched, and factories and business premises are wanted everywhere, whilst the provisions of the compulsory Town Planning Act should provide a fruitful field for architects. One of the most hopeful of signs is the increasing number of private individuals who are at the present time contemplating or are in process of building their own homes.

Domestic architecture is a very good barometer to gauge the position of the profession. Always the first kind of building to feel the effects of a slump, it is usually the last to recover, so that if there is a prospect of our domestic architects becoming busy, the rest of the profession may take heart for the future.

We do not mean to infer that there are no difficulties in front of us, but what we do say, unhesitatingly, is that the worst is over and that the prospects for the future are brighter than they have been for some considerable time.

A Question of Foresight

The new Southwark Bridge, opened with much ceremony but a few months ago, is already "up"—not because the roadway is prematurely worn out, but because the necessity for an electric cable was overlooked while the bridge was in course of construction. How essentially English! We pride ourselves on our efficiency in "practical matters," and overlook a little detail like an electric cable. We lay magnificent macadam roads and asphalt pavements, and promptly pull them up to put in gas mains and supply pipes. How many miles of suburban paving must have been spoiled in this way alone! But apart from the unsightliness that results from repeated "breaking-up" and "making-good," there is the not unimportant item of cost to be considered. No matter by whom this is ostensibly borne—whether by local authority or private supply company—it must ultimately come back upon the suffering ratepayer, either in the form of heavier rates or increased supply charges. What is the remedy? Foresight: a little more imagination on the part of our civic representatives and those who work under their direction. Very few of our most pressing "problems" would exist to-day if a little foresight had been exercised in the past: there would be no Piccadilly Circus problem; no St. Paul's or Charing Cross Bridge controversy; no street widening questions; and—Southwark Bridge would not be "up." Much is heard nowadays about "Adult Education" and "Continuation Classes." Why not rope in our mayors, aldermen, and town councillors? A short course in Civics and Economics would do them a world of good.

Obsolete By-laws

At last the nuisance of obstructive by-laws seems to be engaging the active attention of the Ministry of Health. It is true that the Local Government Board, in 1918, urged the repeal of all by-laws made before 1900, and at least the examination and amendment of those of later date; but it is one thing to recommend a course of action and quite another to ensure its being put into effect. We learn that Sir Alfred Mond has now sent out a circular to all local authorities strongly urging them to revise all by-laws which are in any way restrictive of building and development, irrespective of the date when the by-laws were made. This is a move in the right direction, and we hope that Sir Alfred will see to it that the recommendation is no longer evaded. Too long has Bumbledom been allowed to stand in the way of the legitimate development of the building industry.

No. 10 Downing Street

No. 10 Downing Street, the foundations of which have lately become so insecure that the Office of Works have been called in to strengthen them, is one of a number of houses built during the latter part of the seventeenth century by Sir George Downing, after whom the street is named. Downing had no idea of the official character that it was eventually to assume, for it was not until the reign of George II, when the premiership was inaugurated, that No. 10 became, as it has since remained, the official London residence of the Prime Minister. It had been occupied previously by the first Earl of Lichfield, but it went to the Crown as a result of the Earl's adherence to the fortunes of the exiled Stuarts, and in 1731 Sir Robert Walpole persuaded George II to attach it to the office of the First Lord of the Treasury. The description of Downing Street in Seymour's "Stow" no longer applies. Writing in 1735 he describes it as "a pretty open space, especially at the upper end, where are four or five very large well-built houses . . . . each having a pleasant prospect into St. James's Park, with a Terras Walk." These houses have been swept away, and with them the "Terras Walk," which has been succeeded by the flight of steps that now terminates the street towards the park. If Sir Gilbert Scott had had his way Nos. 10 and 11 would also have disappeared, for his public offices, which form the southern side of Downing Street, were intended to be extended northwards, across the western or park end of the street. So much is to be gathered from the unfinished arches on the north front of the Foreign Office. No. 10 Downing Street is not so much a house as a unit in a very complex mass of buildings forming the Treasury, and including the Court of Judicial Committee on the south-east, the old Treasury of Cardinal Wolsey on the north-east, the Treasury buildings on the northern front, the Cockpit on the western side, and, finally, 10 Downing Street. There is no external evidence to show that these are all part of one and the same building; and there is great difficulty in identifying the several parts, all of which are closely connected. Here, within the space of a few square yards, may be found the handiwork of Wolsey, Wren, Kent, Vardy, Adam, Soane, and Barry. There has been a great deal of controversy about the position of the Cockpit; but the late Mr. Loftie, after much research, was convinced that it stood on the site of what is now the Old Council Chamber, a small but handsome apartment within the Treasury buildings.

Chinese Wall-Papers

By W. STEWART-GREENE

THE history of wall-paper, the most perishable of all wall hangings, is hampered by the insufficiency of records, and scarcity of early examples. The first reference I can find is that a patent was granted by Charles I in May 1634 to Jerome Lanyer for printing paper hangings in block upon linen, leather, etc., and that a Mr. Jackson, a manufacturer of paper hangings, published in 1734 a book on a new method of printing classical subjects for paper hangings. About 1770 we had a considerable export trade in paper hangings to America.

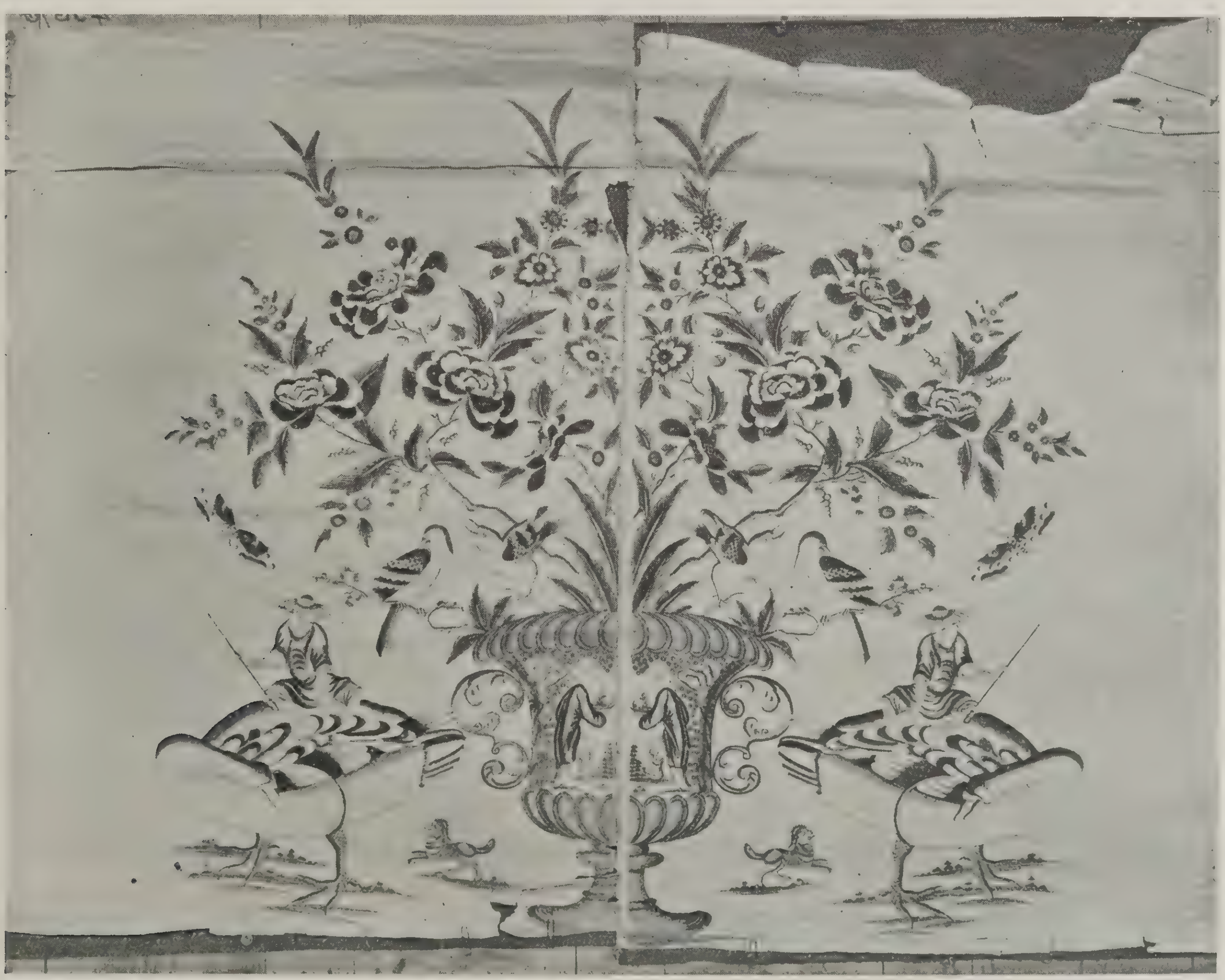
In 1786 George and Frederick Eckhardt started at Chelsea a manufactory of paper hangings in which they used copper plates as well as wood blocks, and the designs were partially finished by artists. They also printed on silk and linen as well as on paper. Just about the same time a Mr. Sherringham started in Soho; and William Bayley was granted a patent for making paper hangings. It is interesting to note that until about the nineteenth century, paper hangings were printed on sheets of paper about 28 in. by 22 in.

I believe that an extremely interesting old block paper can be seen at Penshurst in Kent, dated about the end of the Stuart or possibly William and Mary period, executed in block in two colours upon a gilt leather ground; there are also one or two block papers at Hampton Court dating from about the time of George I. I believe the Victoria and Albert Museum have a good many examples which they have collected from time to time from old houses, and on some of them the duty stamp is shown, as there was a tax on all paper hangings at that time; and the London Museum have some very interesting samples of old paper hangings printed both from copper and wood blocks and coloured by hand. On reference I find that Mr. J. Gregory Grace read a paper in 1839 at the Institute of British Architects in which he refers to an advertisement in the " Postman " of 1702 by a firm of the City of London recommending their wall papers.

The influence of Chinese ornament was very marked, and it is one of the English imitation Chinese paper hangings that is referred to in a wall-paper order given in 1737 to one Dunbar of Aldermanbury (whom I have not heard of before as a manufacturer of paper hangings), by Thomas Hancock, of Boston, U.S.A.

" Sir," said Mr. Hancock, " Inclosed you have the Dimensions of a Room for a Shaded Hanging to be done after the same pattern I have sent per Captain Tanner, who will deliver it to you. It is for my own House and entreat the favour of you to get it done for me to come Early in the Spring, or as soon as the nature of the thing will admitt.

" The pattern is all was Left of a Room lately Come over here, and it takes much in ye Town and will be the only paper-hanging for Sale which I am of opinion may answer well. Therefore desire you by all means to get mine well done and as cheap as possible, and if they can make it more beautiful by adding more Birds flying here and there, with some Landskips at the bottom, should



A CHINESE WALL-PAPER OF FORMAL DESIGN

like it well. Let the ground be the same colour as the pattern. At the top and bottom was a narrow border of about 12 in. wide which would have to mine. About three or four years ago, my friend Francis Wilks, Esq., had a hanging done in the same manner but much handsomer, sent over here from Mr. Sam Waldon of this place, made by one Dunbar in Aldermanbury, where no doubt he, or some of his successors may be found. In the other part of these Hangings are Great Variety of different sorts of birds, Peacocks, Macoys, Squirril, Monkys, Fruit, Flowers, etc.

"But a greater Variety in the above mentioned of Mr. Waldon's and should be fond of having mine done by the same hand if to be met with. I design if this pleases me to have two rooms more done for myself. I think they are handsomer and better than Painted Hangings done in Oyle, so I beg your particular care in procuring this for me, and that the patterns may be taken care of and returned with my goods."

It was with the idea of introducing paper hangings of a different type to this that a Mr. Jackson, of Battersea, who was printing wall papers at that period, urged the reproduction of the most celebrated classic subjects, statues, and landscapes, in preference to imitations of Chinese papers. To quote Mr. Grace, "He published a little work in 1734 which throws some light on the use of wall papers at that time. He gives reduced copies of his designs, mostly taken from Italian pictures or antique sculpture during his residence in Venice. Instead of flowing patterns covering the wall, his designs are all pictures, landscapes, architectural scenes or statues treated on panels with plain paper or painting between. They are all printed in oil with wooden blocks worked by a rolling press, apparently an invention of his own. They are all in the worst possible taste and yet are offered as a great improvement on the Chinese papers which he says were then in fashion." To quote Mr. Jackson's words, he says that by the use of his paper hangings "the person who cannot purchase the status themselves may have these prints in their places, and thus effectually show his taste. 'Tis the choice and not the price which discovers the true taste of the possessor and thus the Apollo Belvedere, the Medeccean Venus, or the Dying Gladiator, may be disposed of in niches or surrounded with a mosaic work in imitation of frames, or with festoons and garlands of flowers, with great taste and elegance, or, if preferred, landscapes after the most famous masters may be introduced into the paper."

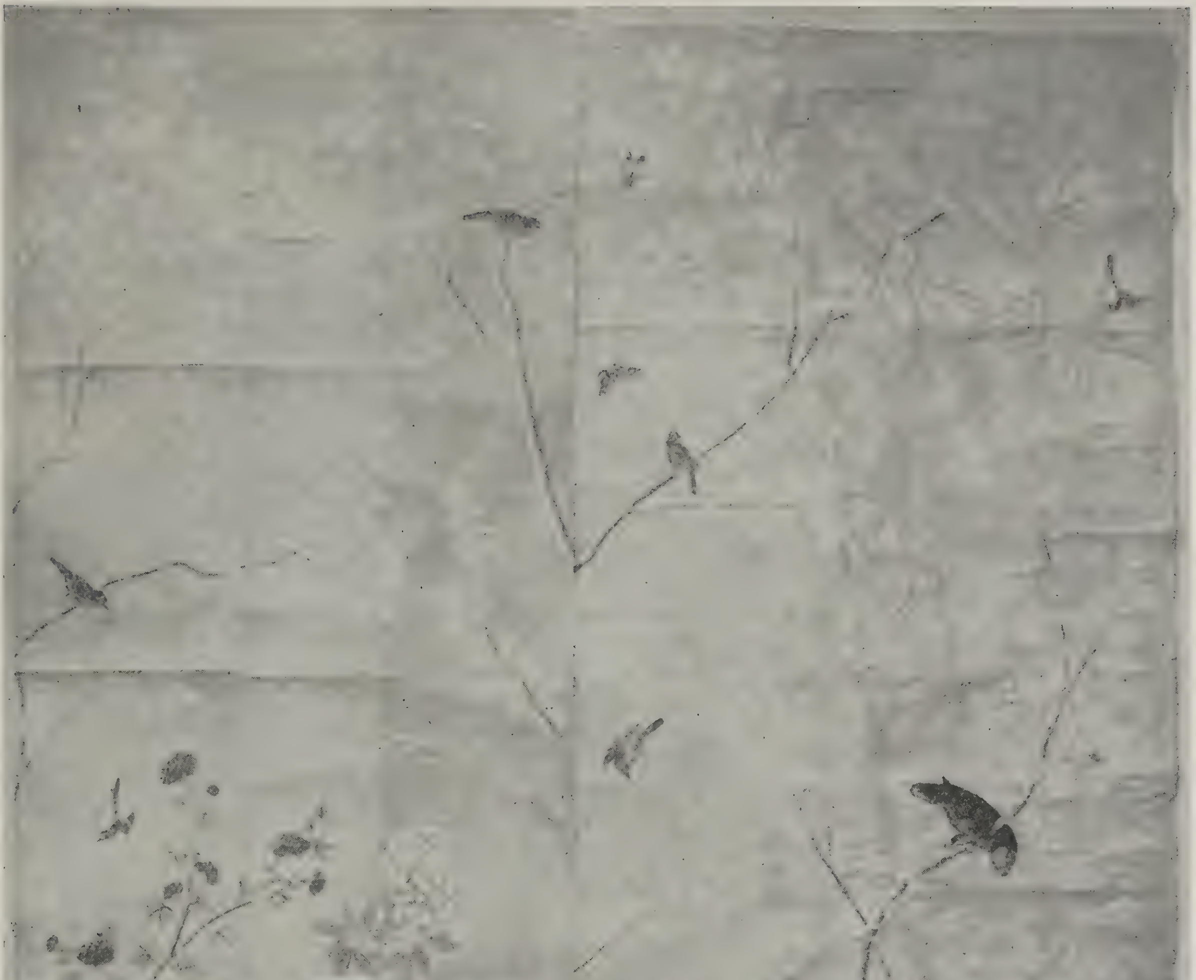
A CHINESE WALL-PAPER.

A CHINESE WALL-PAPER.

Notwithstanding all Mr. Jackson's efforts to counteract the tendency to Chinese design, it continued to have a great influence, for I find that the author of the "Handmaid of the Arts," published in 1768, writes that "The Chinese, who intermix printing and painting much more than we do, seem to make a very advantageous use of the engraving on wood, in the execution of which they doubtless exceed what we have any conception of here, and produce very fine outline sketches which greatly assist in the painting even in very large pieces by means of wooden prints. It were to be wished, therefore, that the engraving on wood was more encouraged and cultivated here, especially as paper hangings, to the manufacture of which it is greatly subservient, is becoming now a very considerable article of trade, and at present possessed by ourselves alone." We had at that time an extensive export trade in paper-hangings with America and other foreign parts. And we are informed by Mr. Grace that a Mr. Taylor, who at that time was an eminent manufacturer of paper hangings and who visited France, reported on his return that he found the French paper hangings very inferior to our own both as to execution and beauty of design.

I find mention of Chinese wall papers being imported to England about 1712; they were very much the vogue about this date. The palace of Wanstead, built by Sir Richard Child, possessed a parlour finely adorned with a Chinese paper, and according to Mackay the figures, birds, and flowers were the loveliest he had ever seen. Lady Mary Montagu had also one.

The bedroom at Badminster is one of the most perfect

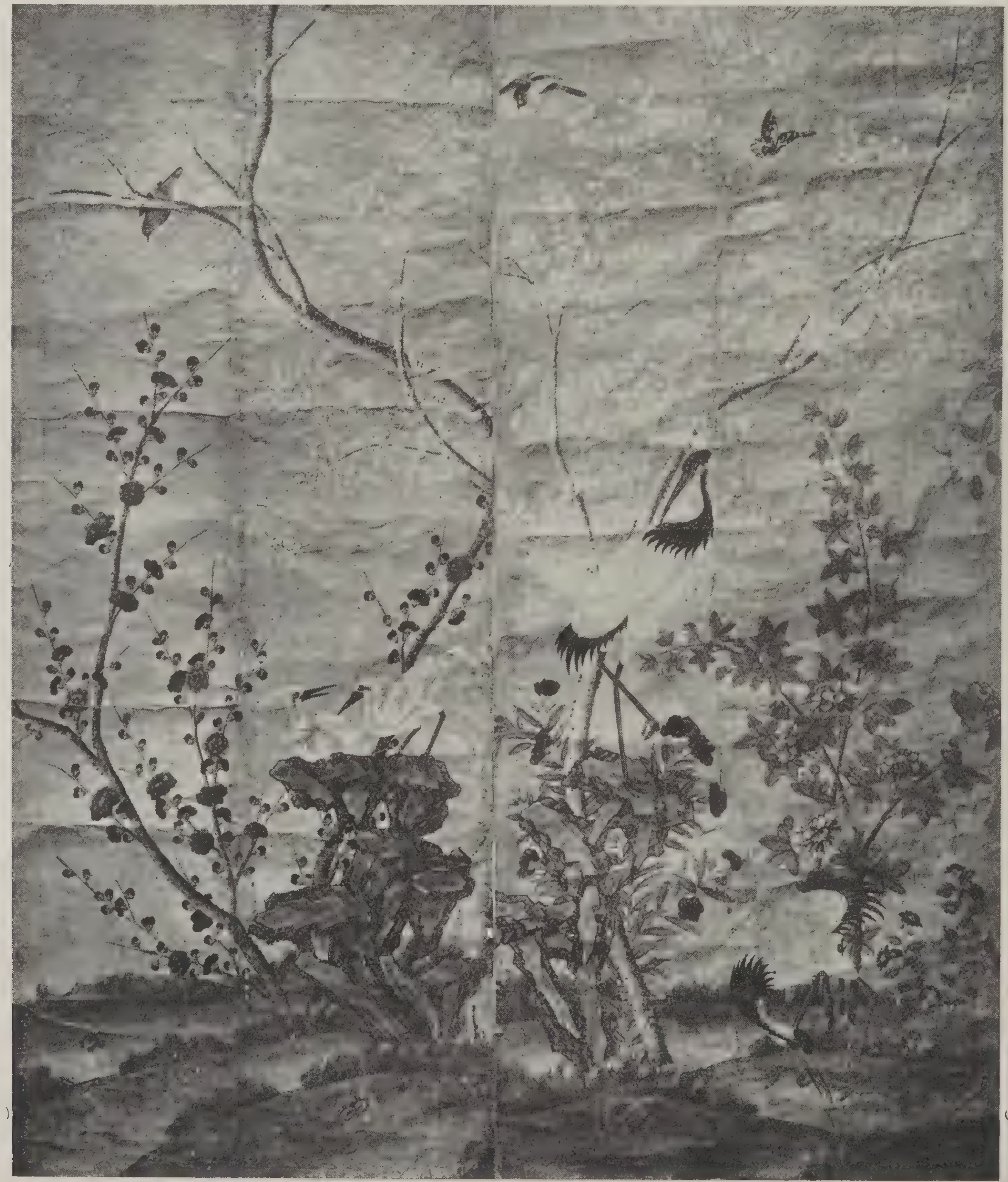


A RICH CHINESE WALL-PAPER, SHOWING A STRONG NATURALISTIC TENDENCY.

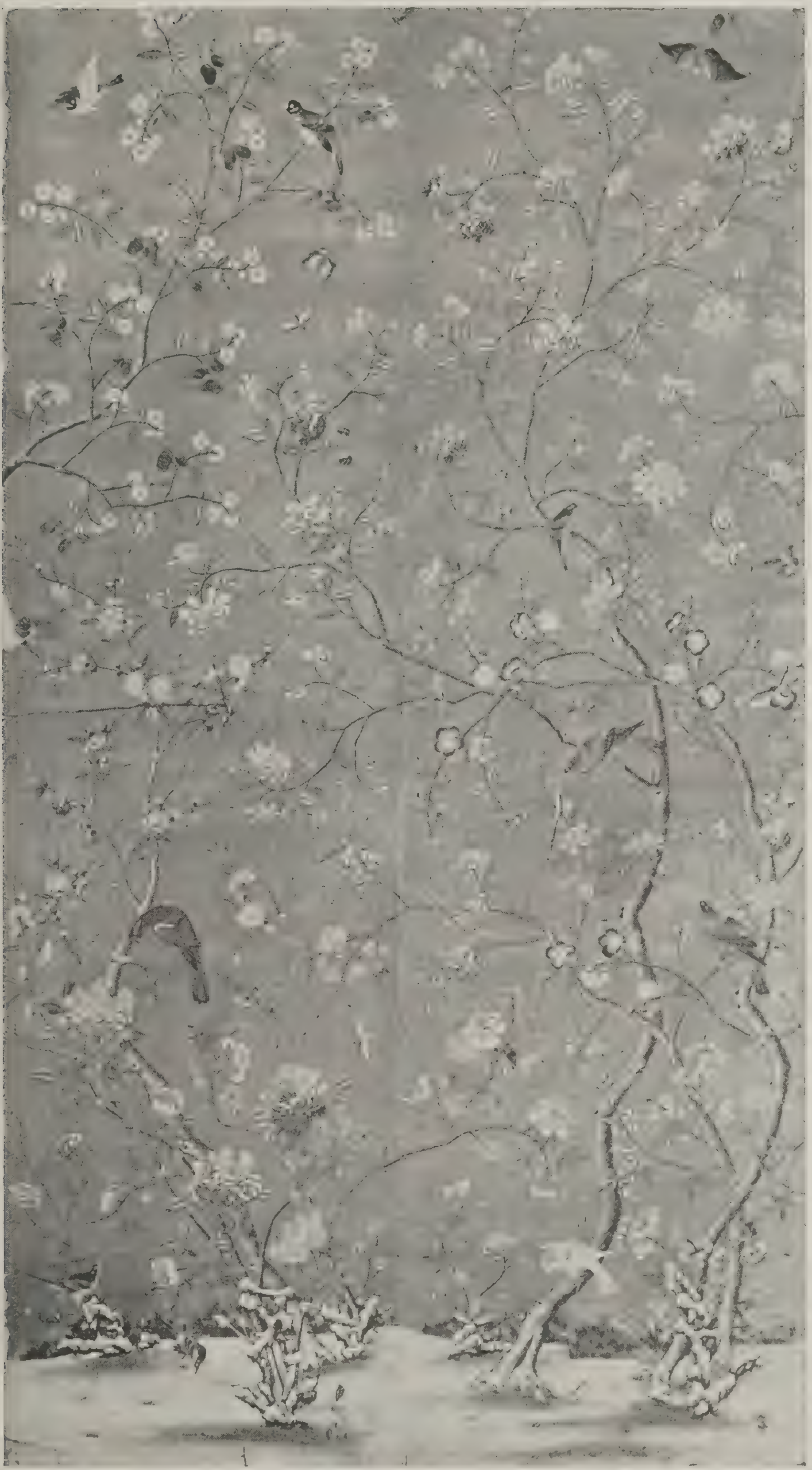
survivals, and there are good ones at Wotton-under-Edge in Gloucestershire, Cobham, Ightham Mote, and Ramsbury. The Duke of Atholl has a very fine set which he informed me was found in the Carpenter's Shop at Blair Atholl Castle quite recently. There is no doubt it was brought over from China 150 to 200 years ago and never used. One of these days, I hope to get a photograph of this most interesting example of Chinese paperhanging.

Some three or four years ago I found a very fine set of twenty-six old panels. Sixteen of these are being used in Mr. McLaren's new house in South Street, Mayfair. One of the themes used in the old wall papers is the cultivation of tea, weaving, etc. An example of this belongs to the Hon. Mrs. Heneage, of Coker Court, Yeovil. Recently I have seen three old sets of Chinese papers taken down from Beaudesert, which are at the moment for sale in London.

In London there is one of the finest examples of Chinese paper hangings in existence. It was brought over to England by Lord Macartney, the first British Ambassador in China, who returned to England in 1792. He took many presents with him and brought many back, and among them was this set of painted papers, which he presented to Mr. Coutts, the banker; and they remained as the decoration of the drawing-room at Coutts Bank, in the Strand, until 1905, when they were taken down and placed in the new buildings opposite Charing Cross Station. The space covered by the decoration is about 20 ft. by 30 ft. and 12 ft. high. The base of each breadth of paper commences with figures and objects of fair size representing streets and waterways; these gradually diminish in scale until they reach the mountain tops near the cornice of the room. There must be hundreds of figures introduced into the scenery, the manners, customs, and industries of the Chinese being portrayed in every possible manner. Not merely are the industries, such as silk spinning, tea cultivating, and fig drying, depicted, but there is also the daily life of the bazaar—marketing, pig driving, horse slaughtering, and endless subjects painted with the utmost care and detail.



A FORMAL COMPOSITION WITH A VARIETY OF MOTIVES.



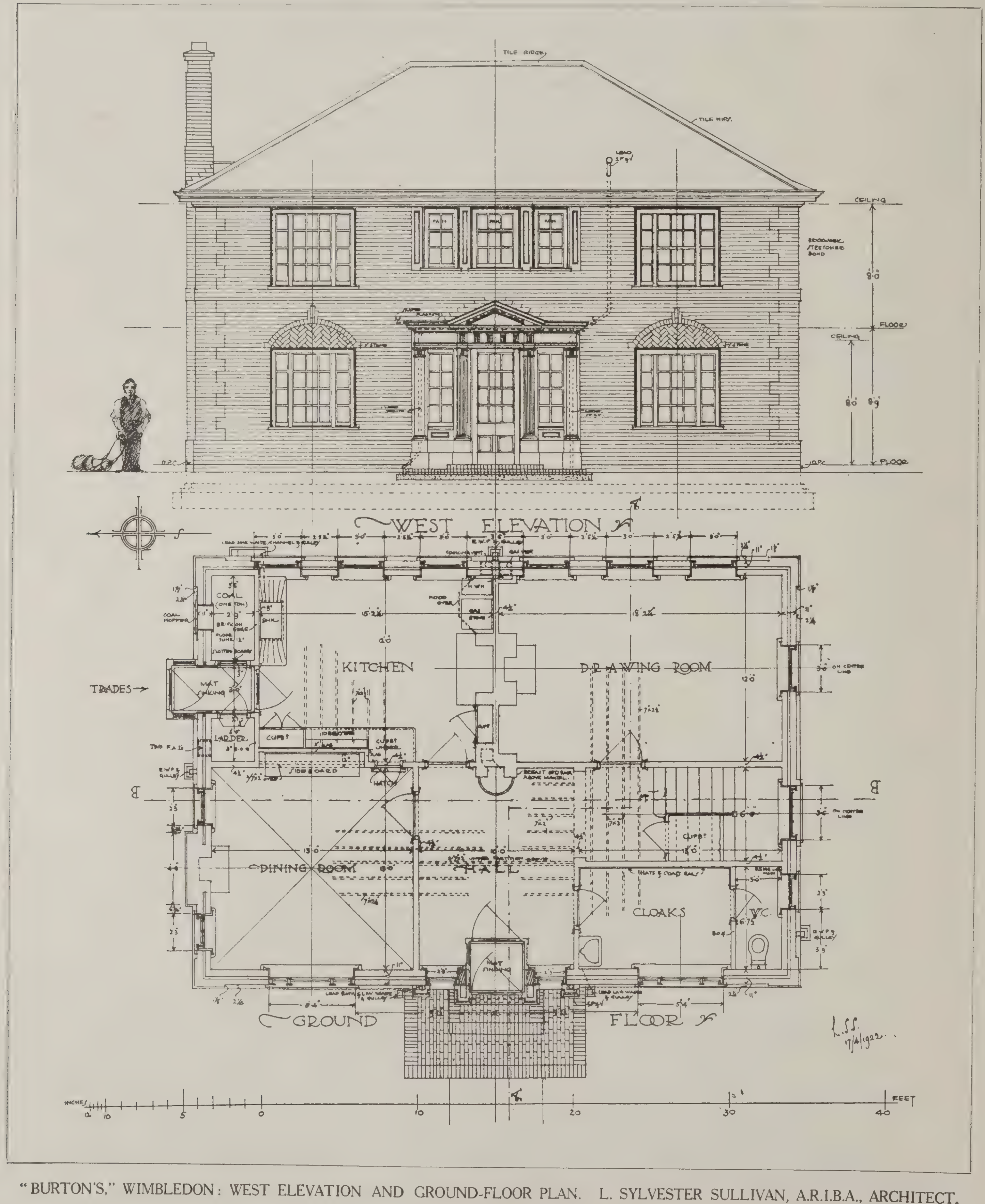
A DECORATIVE WALL-PAPER TREATMENT OF FLOWERING TREES.

"Burton's," Wimbledon

By L. SYLVESTER SULLIVAN, A.R.I.B.A.

THE especial requirements in connection with this house were that it should be planned on two floors only, and should be capable of being run, if necessary, in these times of difficulty, without maids. The bedrooms were not to project into the roof and were to have square ceilings, while the maids' bedroom was to be of fair size and made pleasant for leisure moments.

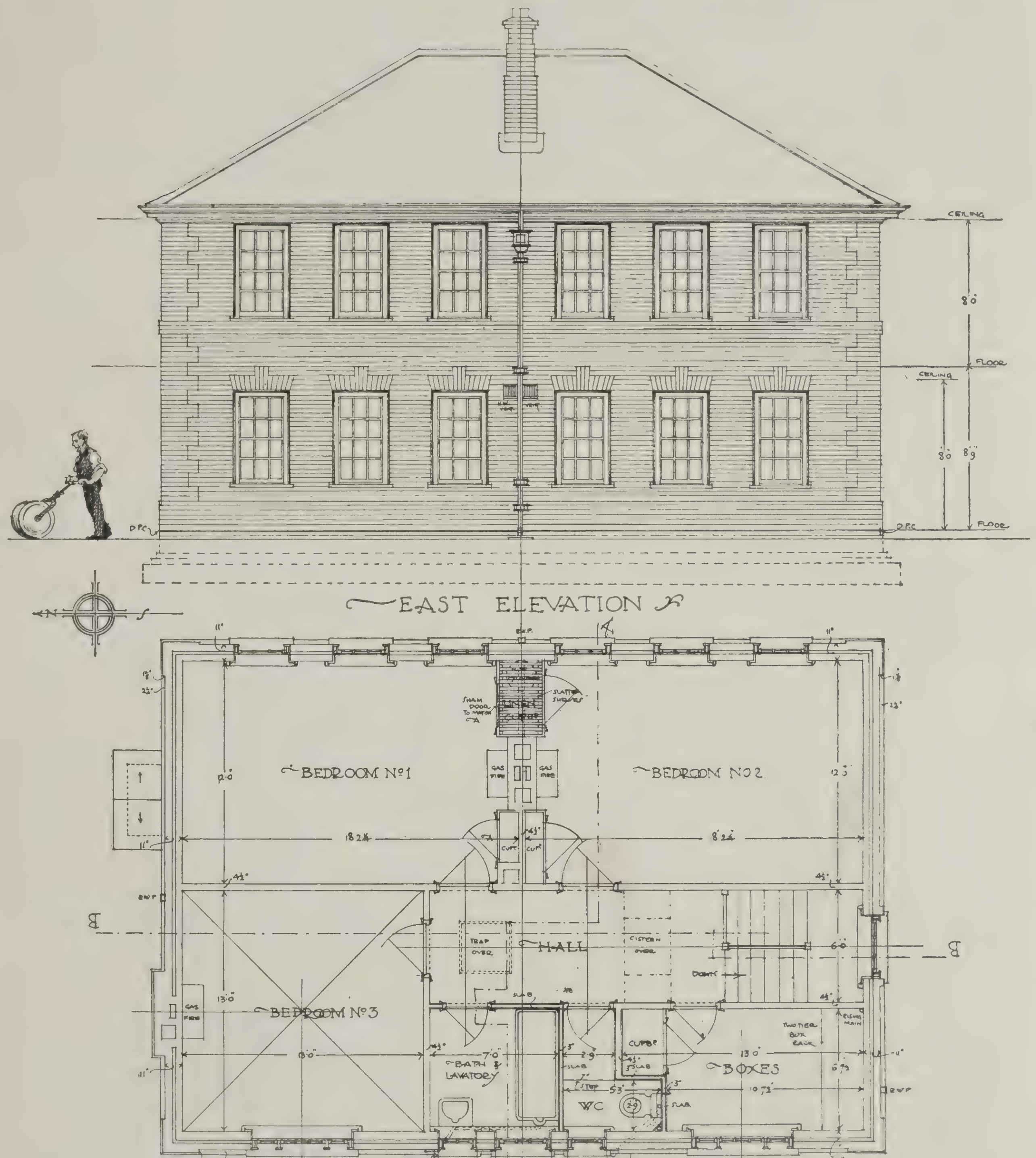
The scullery and kitchen is combined in one apartment for ease of work. The dining and drawing rooms are being



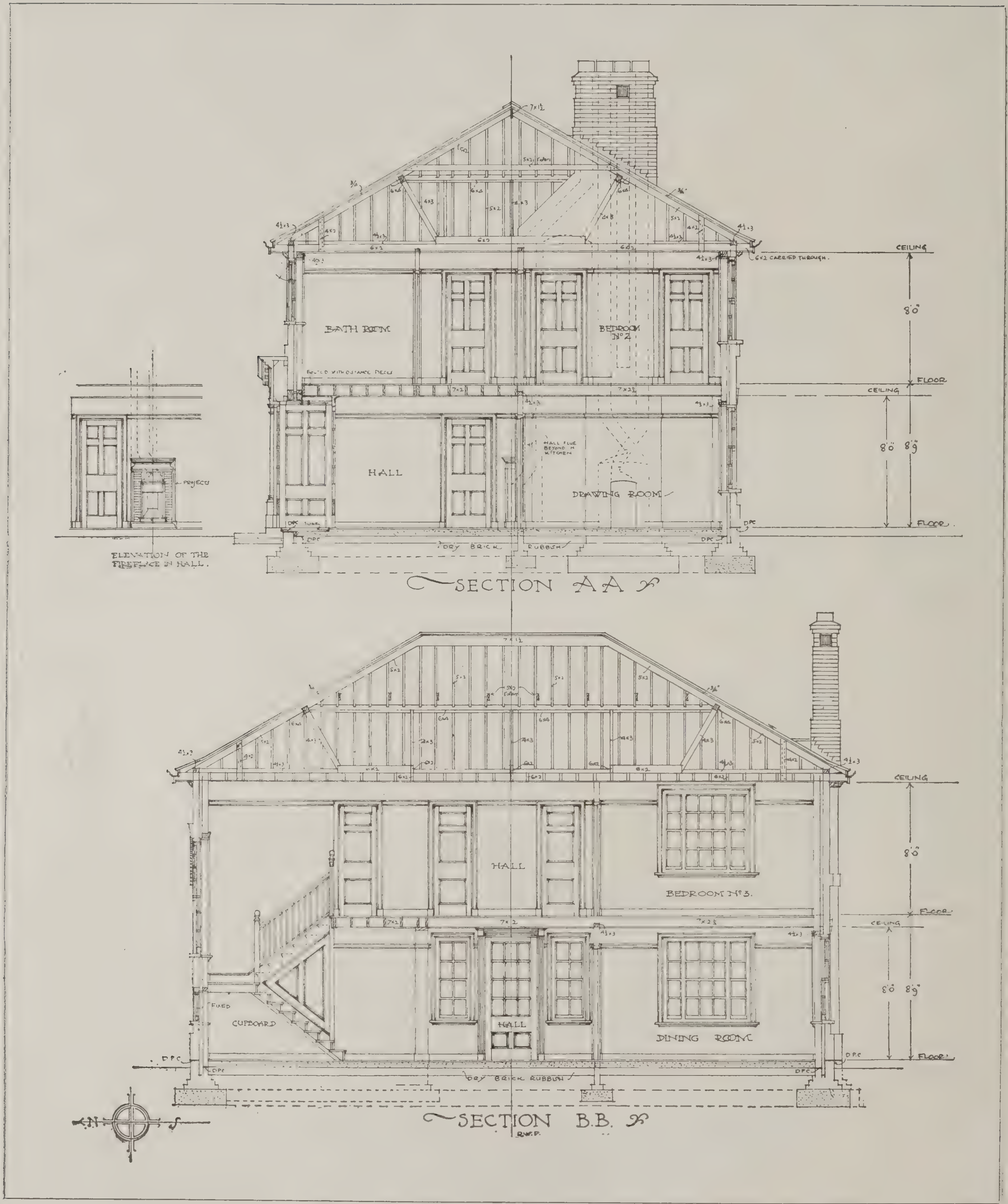
"BURTON'S," WIMBLEDON: WEST ELEVATION AND GROUND-FLOOR PLAN. L. SYLVESTER SULLIVAN, A.R.I.B.A., ARCHITECT.

panelled in oak with oak floors, the hall and staircase panelled in white. The ceilings are of Adam design, in anaglypta.

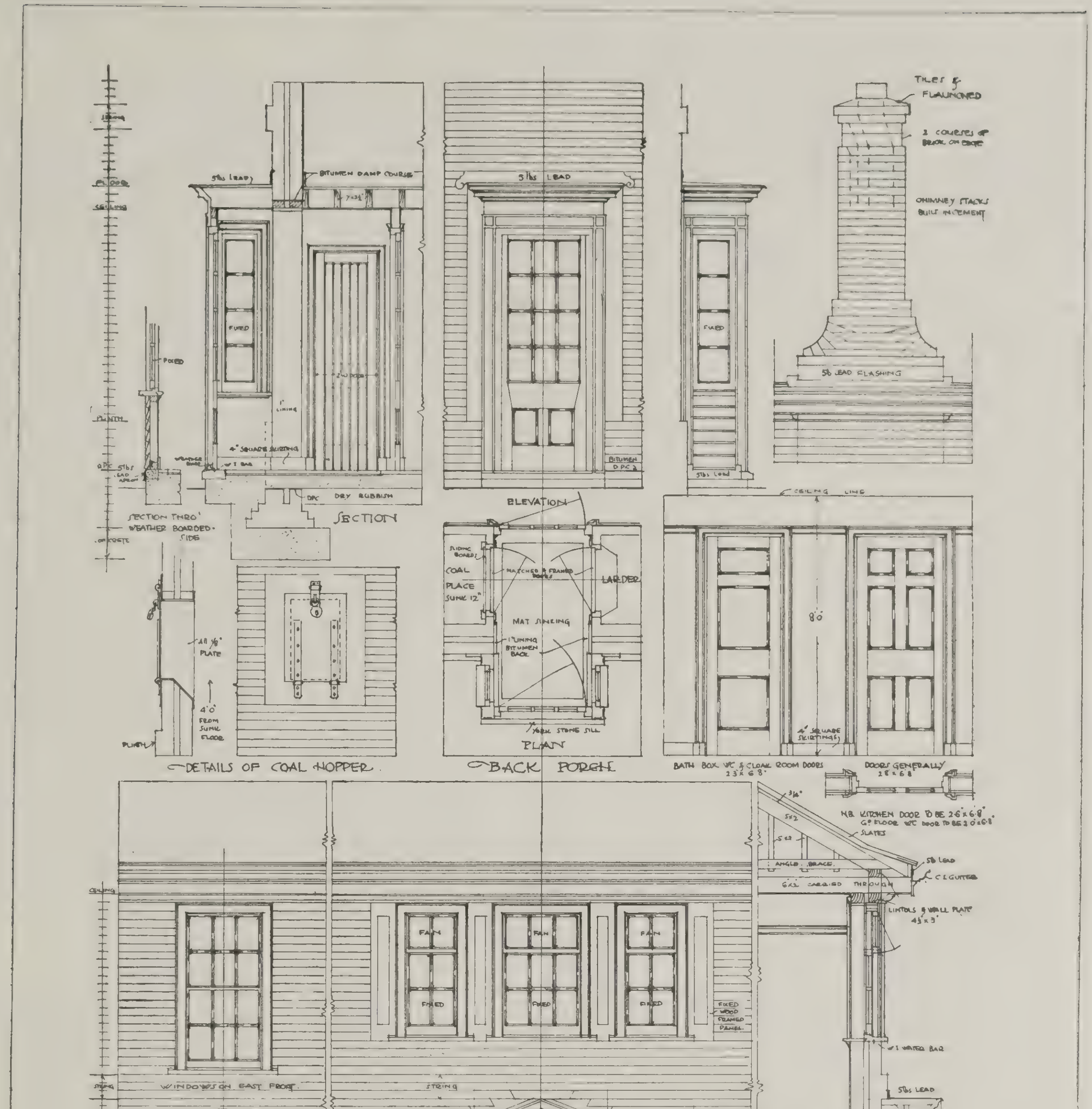
The general contractors are A. and F. J. Leather, of Victoria Street, S.W. Bricks were supplied by T. L. Lawrence, of Bracknell; green Welsh roofing slates, stoves, mantels, grates, and sanitary fittings and electric light fittings by Messrs. Geo. Wright (London), Ltd., of Newman Street, W.; oak panellings by Venesta, Ltd.; built-in gas fires by The Davis Gas Co., of Oxford Street, W.; R.W. goods by Elsley, Ltd. The hot-water service is heated dually from the kitchen range and from a Potterton hot-water circulator; the cast-iron electric light standards at the entrance are by Macfarlane's, of Glasgow.



"BURTON'S," WIMBLEDON: EAST ELEVATION AND FIRST-FLOOR PLAN. L. SYLVESTER SULLIVAN, A.R.I.B.A., ARCHITECT.



"BURTON'S," WIMBLEDON: SECTIONS. L. SYLVESTER SULLIVAN, A.R.I.B.A., ARCHITECT.



"BURTON'S," WIMBLEDON: DETAILS. L. SYLVESTER SULLIVAN, A.R.I.B.A., ARCHITECT.

Some Recent War Memorials

A War Memorial Chapel for the Royal Sussex Regiment in Chichester Cathedral

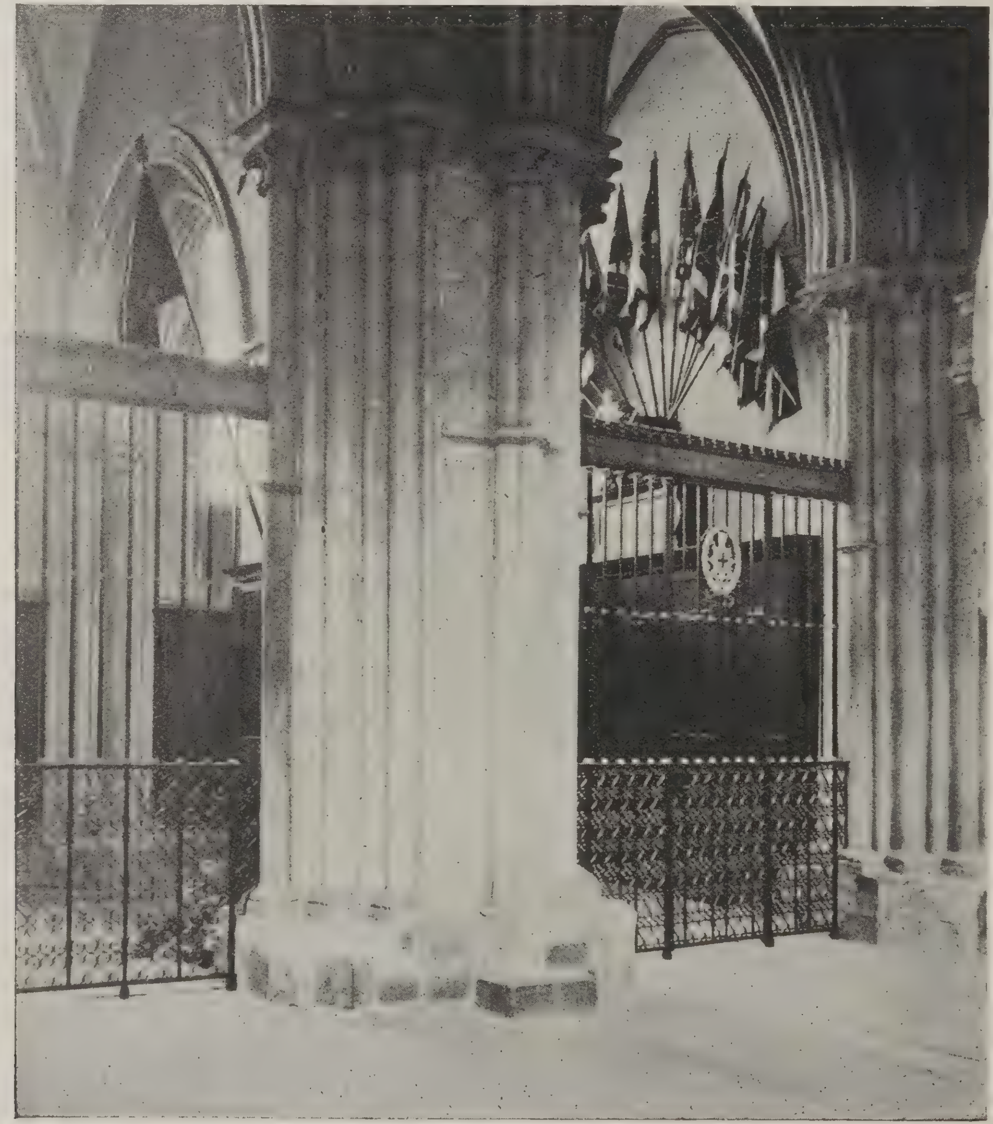
By EDWARD WARREN, F.R.I.B.A.

THE Dean and Chapter have made over to the Royal Sussex Regiment the chapel of St. George, in the south aisle of Chichester Cathedral, to be dedicated to the use of the regiment, in perpetuity, as a Memorial Chapel. The names, amounting to a total of over 7,000, of its officers, warrant and non-commissioned officers and men who fell in the war are now recorded therein, and the chapel has been enclosed by wrought-iron screens, and provided with an altar and hangings.

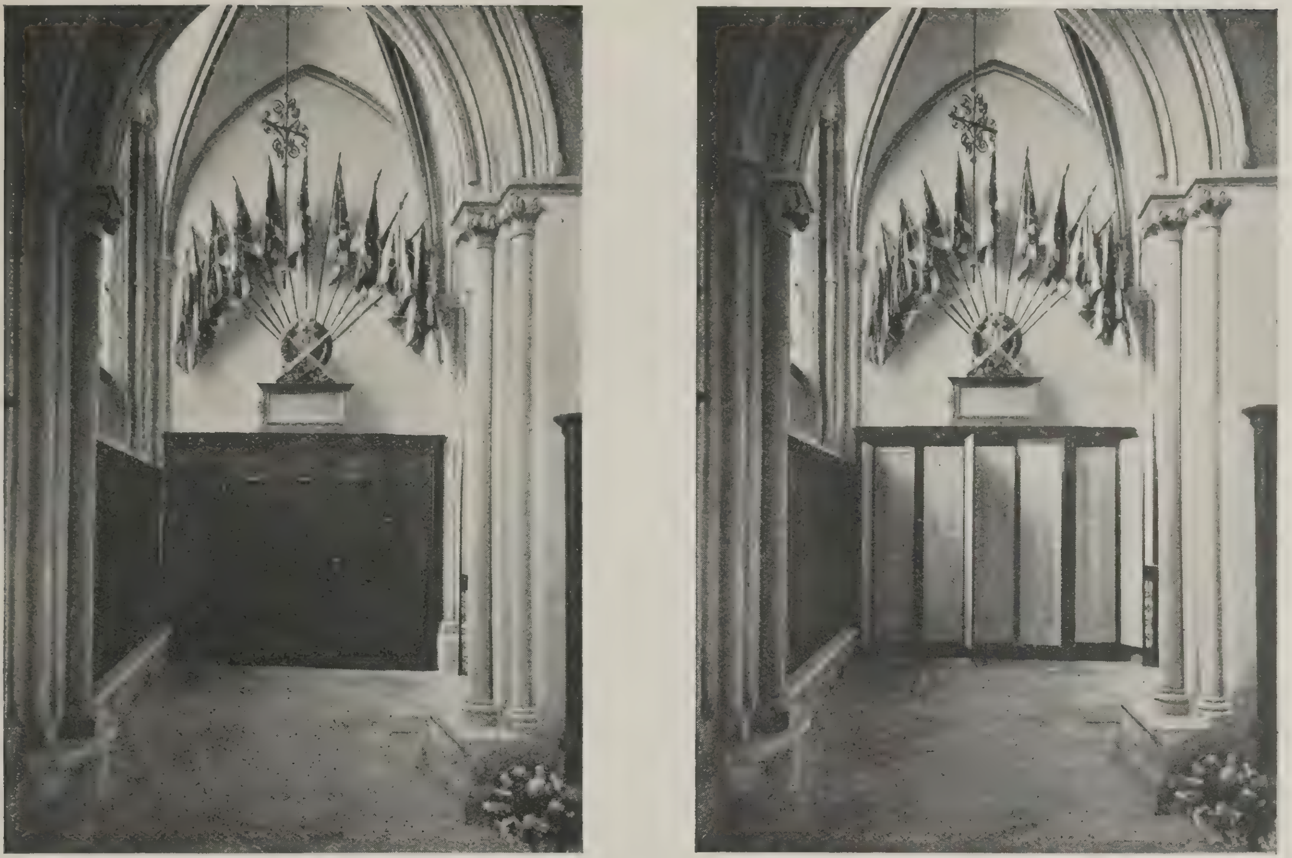
Further to confirm the identity and military character of the chapel, a number of regimental "colours," old and modern, have been placed upon its walls.

The difficult problem of recording the immense number of the names of the fallen upon the small amount of wall space available has been solved by quadruplicating that space by means of oaken record cases, ranged along the southern and western walls, and each containing four panels, three hinged and one fixed, upon which, under numbered battalion headings—gold and blue—the names are painted in alphabetical order in dark grey letters upon white, official ranks and decorations being in red. When the doors of these cases are closed the appearance of a quietly panelled chapel is maintained.

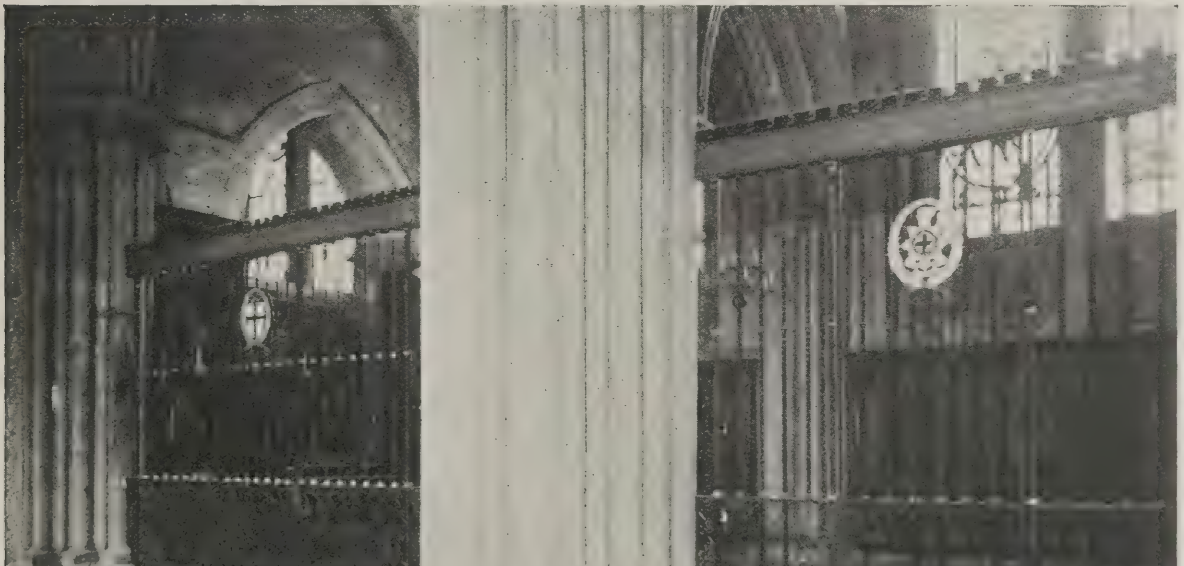
Over the centre of the western range of record cases is a grouped trophy of regimental colours rising from a colours stand, whose carved and decorated front shows the well-known and singularly handsome badge of the regiment, the single plume rising behind and curving over the Star of the Garter, above a pair of crossed swords surrounded



THE SCREEN LOOKING SOUTH-WEST FROM THE SOUTH AISLE OF THE CATHEDRAL.

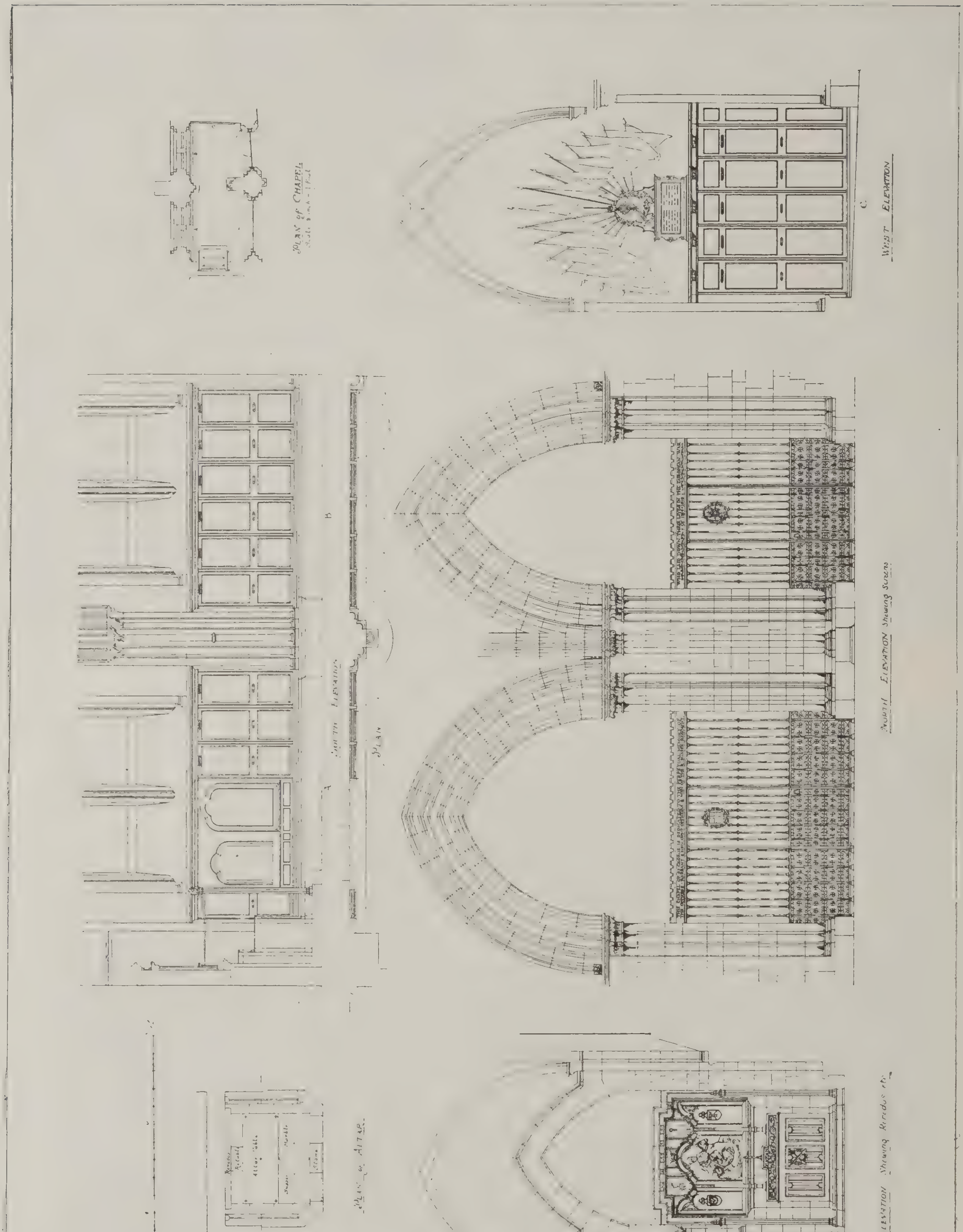


THE OAK RECORD CASES AT THE WEST END.

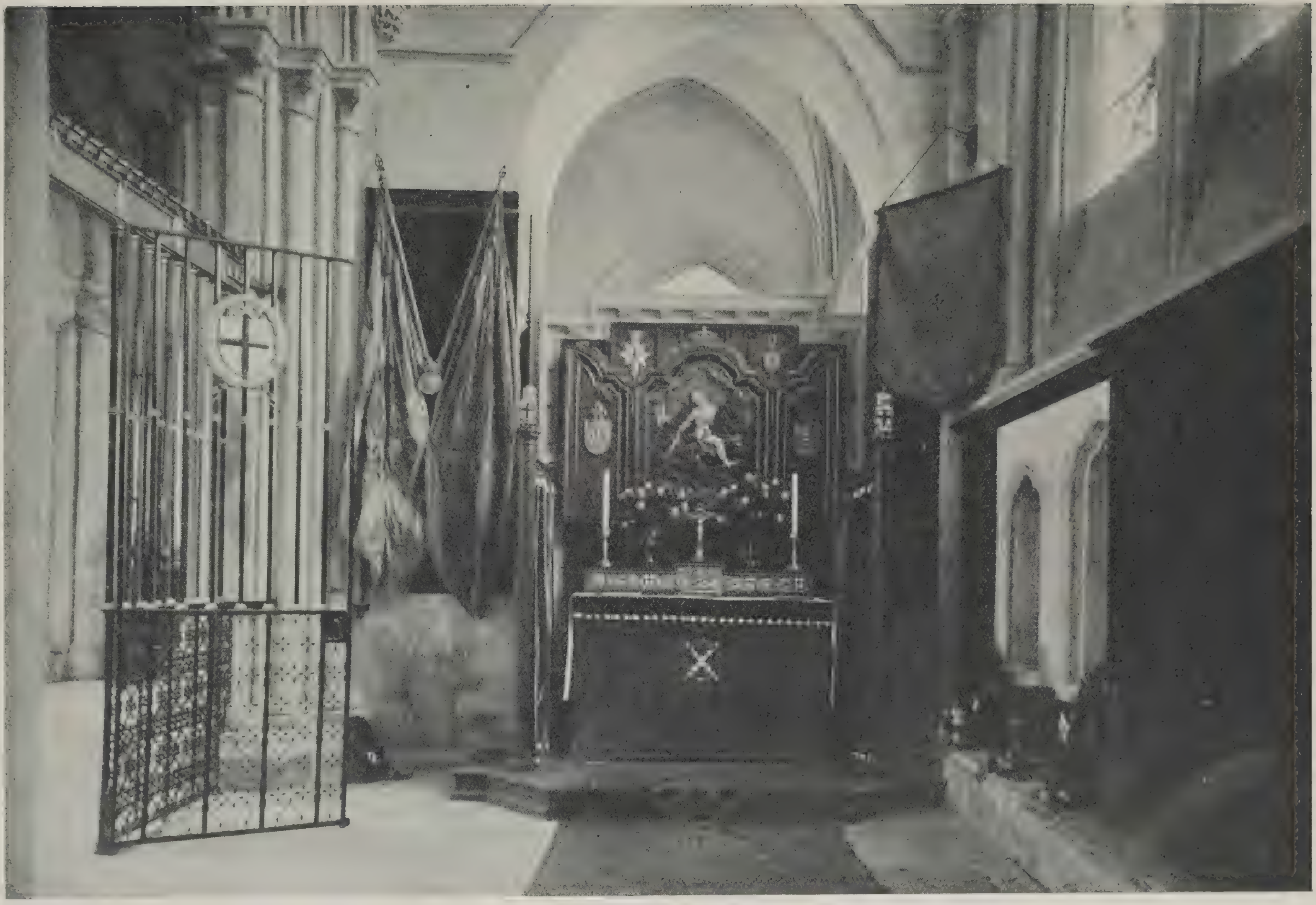


THE SCREEN LOOKING SOUTH-EAST FROM THE SOUTH AISLE.

THE ROYAL SUSSEX REGIMENT WAR MEMORIAL CHAPEL OF ST. GEORGE, CHICHESTER CATHEDRAL.
EDWARD WARREN, F.R.I.B.A., ARCHITECT.


Plan of Chapel
West Elevation
C
South Elevation
B
Plan
North Elevation Showing Screens
Plan of Altar
East Elevation Showing Reredos etc.

THE CHAPEL OF ST. GEORGE, CHICHESTER CATHEDRAL: WORKING DRAWINGS.



THE EAST END OF THE CHAPEL OF ST. GEORGE, CHICHESTER CATHEDRAL, SHOWING THE REREDOS AND OLD COLOURS.
EDWARD WARREN, F.R.I.B.A., ARCHITECT.

by a wreath of bays. This rests upon a tablet bearing in gold upon blue the battle honours of the regiment.

Upon the cornice of this range of records are carved and coloured bosses, amongst them the initials and crest of General J. C. Young, Colonel of the regiment, and of Colonel G. L. Courthope, who gave, from timber grown upon his estate at Whiligh, a considerable portion of the oak employed in the chapel, and notably in the oaken altar and its dais, and the triptych and retable.

This triptych has for its centre panel the slaying of the Dragon by St. George, mounted and in armour, carved in oak in low relief and partly coloured and gilded.

Upon the wings of the triptych are shields bearing emblems of the Passion, while above, on the fixed panelling of the reredos, are the arms of the Bishop of Chichester on the right hand, and the badge of the regiment on the left.

On either hand of the altar are " riddels " or low hangings of blue plush, with fringes of red, white and blue, supported by octagonal oak posts, each surmounted by carved and gilded lions supporting the shield of St. George, with its red cross upon a white field.

On the wall spaces at the sides are, on the left hand, a pair of old regimental colours, war-worn, tattered, and charming in the faded tones of their honourable decay, and on the right hand the blue banner of Mons with the badge and the date 1914.

On the retable are a pair of gilded candlesticks and a carved cross, all in oak.

The wrought-iron screens with their central gates, bearing, one the shield of St. George, and the other the regimental badge enclosed in gilded wreaths, terminate in a battlemented head or cornice, coloured and gilded. Along the external face of this, towards the aisle, runs the following inscription, in large gilt letters upon a dull blue ground :—

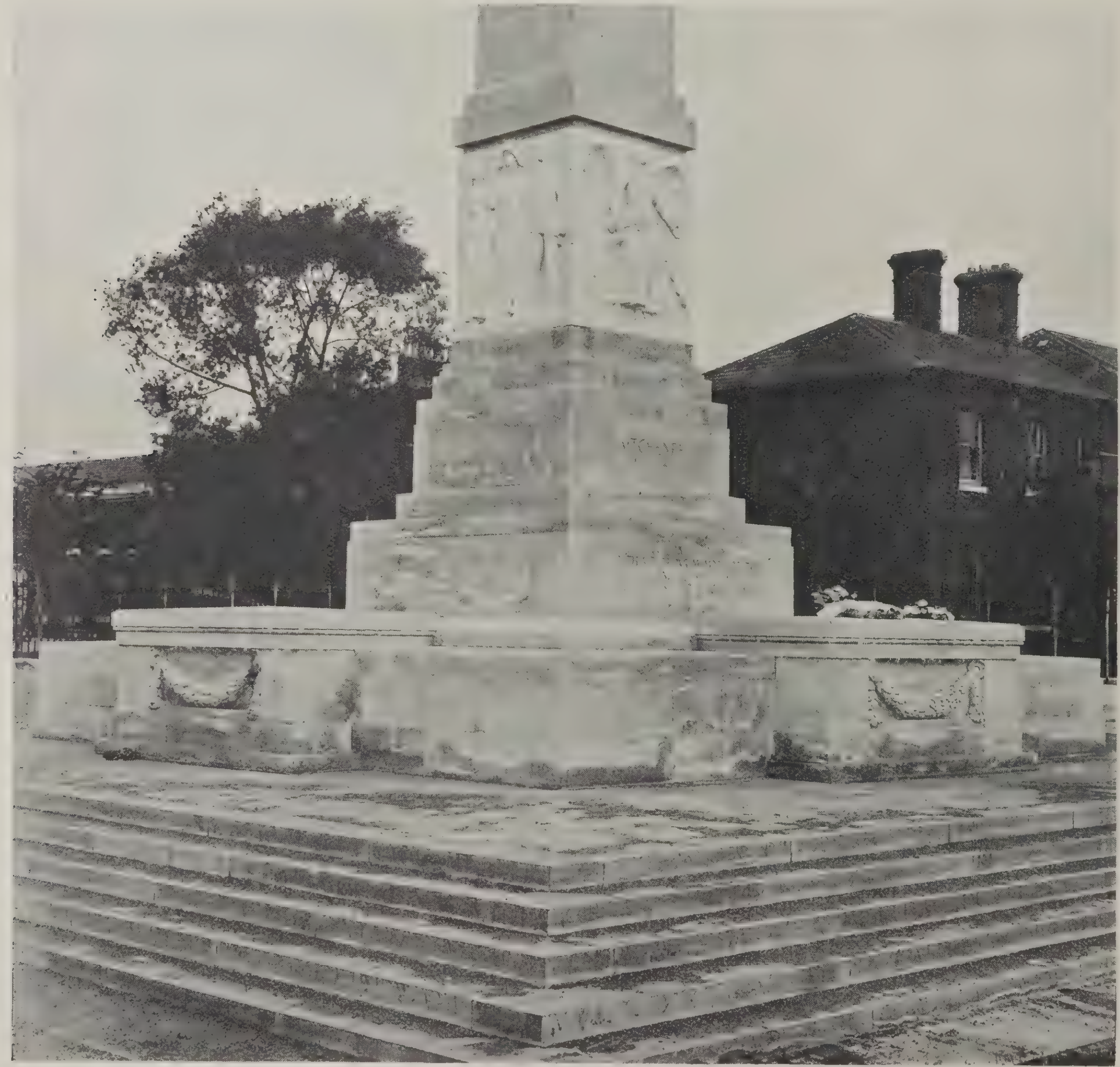
> "THIS CHAPEL OF ST. GEORGE IS DEDICATED TO THE PERPETUAL MEMORY OF THE OFFICERS, WARRANT AND NON-COMMISSIONED OFFICERS AND MEN OF THE R. SUSSEX REGIMENT, WHO LAID DOWN THEIR LIVES IN THE EUROPEAN WAR OF 1914–1919."

Along the inside are ranged at intervals the badges of the Cinque Ports and Yeomanry battalions, the regimental badge, and the crowned red and white roses of England, which a Royal regiment is entitled to display.

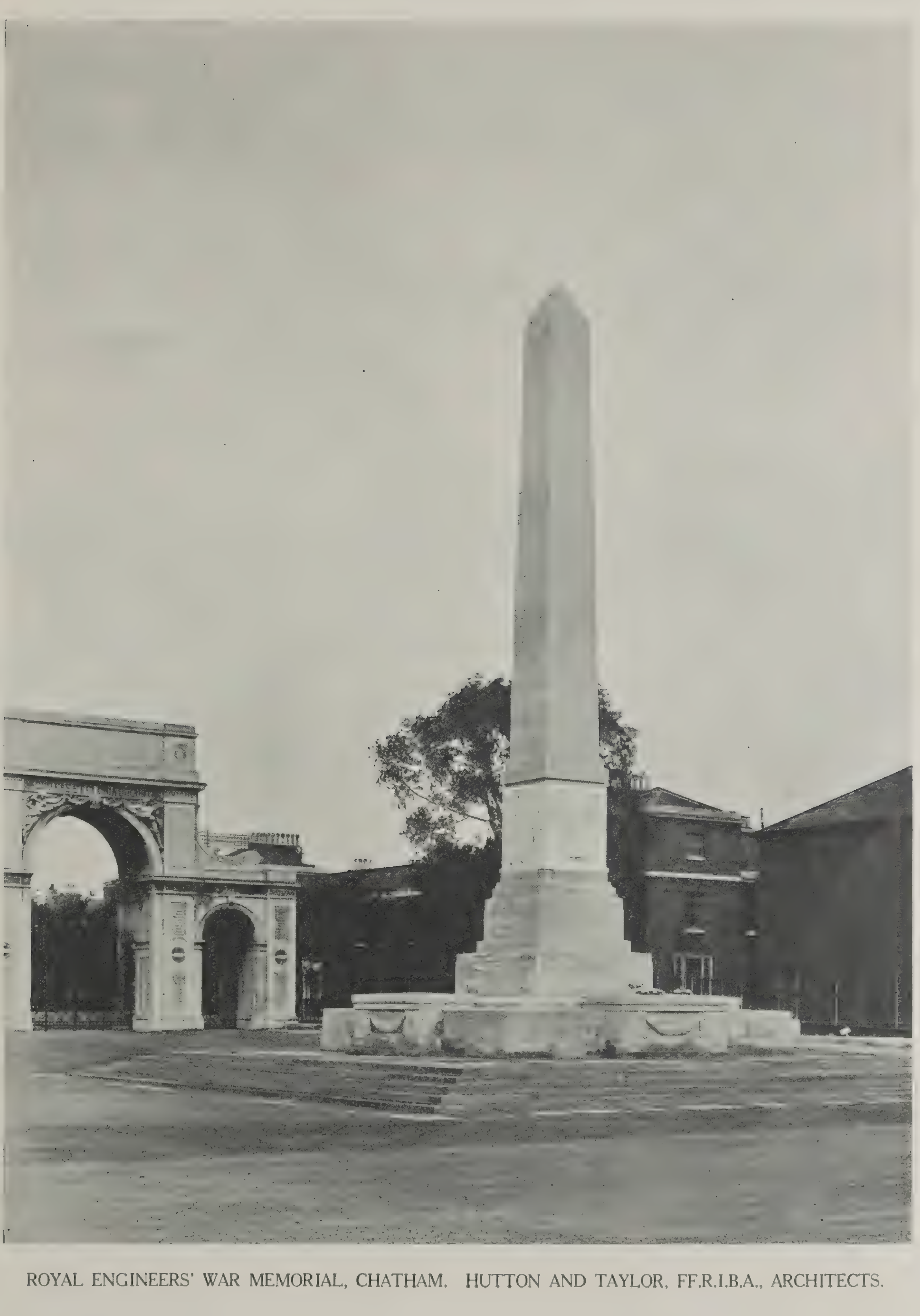
The work has been carried out from the designs, and under the direction, of Mr. Edward Warren, F.R.I.B.A., as follows : All work in stone and oak, the record cases, panelling, altar and reredos, and all carving except the centre panel of the last, as well as all painting and decorative work, other than lettering, by Messrs. Norman & Burt, of Burgess Hill.

The carved centre panel of St. George was modelled and carved by Mr. P. G. Bentham, sculptor, of Stamford Bridge Studios, Chelsea.

The wrought-iron screens and decorative ironwork were by Messrs. G. Hobbs & Son, of Hampstead Road, London ; the lettering of names, and of inscriptions, etc., by Mr. H. J. Manwaring, of Percy Street, London ; the altar hangings and upholstery by Mr. J. Barbour, of London, and the carved altar cross by Mr. Laurence Turner, also of London.



ROYAL ENGINEERS' WAR MEMORIAL, CHATHAM. HUTTON AND TAYLOR, FF.R.I.B.A., ARCHITECTS.



ROYAL ENGINEERS' WAR MEMORIAL, CHATHAM. HUTTON AND TAYLOR, FF.R.I.B.A., ARCHITECTS.

The Rolls-Royce, Royal Engineers', Calcutta Memorials, and Others.

THE illustration on this page shows a large war memorial which has been executed in bronze for Messrs. Rolls-Royce, Ltd. The design and models of the figure, crest, etc., are the work of Mr. W. Reid Dick, R.A., sculptor, whilst all the lettering has been modelled by Messrs. Singer & Sons, Ltd., of Frome, who also carried out the memorial. The tablet, which is approximately 11 ft. square, has several thousand letters on it, each of which had to be separately modelled by hand and subsequently chased by hand.

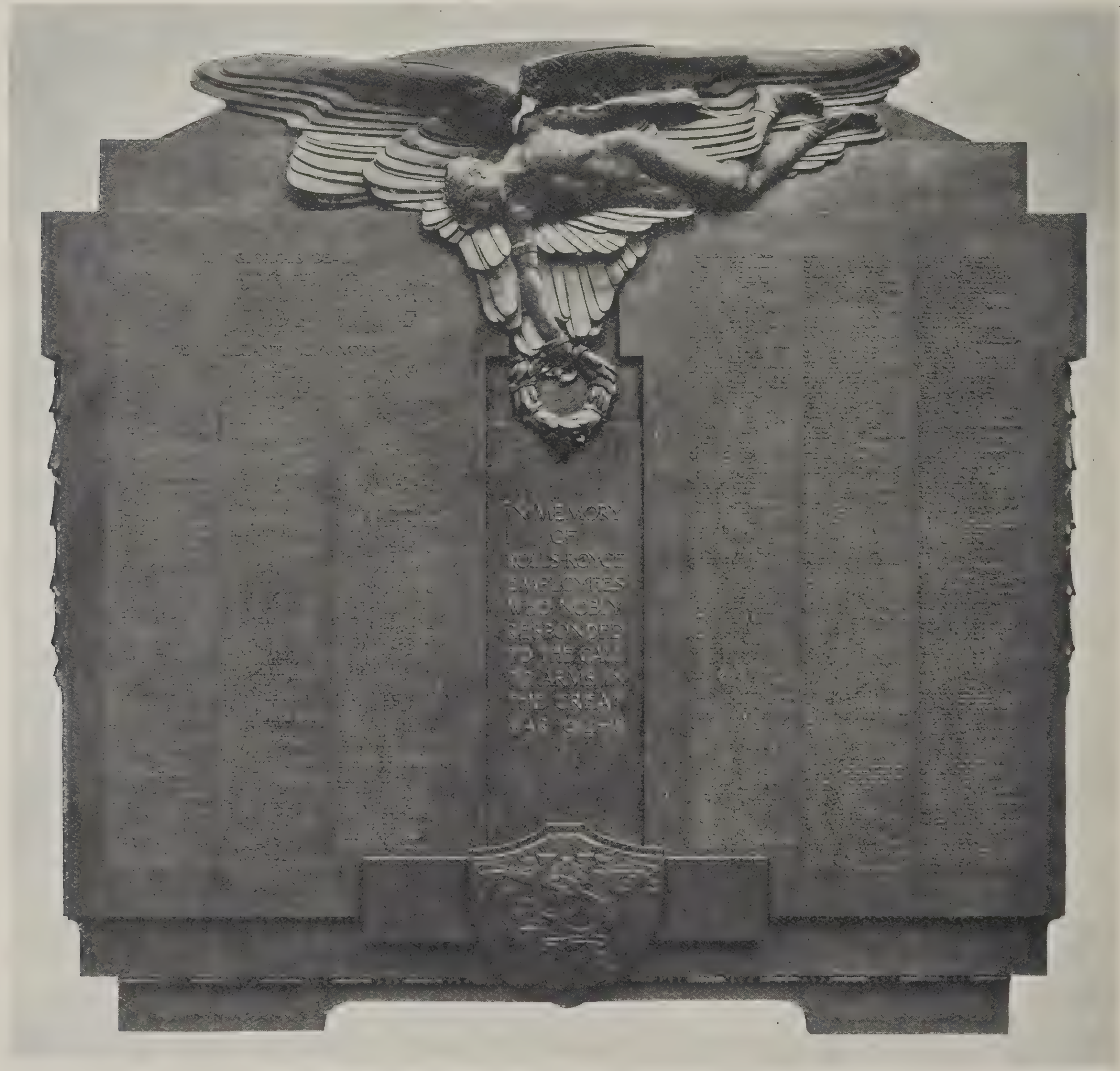
The memorial is erected at the London offices of Messrs. Rolls-Royce, and a second copy of it, also cast in bronze, is being erected at their works at Derby.

The Royal Engineers' War Memorial, at Chatham (pages 316-317), has been erected from the designs of Messrs. Hutton & Taylor, FF.R.I.B.A., who won the commission in open competition. It takes the form of an obelisk, and is one of the most successful designs of its kind erected in commemoration of the European War. The treatment of the base as a succession of diminishing stages, with sculptured panels on the four sides, is excellent.

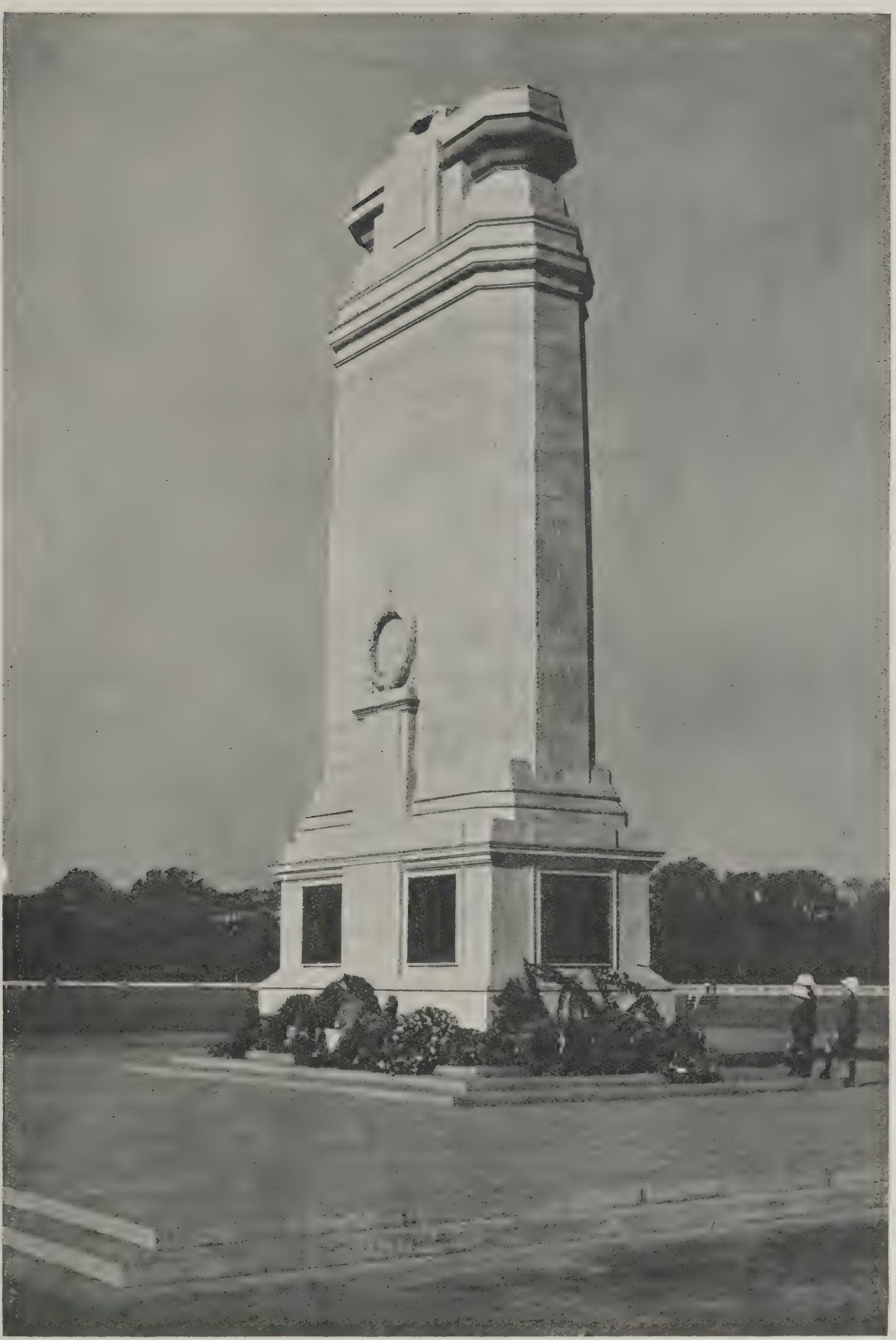
The Calcutta War Memorial, illustrated on the opposite page, has been erected from the designs of Mr. John Greaves. It takes the form of a cenotaph, and bears the inscription "The Glorious Dead." It is executed in Portland stone and stands upon a wide stone platform.

The centre panel on page 320 was designed by Mr. F. T. Bush, A.R.I.B.A., and carried out by Messrs. E. J. and A. T. Bradford, of London; while those on either side of it are from the design of Mr. Godfrey Pinkerton, F.R.I.B.A., and executed by Mr. Joseph Armitage. They are of Portland stone, afterwards coloured and gilded.

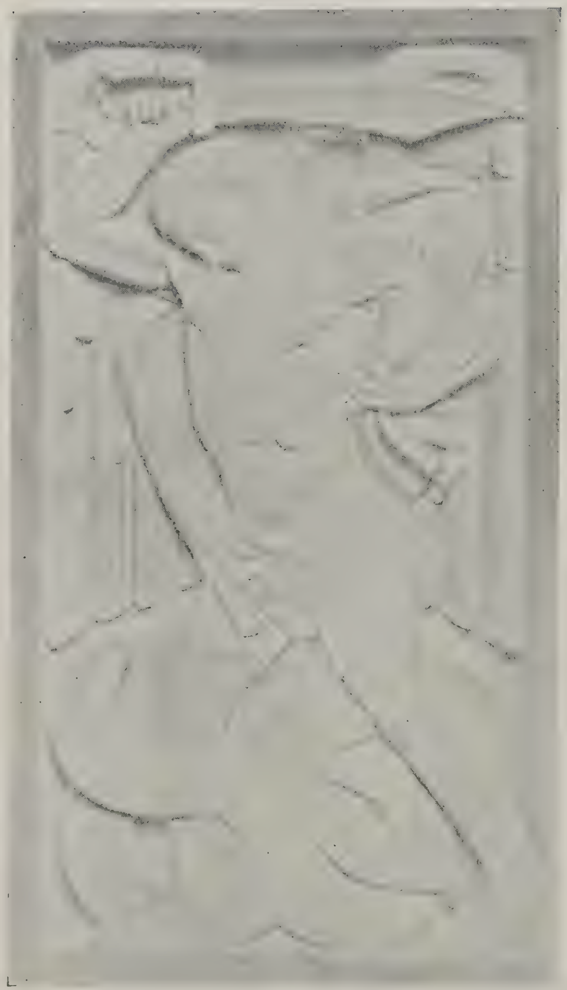
The two mural panels illustrated on page 321 are by the Bromsgrove Guild. They deserve careful study for the excellence of their lettering.



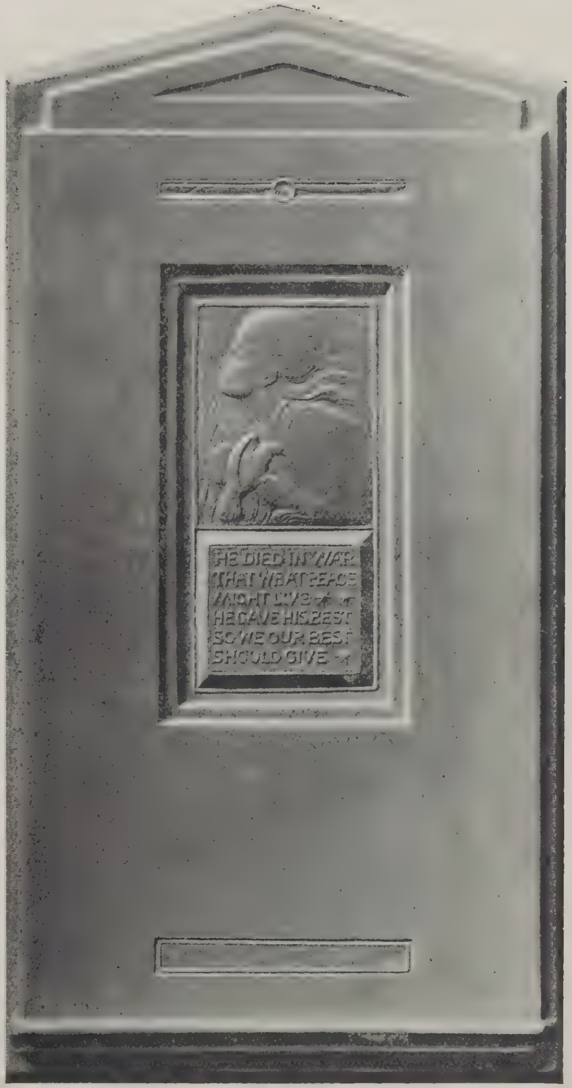
THE ROLLS-ROYCE WAR MEMORIAL. W. REID DICK, R.A., SCULPTOR.



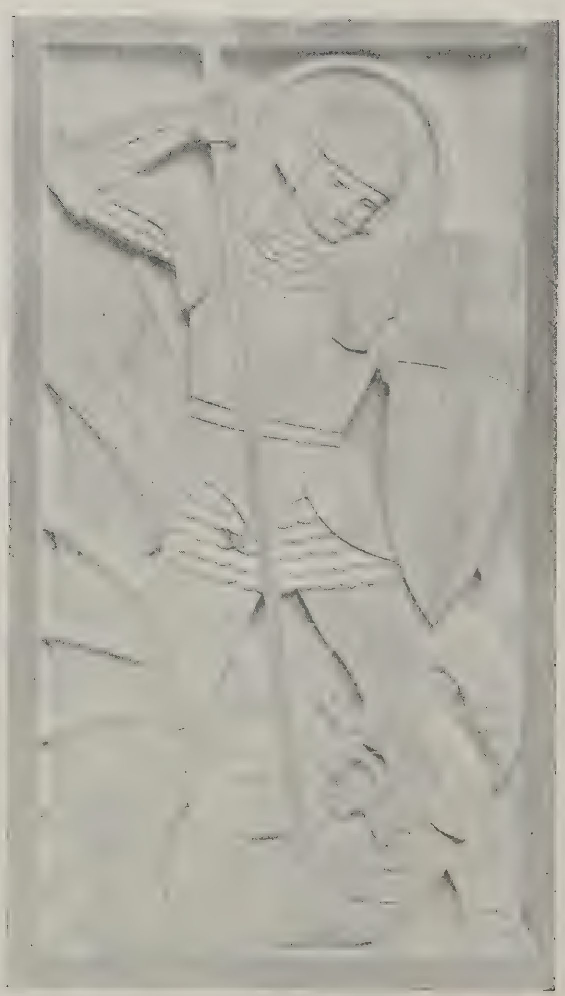
CALCUTTA WAR MEMORIAL. JOHN GREAVES, ARCHITECT.



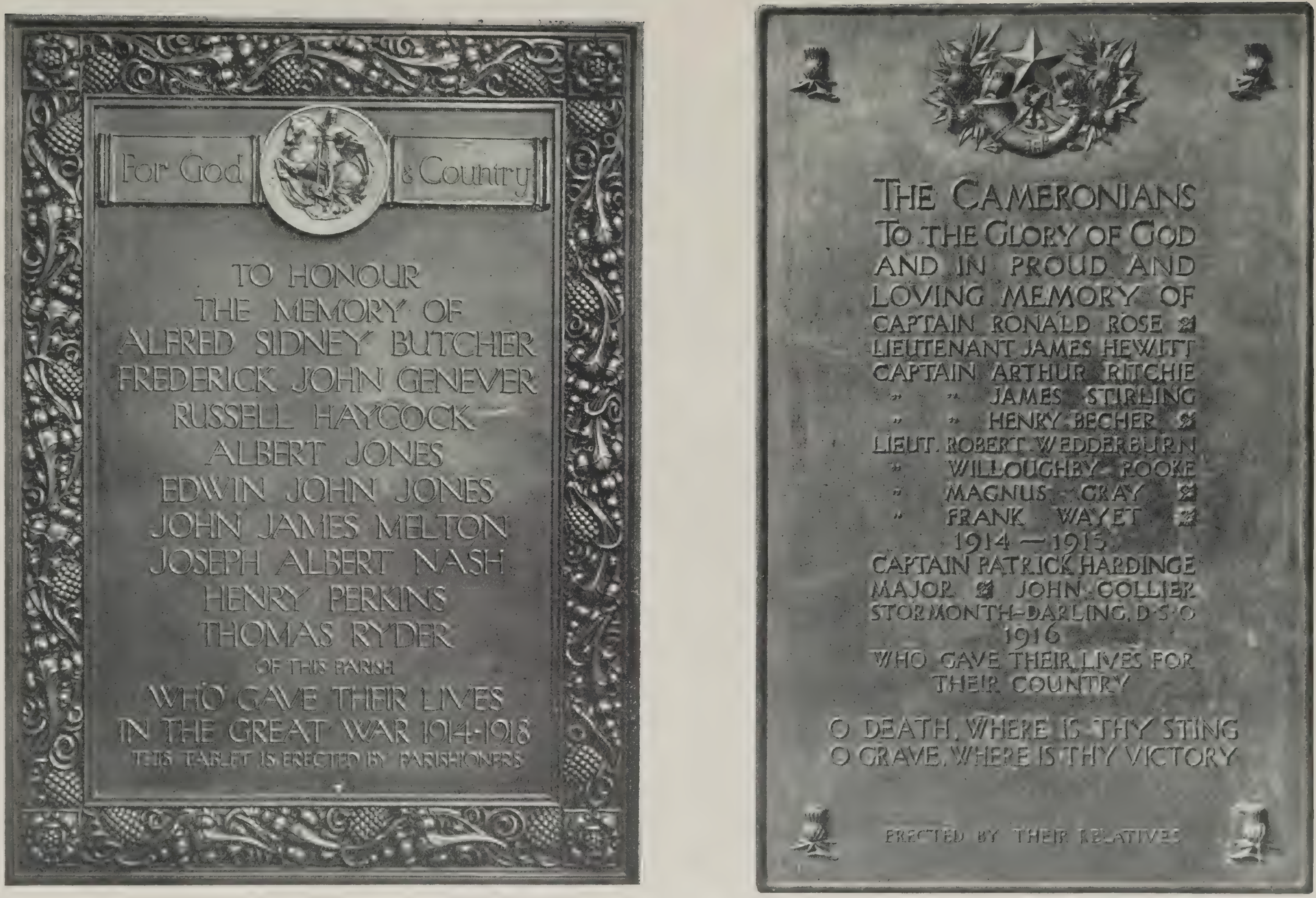
ST. MICHAEL: A PANEL IN THE WAR MEMORIAL AT ST. MARY'S CHURCH, SUMMERSTOWN. GODFREY PINKERTON, F.R.I.B.A., ARCHITECT. JOSEPH ARMITAGE, SCULPTOR.



A WAR MEMORIAL TABLET. DESIGNED BY F. T. BUSH, A.R.I.B.A.



ST. GEORGE: A PANEL IN THE WAR MEMORIAL AT ST. MARY'S CHURCH, SUMMERSTOWN. GODFREY PINKERTON, F.R.I.B.A., ARCHITECT. JOSEPH ARMITAGE, SCULPTOR.



For God & Country

TO HONOUR
THE MEMORY OF
ALFRED SIDNEY BUTCHER
FREDERICK JOHN GENEVER
RUSSELL HAYCOCK
ALBERT JONES
EDWIN JOHN JONES
JOHN JAMES MELTON
JOSEPH ALBERT NASH
HENRY PERKINS
THOMAS RYDER
OF THIS PARISH
WHO GAVE THEIR LIVES
IN THE GREAT WAR 1914-1918
THIS TABLET IS ERECTED BY PARISHIONERS

THE CAMERONIANS
TO THE GLORY OF GOD
AND IN PROUD AND
LOVING MEMORY OF
CAPTAIN RONALD ROSE ✠
LIEUTENANT JAMES HEWITT
CAPTAIN ARTHUR RITCHIE
" " JAMES STIRLING
" " HENRY BECHER ✠
LIEUT. ROBERT WEDDERBURN
" WILLOUGHBY ROOKE
" MAGNUS GRAY ✠
" FRANK WAYET ✠
1914 — 1915
CAPTAIN PATRICK HARDINGE
MAJOR ✠ JOHN COLLIER
STORMONTH-DARLING, D.S.O.
1916
WHO GAVE THEIR LIVES FOR
THEIR COUNTRY

O DEATH, WHERE IS THY STING
O GRAVE, WHERE IS THY VICTORY

ERECTED BY THEIR RELATIVES

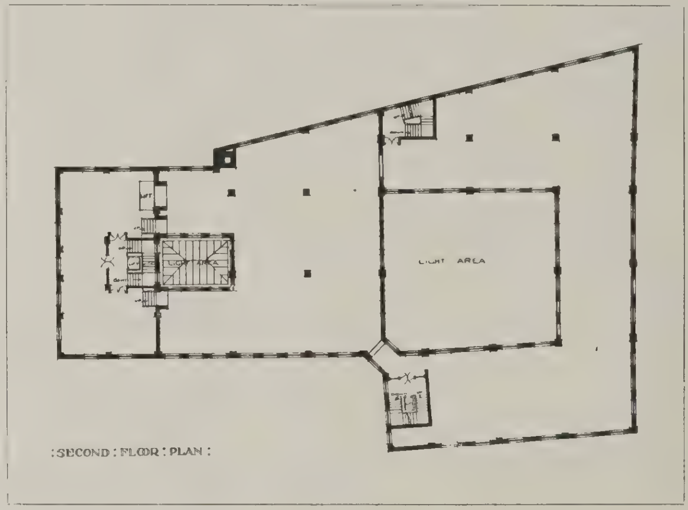
TWO MURAL PANELS ERECTED AS WAR MEMORIALS.

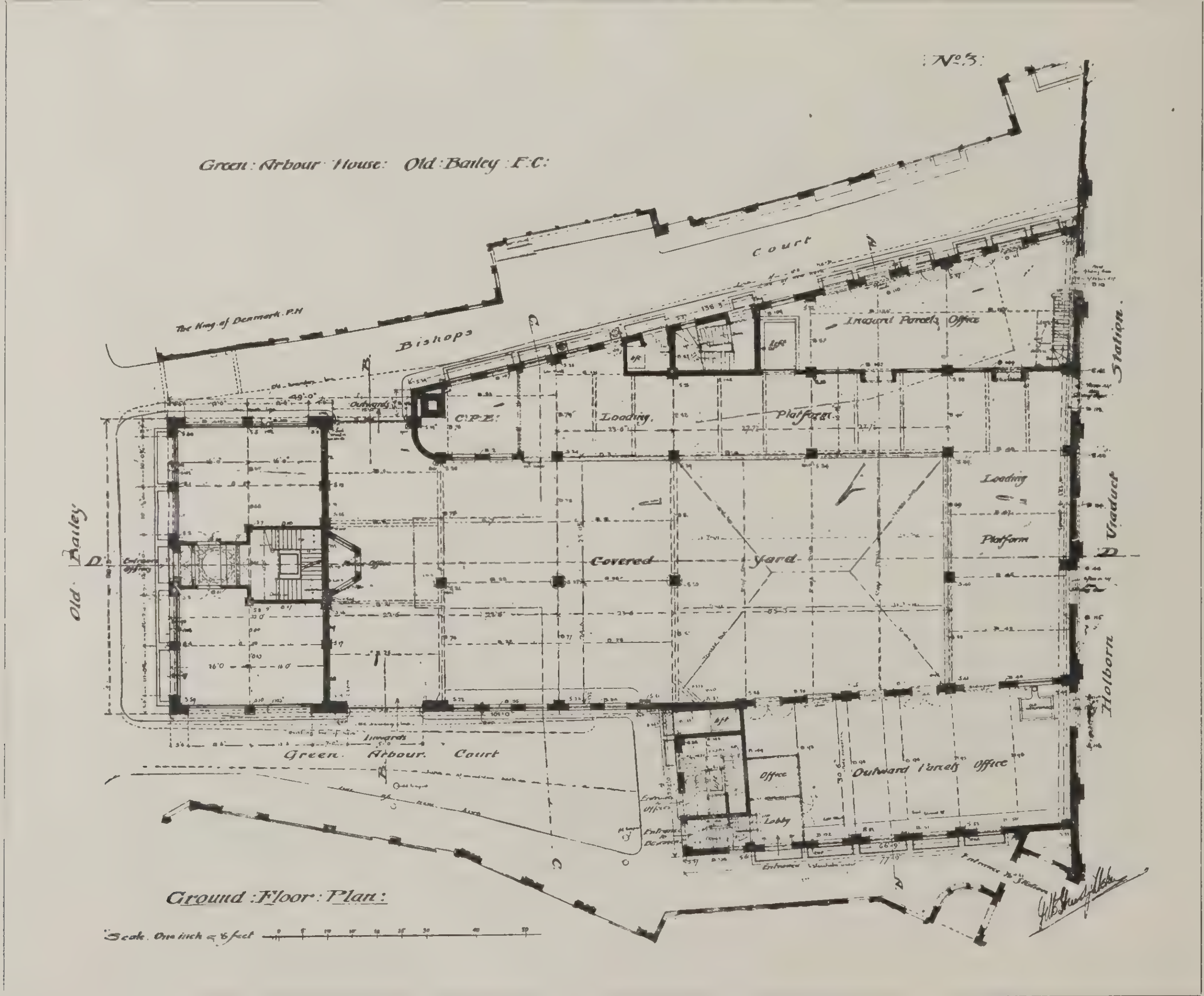
Green Arbour House, London

By Arthur F. Usher, F.R.I.B.A.

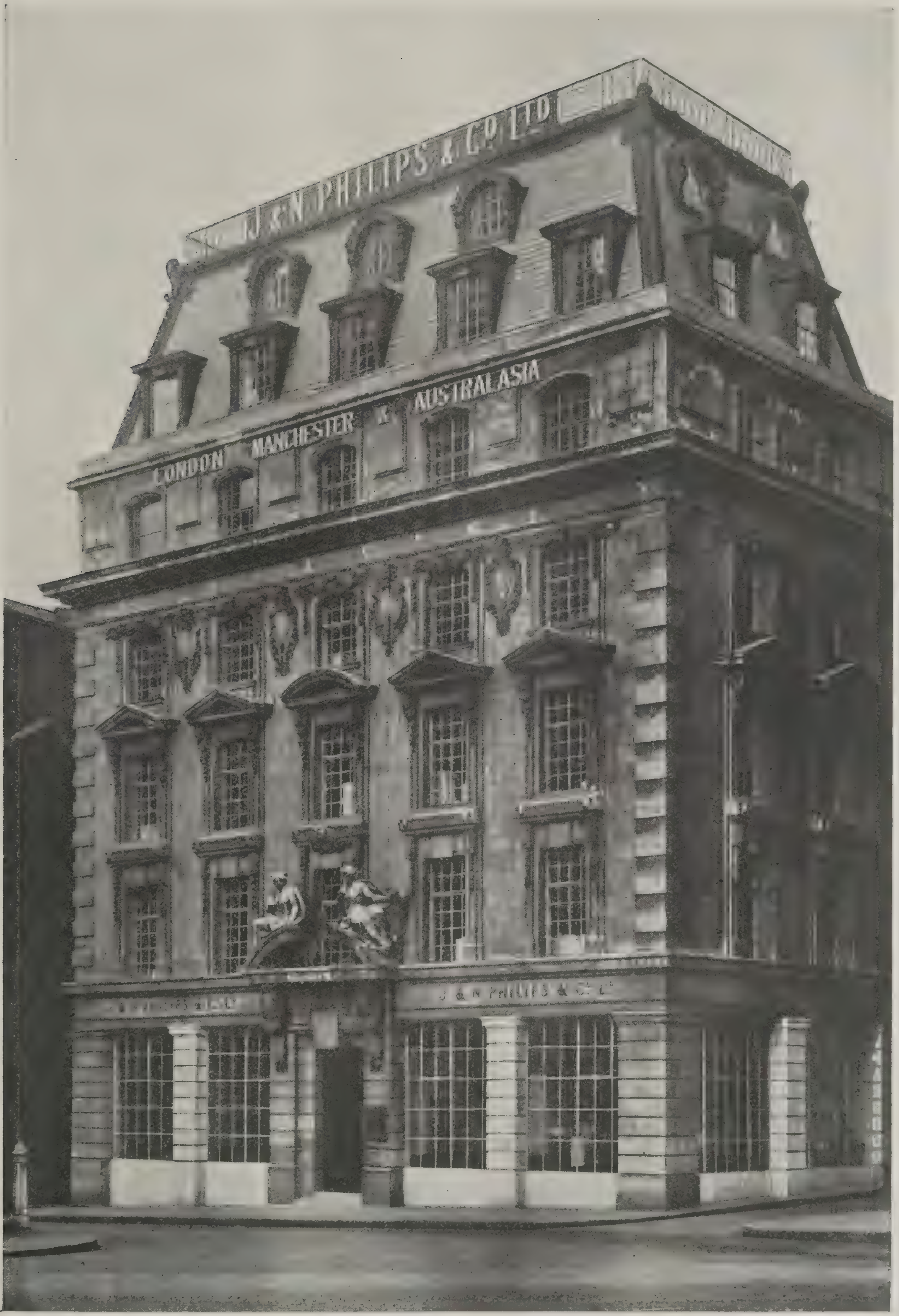
THIS building has been erected from the designs of Mr. Arthur F. Usher, F.R.I.B.A., of Messrs. Yetts, Sturdy, and Usher, Architects, on a site at the Holborn end of Old Bailey, London. The elevations to the front block are faced with Portland stone, the front roof is covered with Westmorland slates, the dormers are of copper, and the floors, roof, and flats are of concrete and expanded metal. The major part of the ground floor, together with a portion of the basement and first floor, are occupied by the parcels department of the South Eastern and Chatham Railway Company. Owing to a large unobstructed space being required on the ground floor the building has been constructed on the steel framed principle.

The general contractors were Ford and Dalton, Ltd., and the sub-contractors as follows: The Val de Travers and Metropolitan Asphalt Co. (asphalt lining work); United Stone Firms, Ltd. (stone); Messrs. Seale & Co. (sculpture and stone carved work); The Expanded Metal Co. (ferro-concrete construction); Dorman, Long & Co. (steel work); Rust & Co. (tiles); Crittall Manufacturing Co. (casements and casement fittings); Haywards, Ltd. (pavement lights); Tylors, Ltd. (sanitary ware and fittings); Speedy, Eynon & Co. (electric wiring); Harold Cooper (grilles); Amos Fenn (entrance door); M. T. Allen & Co. (roof railings); Charles Smith and Sons (door furniture); Swanser & Co. (handrails); The Bostwick Gate Co. (folding gates, shutters, etc.); Fenning & Co. (marble work, halls, floors, and hydrants); The Patent Victoria Stone Co. (stair treads); Hammond Bros., Champneys, Waygood-Otis, A. and P. Steven (lifts and cranes); Benham & Co. (heating apparatus); Fredk. Braby & Co. (copperwork to roof).





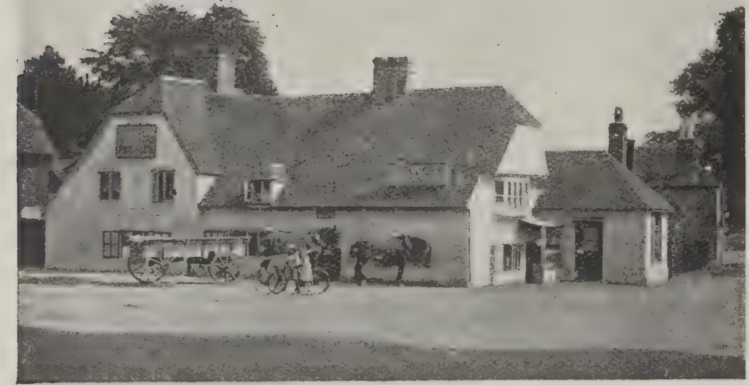
GREEN ARBOUR HOUSE, OLD BAILEY, LONDON.
ARTHUR F. USHER, F.R.I.B.A. (OF YETTS, STURDY, AND USHER), ARCHITECT.


J. & N. PHILIPS & Co. LTD.
LONDON MANCHESTER & AUSTRALASIA
J. & N. PHILIPS & Co. LTD.

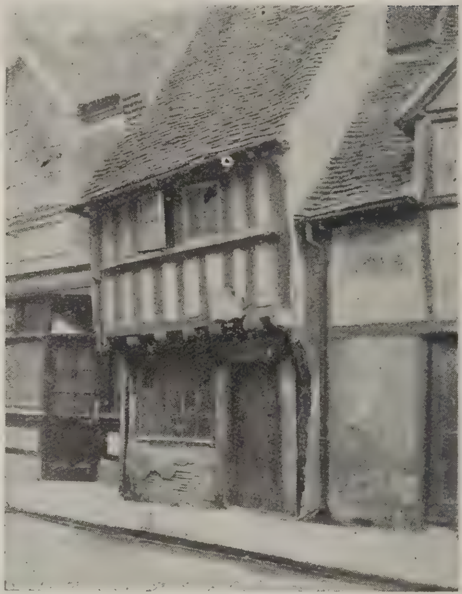
GREEN ARBOUR HOUSE, OLD BAILEY, LONDON.
ARTHUR F. USHER, F.R.I.B.A. (OF YETTS, STURDY, AND USHER), ARCHITECT.

A Pictorial Review

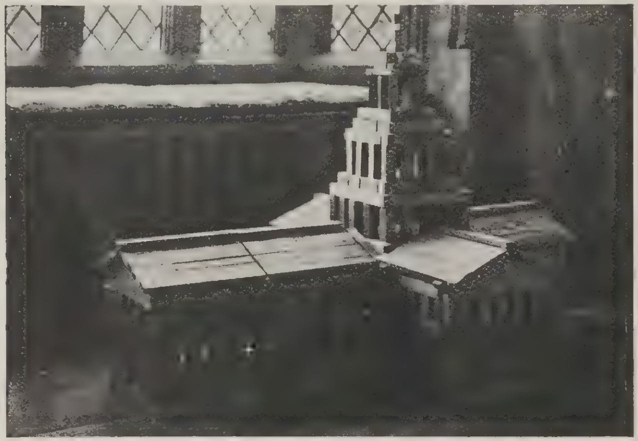
Illustrations of Topical, Practical, or Curious Interest



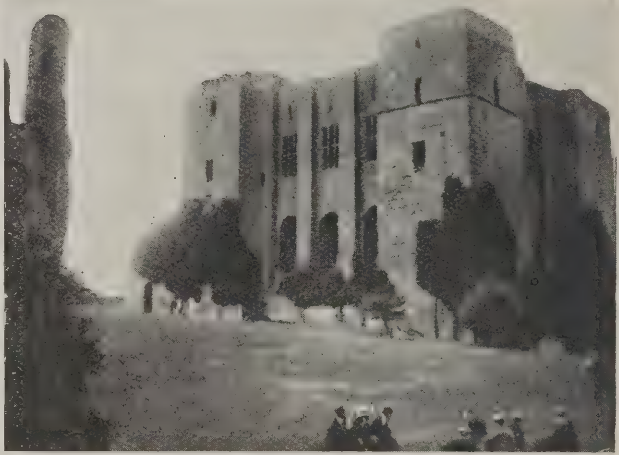
Here is a perfect example of the old English inn—"The Chequers" at Doddington The point about this building is its simplicity. The architect, whoever he was, has got an astonishing amount of articulation into his roof. He has contrived a fine piece of architecture by a masterly handling of roof shapes.—C. V. R. WHITTIER.



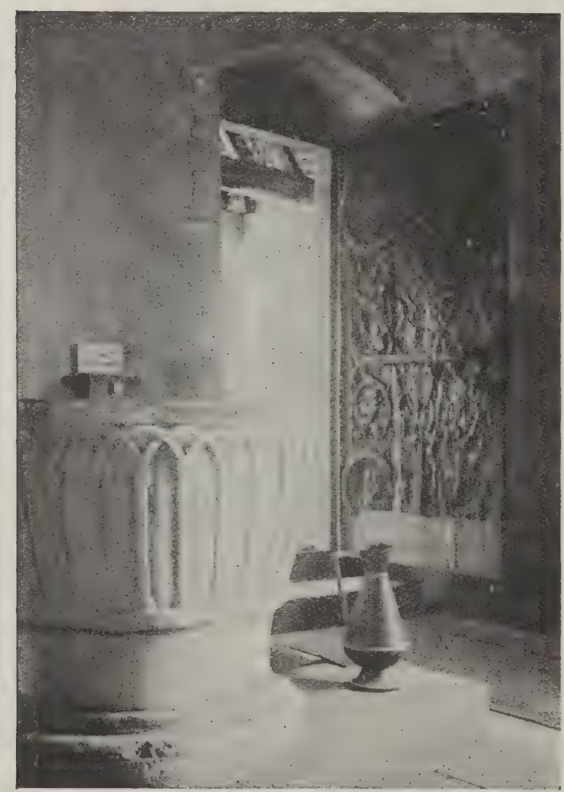
The house in All Saints' Street, Hastings, in which the mother of Sir Cloudesley Shovell lived. It was built in 1570, and partly demolished in 1838. Sir Cloudesley was apprenticed to a shoemaker, but ran away to sea, rose from cabin boy to admiral, and took active part in the battles of Beachy Head, La Hogue, and in the storming of Gibraltar. In 1707 he was drowned off the Scilly Isles, when his ship was lost with all hands. He spent his early life at this house.—M. R. H. READ.

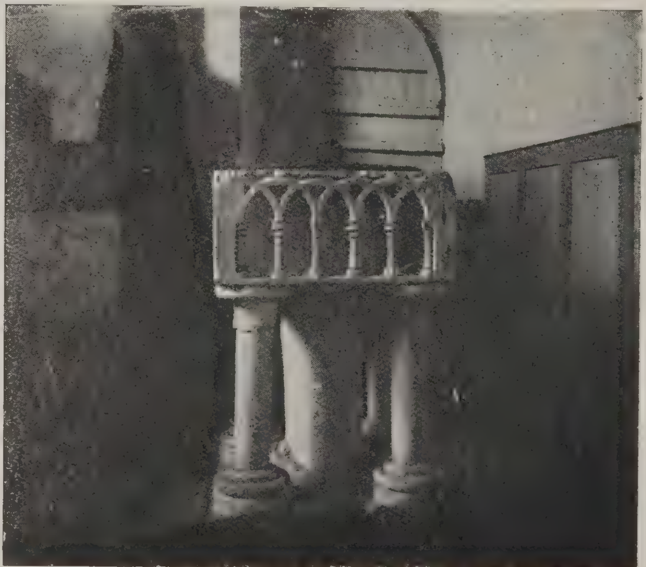


Young architects proverbially incline towards the most ambitious subjects, and the efforts of my third boy, Patrick Lloyd, are always directed towards the monumental. This photograph of a building erected of wooden blocks is entirely his own conception and putting together. He had neither suggestion nor assistance. He is nine years of age.—NATHANIEL LLOYD.



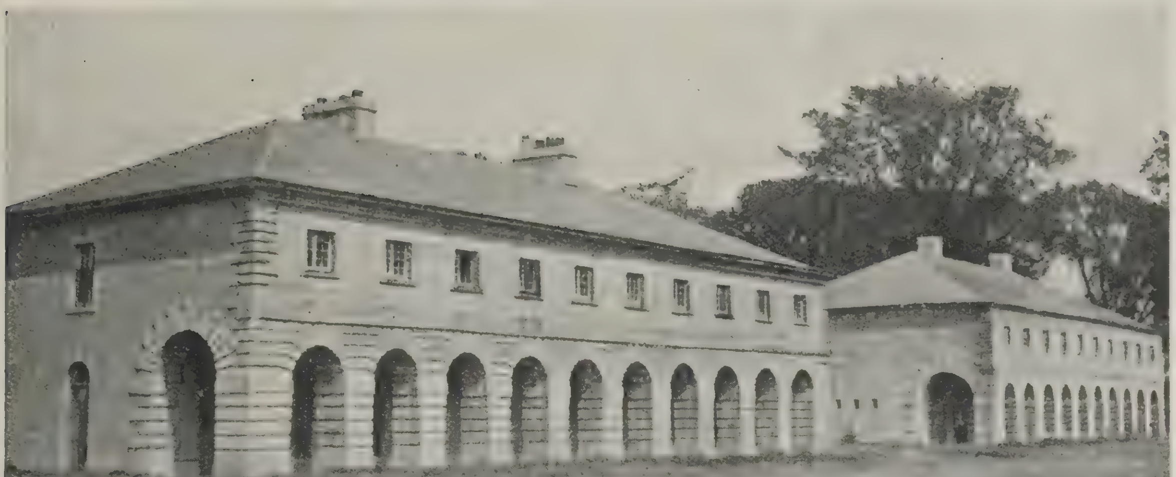
This elevation of Kenilworth Castle has a curious resemblance to an ultra-modern style of factory building. The heavy angles and tall unbroken piers with close fenestration in between, typical of a certain class of factory elevation, have their replica in this old castle front.—F. CLARK.





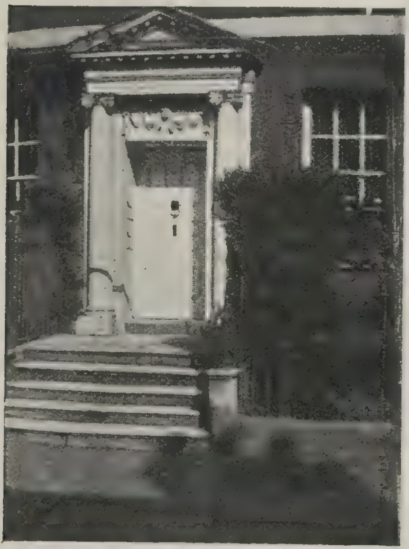
The font of Eastwood Church, Essex (on the left), and the font of Shopland Church, Essex. The decoration of each font is a very fine example of interlaced arcading, the one at Eastwood being the older. The oak door on the right of Eastwood font is an excellent piece of English wood-carving.—C. W. EASTICK.

A Pictorial Review

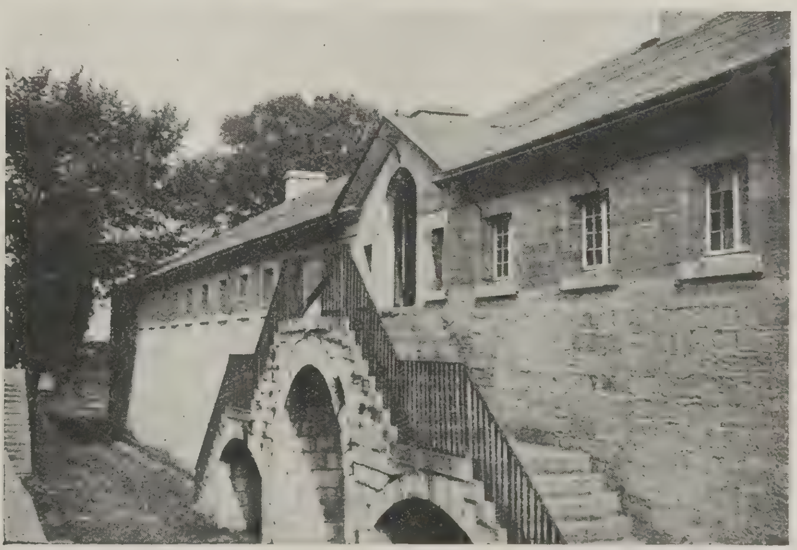


This photograph and the three below illustrate Fort Lennox on Isle aux Noix, Quebec. Isle aux Noix is a small island holding an important strategic position on the Richelieu River, and the present buildings were erected by the engineers of the British Garrison in the early 19th century. The fort consists of earthworks which screen the buildings from the outside, and it has a large moat surrounding it. P. J. TURNER.

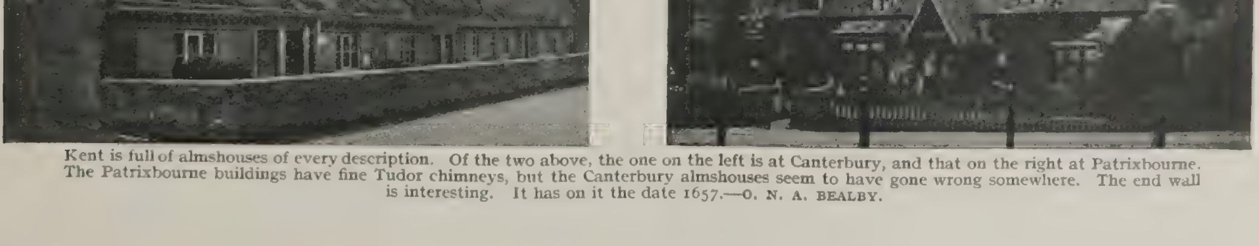
General views of Fort Lennox, showing the architectural disposition of the buildings. Behind them can be seen the bank which surrounds and screens the Fort.



This doorway at Abingdon is a fine example of Georgian work. The carved capitals and the decorations under the entablature give it an effect of weight and richness. The proportions, too, are very good indeed.—E. L. G.



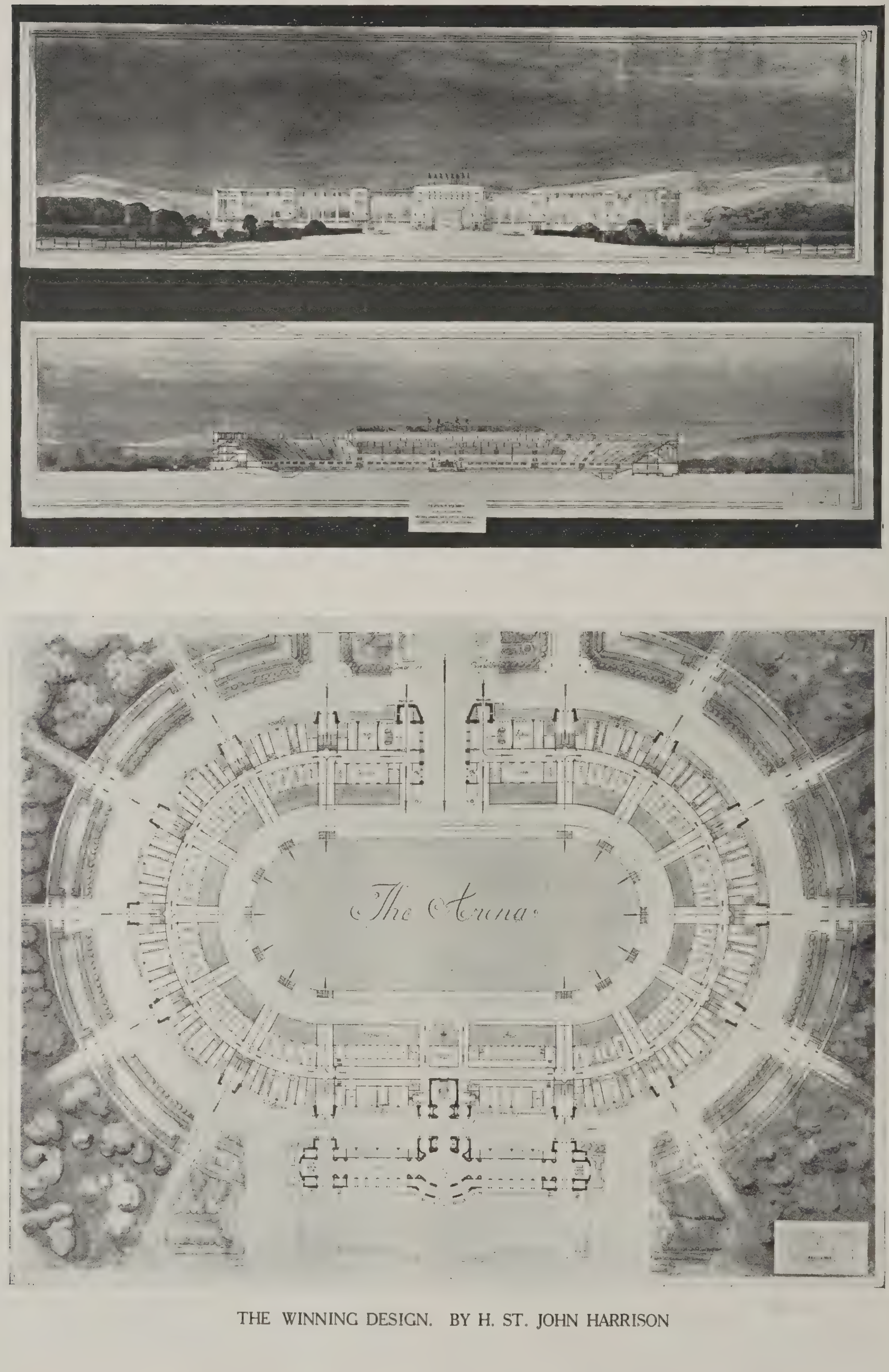
The outside stairs to the men's quarters in Fort Lennox—a curious treatment. The Government has only recently taken steps to preserve this building. It is important that it should be preserved, as there are few buildings of this age and historic interest in Canada.—P. J. T.



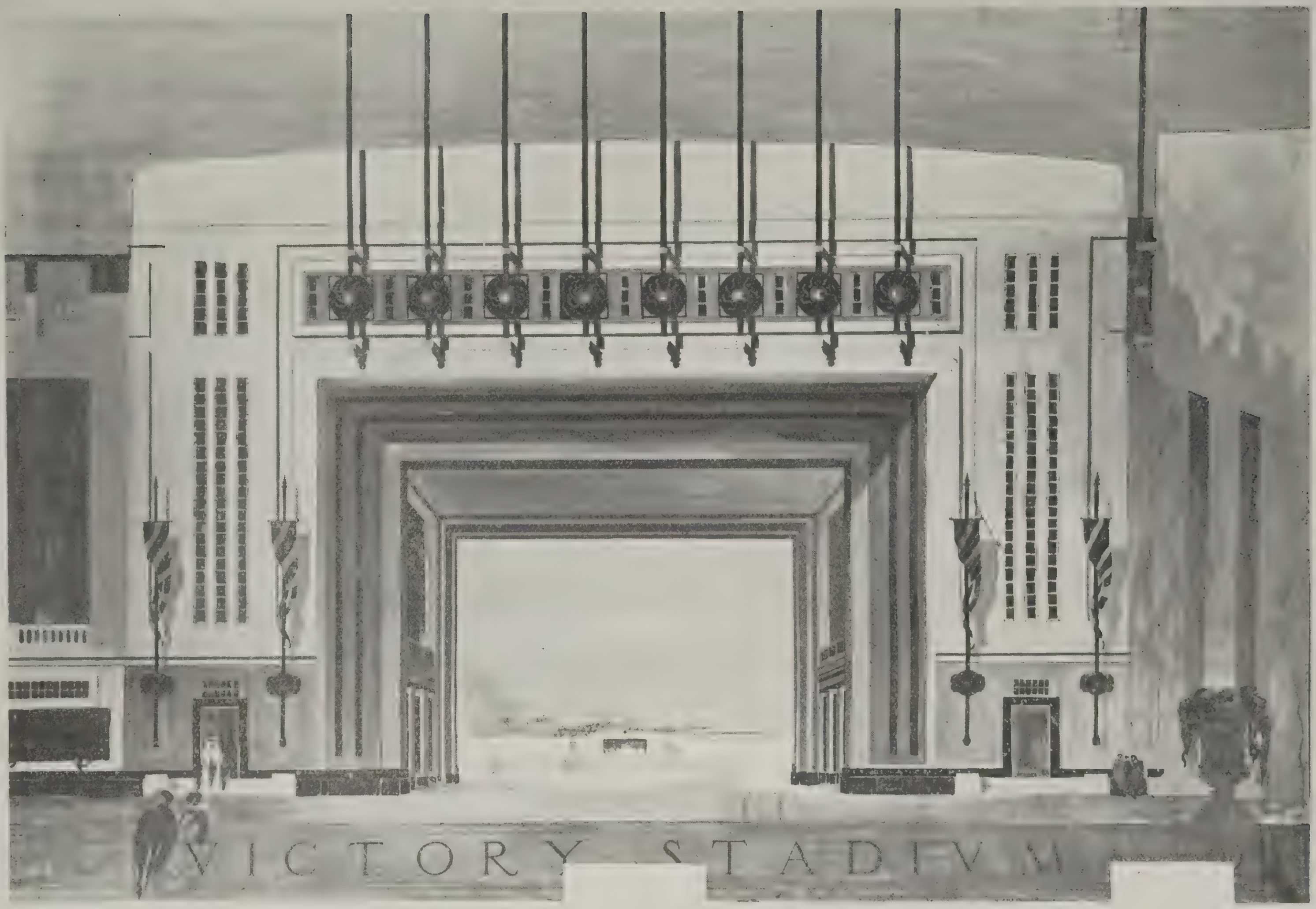
Kent is full of almshouses of every description. Of the two above, the one on the left is at Canterbury, and that on the right at Patrixbourne. The Patrixbourne buildings have fine Tudor chimneys, but the Canterbury almshouses seem to have gone wrong somewhere. The end wall is interesting. It has on it the date 1657.—O. N. A. BEALBY.

The Society of Architects' Victory Scholarship

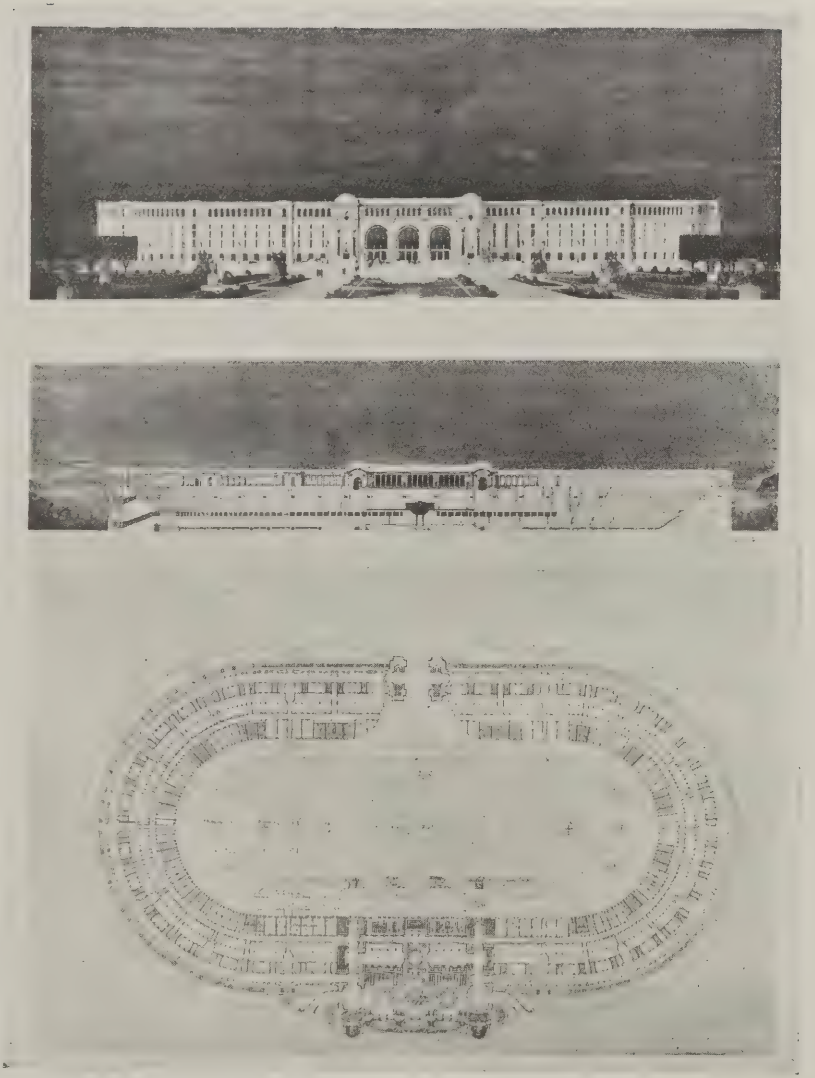
"A Stadium for Olympic Games"



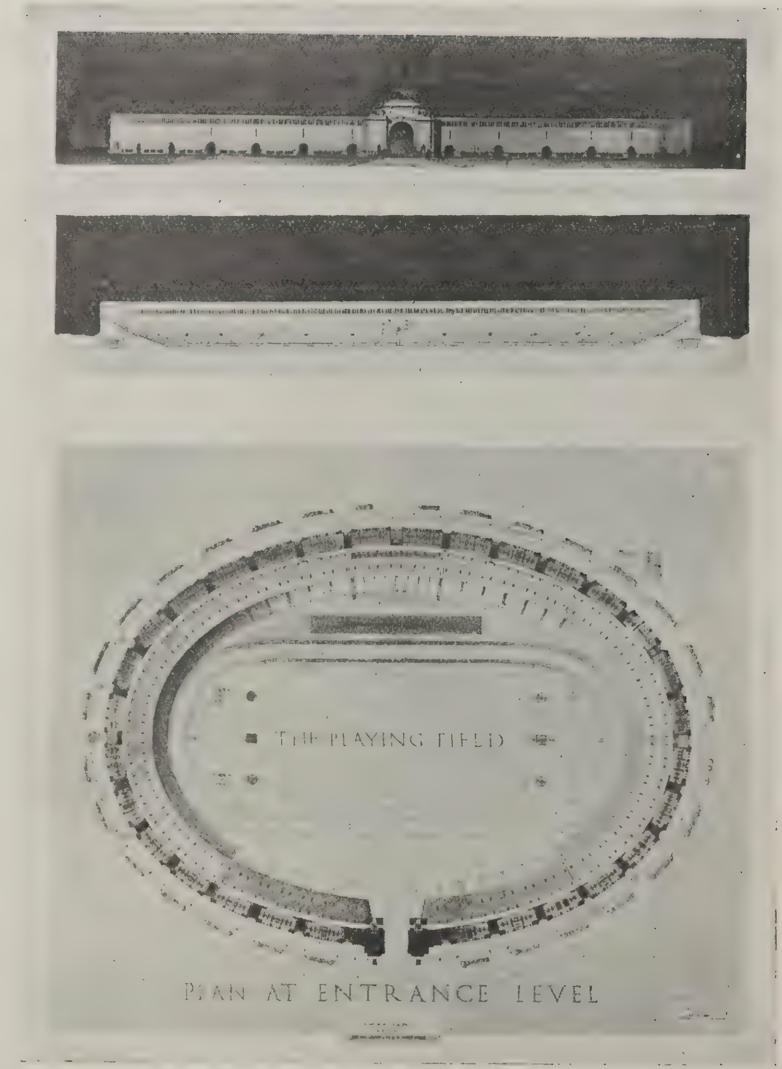
THE WINNING DESIGN. BY H. ST. JOHN HARRISON



THE SOCIETY OF ARCHITECTS' VICTORY SCHOLARSHIP: DETAIL OF THE WINNING DESIGN.
BY H. ST. JOHN HARRISON.



THE SECOND PRIZE DESIGN. BY N. C. MACKEY.



THE THIRD PRIZE DESIGN. BY K. D. P. MURRAY.

THE SOCIETY OF ARCHITECTS' VICTORY SCHOLARSHIP. "A STADIUM FOR OLYMPIC GAMES.

K's News

for Walthamstow.

is to have a new church, hn's.

for Swansea.

Company sea.

Another 200 acres of th Hills, Byfleet, Surrey, are to be d for building and a public promenade is to be provided by the River Wey.

The Rood Screen and Altars, Glasgow Cathedral.

The photographs of the rood screen and altars in Glasgow Cathedral, published on pages 220 and 223 of our issue for August 16, were taken by Mr. Arthur Ling.

New London Memorial.

Work is to begin upon the City memorial of the Royal Fusiliers. The site is at Holborn Bar Within, near to the Elizabethan houses of Staple Inn.

New Tube Extension.

Tenders have been invited for the extension of the Piccadilly Tube from Hammersmith, its present terminus, to Turnham Green.

The Queen's Dolls' H

Princess Marie Louise, of Princess Christian, is assisti dwin Lutyens in his work of ng and making the dolls' house, to be given shortly to the Queen.

More Houses for Risca.

The Risca (Mon.) Urban District Council have received the sanction of the Ministry of Health to the erection of a further twelve houses under the Government scheme.

Cassiobury Estate.

The greater part of the Cassiobury estate, including the mansion, has been purchased by a local syndicate at a price said to be £55,000. It is their intention to develop the land for building purposes.

Versailles Palace.

Fungus has caused the rotting away of the oak beams of that part of Versailles Palace built in 1624. The architects in charge of the palace propose that all the affected woodwork be removed as soon as possible.

Protection of Isle of Wight.

The Ministry of Transport have decided to make a grant towards the cost of the works needed for preventing the sea breaking through at Freshwater Bay and isolating the western end of the Isle of Wight.

The Concrete Institute.

An ordinary meeting of the Concrete Institute will be held at the offices of the Institute, 296 Vauxhall Bridge Road, S.W.1, on Thursday, September 7, at 5.30 p.m., for the purpose of electing members. No paper will be read and no other business will be transacted.

Colwyn Bay Improvements.

Colwyn Bay District Council bought Victoria Pier, and is nego has for land on the promenade for iating gardens and other buildings. winter asked local architects for a co It has design for a proposed new towr npetitive municipal buildings. hall and

Crosby Hall.

A scheme is well advanced of Crosby Hall by for the pur- The society de a woman's quarters to signs to add l and turn th the fifteenth lace of resi group of build- ertain e dence for women lucational qualifi-

ireme

Sailors' and Sail n's Headquarters.

The National ors' and Firemen's Union have comp ted negotiations for taking over the Cat holic Boys' Home in Westminster Bridge Road, adjoining the premises at presen t occupied. The two buildings are to be amalgamated, and will form the large st trade union building in England.

Hants and Dorset A. & S.A.P.U.

On Saturday, September 9, the members of the Hants and Dorset (E.W.16) Branch of the Architects' and Surveyors' Assistants Professional Union are holding an "At Home" at the "Y Round Table Tea Shoppe," High Street, Winchester, following a tour of Winchester Cathedral. The tour commences at 2.30 p.m.

Beckenham War Memorial.

The Committee of the Beckenham Cottage Hospital have secured the services of Messrs. William A. Pite, Son and Fairweather, architects, to design and superintend the extension to the institution. The work has been commenced, and will cost £17,000, of which £12,500 has been secured.

New Institute at Pengam.

A new working men's institute erected at Cefn Forest, Pengam, by the local branch of the National Building Guild from the plans of Mr. John Jones, architect, Cefn Forest, has been officially opened. The building is of one story and is divided by a refreshment bar into a reading room and a billiard hall accommodating four tables.

Welsh National War Memorial.

One of the last tasks upon which the late Sir Thomas Brock, R.A., was engaged was that of preparing a design for the Welsh National War Memorial, which was to be erected at Cardiff. The cost of the design submitted, however, was £56,000, a sum in excess of the committee's resources. It is understood that another attempt is to be made to carry out the work.

Mr. Goodhue in London.

Mr. Bertram Grosvenor Goodhue, of New York, one of the most distinguished American architects of our time, is paying a short visit to London with his family before sailing for New York on September 9. Mr. Goodhue has recently been successful in the competition for the Nebraska State Capitol Building. His design, which was illustrated in the Journal for June 21, has excited the greatest interest and admiration in architectural circles in the United States.

Architects' Fees for State-aided Housing Schemes.

In view of the terms of Clause E (4) of General Housing Memorandum No. 61, issued by the Ministry of Health, the question of the setting up by the R.I.B.A. of a tribunal to deal with applications is under consideration. All architects who wish to obtain the support of the Royal Institute under this clause are requested to write at once to the Secretary, R.I.B.A., 9 Conduit Street, London, W.1, stating whether they are members of the R.I.B.A. or of one of its allied societies or of the Society of Architects, or whether they are unattached to any architectural organization, and giving brief particulars of the cases in which they desire to be supported. All applicants will be informed in due course if it is found to be necessary to require the payment of any fees to the tribunal.

Nos. 10 and 11 Downing Street.

In the work of strengthening the foundations of the official residences of the Prime Minister and the Leader of the Commons, 10 and 11 Downing Street, which is proceeding rapidly, a novel method of underpinning is being resorted to. The original footings are not regarded as sufficiently good to place new foundations upon, and the plan adopted has the effect of discarding them for weight-carrying purposes and substituting entirely new bases. Excavations are made on each side of the original wall, near its base, and steel girders are laid parallel to it and about a foot away. These are firmly bedded in reinforced concrete, and when this has solidified the wall will be pierced and short cross girders will be laid so that the walls will ultimately be supported on a kind of steel grid, resting upon the parallel girders. Having regard to the thickness of the walls, the width of the parallel girders, and their distance from the original masonry, the new foundation will be approximately 6 ft. in width, so that the superstructure will henceforth rest upon a greatly widened basis, and one, moreover, of exceptional strength.

List of Competitions Open

Date of Delivery.	COMPETITION.
Sept. 16	Nurses' Home, Chelsea Hospital for Women. Premiums: £150, £100, and £50. Assessor, Mr. H. V. Ashley, F.R.I.B.A. Names by above date to Mr. H. H. Jennings, Secretary, Chelsea Hospital for Women, Arthur Street, Chelsea, S.W.3.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8.000 francs.
Nov. 1	Labour saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C.4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100. 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.

Rates of Wage s in the Building Tra

The following table, which is published in the first issue of THE JOURNAL for each month, shows the rates of wages of craftsmen (bricklayers, mas joiners, woodcutting machinists, slaters plumbers,* plasterers, pa inters †) and labourers in the building industry. The labour rates for London are of Current Prices on pages xvii, xviii.

District.	Grade A.		Grade B.		Grade C.	
	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	
	s. d.	s. d.	s. d.	s. d.	s.	
North East Coast	1 8	1 3	6½	1 2		
Yorkshire	1 8	1 3	6½	1 2		
North Western Counties‡	1 8	1 3	1 6½	1 2		
Midland Counties	1 8	1 3	1 4	1 0		
Eastern Counties	1 4½	1 0½	1 4	1		
Southern Counties	1 4½	1 0½	1 6	1		
South Western Counties	1 8	1 3	1	1		11¾
South Wales	1 8	1 3	1			—
Scotland§	1 8‖	—¶	1 7		—	—

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* In the case of towns printed in *italic type* below, the rates shown in the Tab tsmen do not apply umbers.
† Except in Scotland, where painters are not included within the scope of th grading scheme.
‡ Excluding Liverpool and Birkenhead, where the rates are 1s. 11d. for plumb s. 10d. for other craftsmen, and 1s. 5d. for labourers.
§ Excluding Aberdeen, where the rates remain unaltered at 1s. 7½d. for maso joiners, and plasterers, 1s. 8d. for slaters, and 1s. 9d. for plumbers.
‖ It is reported that the Plasterers' Union in Scotland has not accepted the n ational reduction in June.
¶ In Scotland, labourers are not included in the general grading scheme.

Grading of Towns.

The localities in which the above rates have been reported to be in operation are as follows. In the case of localities printed in *italic type*, the rates shown in the above Table for craftsmen do not apply to plumbers.

NORTH EAST COAST :—

Annfield Plain, *Birtley*, Bishop Auckland, *Blackhill*, *Blyth*, *Chester-le-Street*, *Consett*, *Darlington*, *Durham*, *Ebchester*, *Gateshead*, *Hartlepools*, *Hebburn*, *Hexham*, *Jarrow*, *Lanchester*, *Leadgate*, Medomsley, *Middlesbrough*, *Morpeth*, *Newcastle*, *North and South Sh ields*, *Seaham Harbour*, *Stanley*, *Stockton*, *Sunderland*, *Thornaby*, *Tynemouth*, *Wallsend*, *Whitburn*, and *Whitley Bay*.

YORKSHIRE :—

Grade A.—*Altofts*, *Barnsley*, *Batley*, *Bingley*, *Birstall*, *Bradford*, *Brighouse*, Calder Va lley, Castleford, *Cleckheaton*, *Colne Valley*, *Crosshills*, *Dewsbury*, *Doncaster*, *Gomersal*, Grimsby, *Guiseley*, *Halifax*, *Harrogate*, *Hebden Bridge*, *Heckmondwike*, Holmfirt *Horbury*, *Hoyland*, Huddersfield, Hull. *Ilkley*, Immingham, *Keighley*, *Knottingley*, *Leeds*. *Liversedge*, *Mexborough*, *Mirfield*, *Morley*, *Normanton*, *Ossett*, *Peniston e*, Pontefract, Pudsey, *Rawdon*, *Rotherham*, Scunthorpe, *Selby*, *Sheffield*, *Shipley*, *Sowerby Bridge*, *Stocksbridge*, *Wakefield*, *Wombwell*, *and Yeadon*.

Grade B.—Barnoldswick, Beverley, Bridlington, Goole, Hornsea, Scarborough, Skipton, *W hitby* (plumbers 1s. 7d.) and York.

Grade C.—Driffield, Kirby Moorside, Malton, Norton, Pickering, and Wetherby.

NORTH WESTERN COUNTIES :—

Grade A.—*Accrington*, Adlington, *Alderley Edge*, *Altrincham*, *Ashton-under-Lyne*, *Atherton*, *Bacup*, Barrow, Birkdale, Bispham, *Blackburn*, Blackpool, Blackrod, *Bolton*, Broughton (Flints), *Burnley*, *Bury*, Carlisle, Chester, Chorley, *Church*, Cleveleys, *Clitheroe*, *Col e*, Connahs Quay, Dalton-in-Furness, *Darwen*, *Denton*, *Droylesden*, *Eccles*, *Farnworth*, Fleetwood, Frodsham, *Glossop*, *Great Harwood*, *Haslingden*, Hawarden, Helsby *Heywood*, Higher Kinnerton, *Horwich*, *Hyde*, Lancaster, *Leigh*, Leyland, *Littleborough*, Longridge, Lymm, Lytham, *Manchester*, *Middleton*, Morecambe, *Mossley*, *Nelson*, *Ormskirk*, *Oswaldtwistle*, *Oldham*, *Padiham*, *Pendlebury*, Poulton, *Preston*, *Prestwich*, Queensferry, *Radcliffe*, *Ramsbottom*, *Rawtenstall*, *Rishton*, *Rochdale*, Runcorn, St. Anne's-on-the-Sea, St. Helens, *Saddleworth*, *Sale*, *Salford*, *Shaw*, Shotton, Southport, *Stalybridge*, *Stockport*, *Swinton*, Thornton, *Todmorden*, *Tyldesley*, *Walkden*, *Wa rrington*, Westhoughton, *Whalley*, *Whitefield*, Widnes, Wigan, and *Wilmslow*.

Grade B.—Askam, Broughton, Buxton, Cleator Moor, Congleton, Coniston, Crewe, Distington, Egremont, Grange-over-Sands arrington, Knutsford, *Macclesfield*, Maryport, Market Drayton, Middlewich, Millom, Mold, Nantwich, *New Mills*, Northwich, Sandbach, Tarporley, U lverston, Wins d Over, Whitehaven, Workington, and Wrexham.

Grade C.—Ambleside, Bala, Bangor, Bowness-on-Windermere, Carnarvon, Colwyn Bay, Conway, Grasmere, Ho lyhe l, Kendal, Langdale, Llandudno, Llandudno Junction, Mostyn, Penrith, Prestatyn, Rhos, Rhyl, and Windermere.

MIDLAND COUNTIES :—

Grade A.—Alfreton, *Belper*, Bilston, *Birmingham*, *Blackheath*, *Burslem*, *Cheadle*, *Chesterfield*, Coalville, Coventry, *Derby*, *Han* r, Hinckley, *Ilkeston*, Kenilworth, *Leicester*, Lincoln, *Long Eaton*, *Loughborough*, *Mansfield*, Newcastle-under-Lyme, *Nottingham*, *Nuneaton*, Oldbury, Ripley, S Trent, *Sutton Coldfield*, *Sutton-in-Ashfield*, West Bromwich, Willenhall, and Wolverhampton. (Plumbers employed by the Birmingham Master Plumbers' Association wit n 8 miles of Birmingham, 1s. 9d.)

Grade B.—Atherstone, Bewdley, Boston, Brierley Hill, Bromsgrove, Burton-on-Trent, Cannock, Coseley, *Darlaston* (plumbers 1s. 7½d.), Dudley, Gainsborough, Gornal, Grantham, Halesowen, Hednesford, Kidderminster, Knowle, Leamington, *Leek*, Lichfield, Louth, Malvern, Market Harborough, *Matlock*, Melton Mowbray, *Newark*, Northampton, Oakengates, Old Hill, Peterborough, Redditch, Retford, Rugby, *Rugeley* (plumbers 1s. 7½d.), Sedgley, Shifnal, Shrewsbury, Skegn ess, Sleaford, Solihull, Southwell, *Stafford*, Stamford, Stourbridge, Stourport, Stratford-on-Avon, Swadlincote, Swanwick, Tamworth, *Walsall* (plumbers 1s. 7½d.), Warwic k, Wednesbury, Wellington, Worcester, and Worksop.

Grade C.—Ashbourne, Bridgnorth, Church Stretton, *Horncastle*, Kettering, Ludlow, Newport, Oakham, Oundle, Raunds, Rushden, Spalding, Thrapston, Uttoxeter, Wellingborough, and Wirksworth.

Grade D.—Buckden, Eaton Socon, Huntingdon, St. Ives, and St. Neots.

EASTERN COUNTIES :—

Grade A.—Baldock, Bedford, Berkhamsted, Biggleswade, Braintree, Brentwood, Chelmsford, Cambridge, Colchester, Halstead, Hatfield, Harpenden, Hemel Hempstead, Henlow, Hertford, Hitchin, Hoddesdon, Ingatestone, Ipswich, Letchworth, Luton, Norwich, Ongar, St. Albans, Sandy, Sawbridgeworth, Stevenage, Stotfold, Ware, Welwyn, and Witham.

Grade B.—Aldeburgh, Ampthill, Attleborough, Aylsham, Braughing, Chatteris, Cromer, Dovercourt, Dunstable, Ely, Fakenham, Felixstowe, Frinton, Gorleston, Halesworth, Harwich, King's Lynn, Leighton Buzzard, Leiston, Lowestoft, March, Much Hadham, Newmarket, North Walsham, Puckeridge, Renthem, Saxmundham, Southwold, Standon, Stowmarket, Walton-on-the-Naze, Wickham Market, Wisbech, Woodbridge, Wymondham, and Yarmouth.

Grade C.—Bungay, Coltishall, East Dereham, Royston, Saffron Walden, and Tring.

[N.B.—Bury St. Edmunds :—bricklayers, masons, carpenters and joiners, slaters, plumbers and plasterers, 1s. 4½d.; painters, 1s. 2d.; labourers, 11d.]

SOUTHERN COUNTIES :—

Grade A.—Abingdon, Addlestone, Amersham, Ascot, Ashford (Middlesex), Banbury, Beaconsfield, Bournemouth, Bracknell, Brighton, Byfleet, Chalfont, Chesham, Christchurch, Cremborne, Eastbourne, Eastleigh, Egham, Eton, Gerrard's Cross, Goring, Gosport, Gravesend, Guildford, Henley, Hove, Laleham, Maidenhead, Marlow, Northfleet, Oxford, Poole, Portsmouth, Reading, Southampton, Staines, Stanwell, Sunningdale, Sunninghill, Tilehurst, Tonbridge, Tunbridge Wells, Wallingford, Windsor, Winkfield, Woking, Wokingham, and Wycombe.

Grade B.—Arundel, Ashford (Kent), Aylesbury, Bagshot, Basingstoke, Bexhill, Bicester, Bletchley, Bognor, Bosham, Broadstairs, Brockenhurst, Buckingham, Burgess Hill, Camberley, Canterbury, Chatham, Chichester, Chipping Norton, Cranleigh, Deal, Dorking (plumbers 1s. 5d.), Dover, Fareham, Faringdon, Faversham, Fenny Stratford, Folkestone, Gillingham, Godalming, Hailsham, Haslemere, Hastings, Havant. Herne Bay, Horsham, Hythe, Lambourn, Liphook, Littlehampton, Lymington, Maidstone, Margate, Midhurst, Milford, Milton Regis, Newbury, New Milton, Newport Pagnell, Oxted, Pangbourne, Petworth, Ramsgate, Redhill, Reigate, Rochester, Sandgate, St. Leonards, Sevenoaks, Sittingbourne, Strood, Stony Stratford, Stow-on-the-Wold, Thame, Walmer, Wantage, Wendover, Westerham, Westgate, Whitstable, Winchester, Winslow, Witney, Wolverton, Woodstock, and Worthing.

Grade C.—Andover, Ardingley, Farnham, Godstone, Hawkhurst, Hartley Wintney,* Haywards Heath, Horley, Isle of Wight, Liss, Petersfield, Rye, Smallfield, Staplehurst, Steep, Turners Hill, and Uckfield.

[N.B.—Leatherhead :—painters, 1s. 5½d.; plumbers, 1s. 6½d.; other tradesmen, 1s. 6d.; labourers, 1s. 1½d.]

SOUTH WESTERN COUNTIES :—

Grade I.—Bristol.

Grade II.—Plymouth * and Devonport.*

Grade III.—Dartmouth,* Exeter,* Kingswear,* Newton Abbot, Paignton, Portishead, Stroud,† Taunton, and Torquay.

Grade IV.—Barnstaple, Beaminster, Povey Tracey, Bradford-on-Avon,* Bridgwater, Bridport,* Brixham, Bruton, Burnham-on-Sea, Calne,* Castle Cary, Cheddar,* Cirencester,* Clevedon, Coleford,* Corsham,* Crewkerne,* Dawlish, Dorchester,* Exmouth, Fairford,* Frome,* Glastonbury, Lydney,* Melksham,* Midsomer Norton, Minehead,* Radstock, Shepton Mallet, Street, Swanage,* Teignmouth,* Tetbury,* Thornbury,* Totnes,† Trowbridge,* Wells, Westbury,* Weston-super-Mare, Weymouth,* and Yeovil.*

[N.B.—Bath, Cheltenham, Gloucester* (except painters), Hereford,* and Swindon* :—tradesmen, 1s. 5d.; labourers, 1s. 0¾d.]

SOUTH WALES AND MONMOUTHSHIRE :—

Grade A.—Aberavon, Aberdare, Abergavenny, Ammanford, Barry, Bridgend, Briton Ferry, Brynmawr, Cardiff (plumbers, 1s. 8½d.), Chepstow, Duffryn Valley, Ebbw Vale, East Glamorganshire and Monmouthshire Valleys, Garw Valley, Gorseinon, Llanelly, Maesteg, Merthyr, Mountain Ash, Neath, Newport, Ogmore Vale, Pontardulais, Pontypool, Pontypridd, Porthcawl, Port Talbot, Rhondda and Rhymney Valleys, Sirhowy Valley, Swansea, and Tredegar.

Grade B.—Haverfordwest, Pembroke and Pembroke Dock.

[N.B.—Brecon and Carmarthen :—tradesmen, 1s. 6d.; labourers, 1s. 1½d. Llandrindod Wells :—tradesmen, 1s. 5d.; labourers, 1s. 0¾d.]

SCOTLAND :—

Grade A.—Airdrie, Alloa, Alva, Armadale, Ayr, Bathgate, Bellshill, Bridge of Weir, Buckhaven, Burntisland, Clydebank, Coatbridge, Dumbarton, *Dundee*, Dunfermline, Edinburgh, Falkirk, Glasgow, *Gourock*, Grangemouth, *Greenock*, Haddington, Hamilton, Harthill, Irvine, Kennoway, Kilmarnock, Kirkcaldy, Larbert, Largs, Leith, Leslie, Leven, Markinch, Methil, Motherwell, Neilston, Newmains, Paisley, Pencaitland, Perth, *Port Glasgow*, Renfrew, Stenhousemuir, Stirling, Uddingston, Uphall, Wemyss, Whitburn, Windygates, and Wishaw.

Grade B.—Arbroath, Montrose, and Peebles.

Grade C.—*Dumfries*, Galashiels, Hawick, and *Maxwelltown*. (Plumbers at Dumfries and Galloway, 1s. 6d.; and at Inverness, 1s. 7d.)

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* The rate for painters is 1d. per hour less than that shown for craftsmen in the above table.
† The rate for painters is ½d. per hour less than that shown for craftsmen in the above table.

* From "The Labour Gazette."

Wednesday, September 13, 1922

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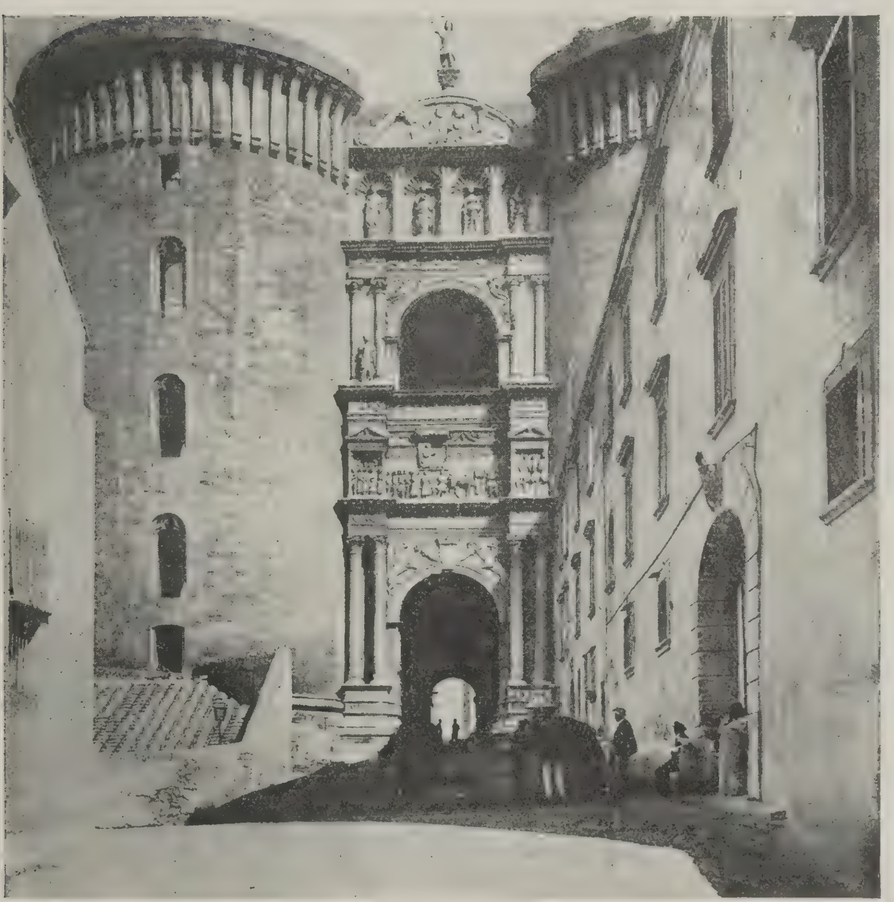
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

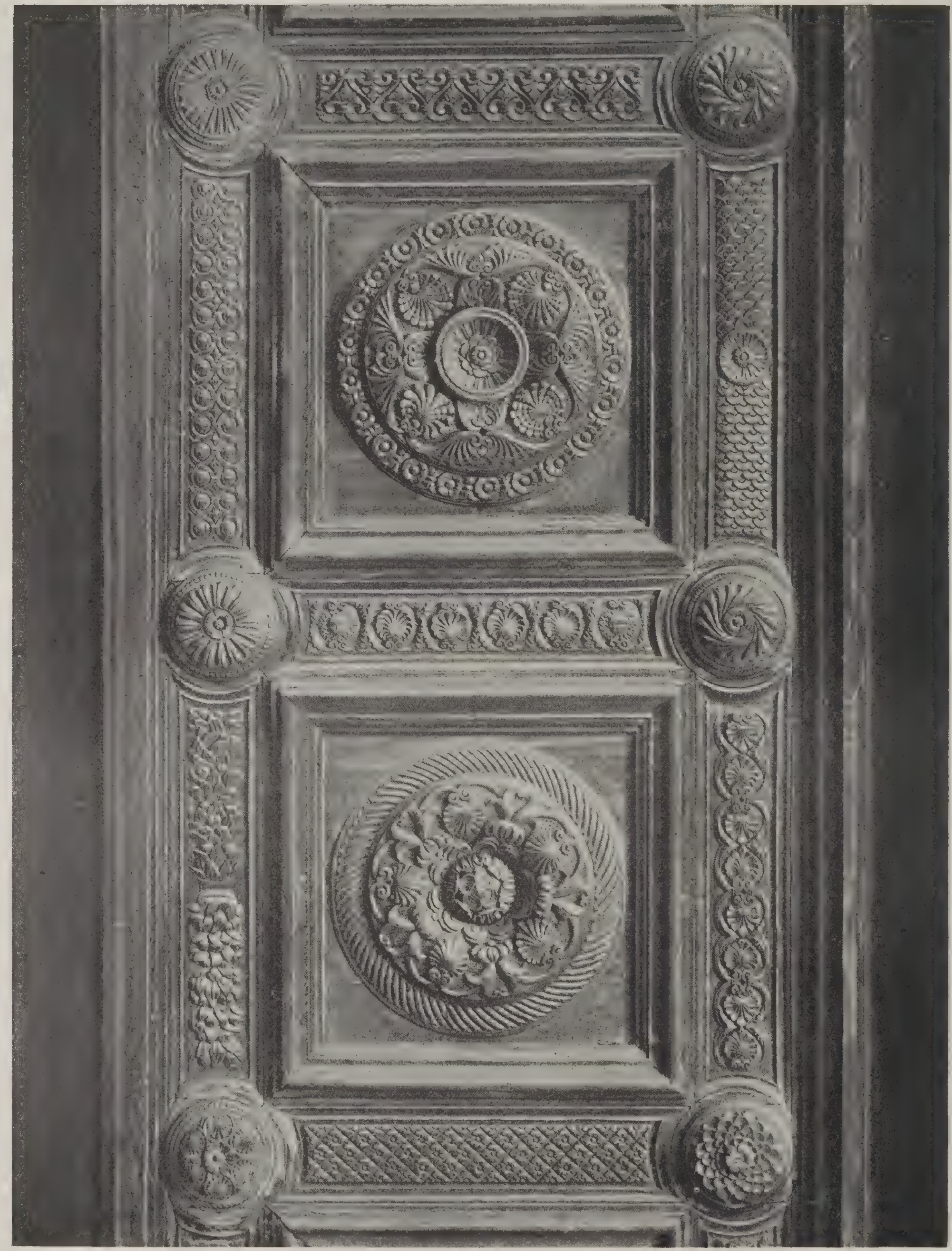


THE TRIUMPHAL ARCH OF ALPHONSO OF ARRAGON, NAPLES.
P. DI MARTINO AND G. DA MAJANO, ARCHITECTS.

27-29 Tothill Street, Westminster, S.W.1.

Architectural Details. 33.—The Door of the Capella dei Pazzi, Florence.

Brunelleschi, Architect



The Pazzi Chapel is generally believed to be Brunelleschi's first work, and is at the same time the earliest ecclesiastical building of Renaissance character in Italy. It stands in the cloisters of the Church of Santa Croce at Florence. The carving of its door illustrated above is exquisite, but there is almost too much variety of detail. Brunelleschi was born in Florence in 1377, and died in 1446. His great works were the Pazzi Chapel, the Dome of Florence Cathedral, and the Pitti Palace. He was a goldsmith, and his attention was originally turned towards architecture through his defeat by Ghiberti in the famous competition for the bronze doors of the Baptistry at Florence.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

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The Labour Congress and the "Broader View"

SOUTHPORT boasts "the finest street in Europe." Several other towns, British and foreign, advance the same claim, and that fact detracts nothing from the courage of Miss Hartley in advancing it in the speech in which, as mayoress of the town, she welcomed the delegates to the Trades Union Congress, which was opened there on September 4.

Her speech was courageous in other items; for, greatly daring, she did not hesitate to remind the delegates that the workers have duties as well as rights—a doctrine that is too seldom preached to them within their own assemblies—and that they have much for which they should be thankful. Doubtless they are, only they are such adepts at dissembling this engaging trait in their rather complex character that one might almost imagine that they regarded gratitude as a weakness, if not a positive crime.

Great changes, Miss Hartley said, had taken place since last the Congress visited Southport. Hours of work were shorter, better wages were paid, there were longer and more frequent holidays, the status of women in every walk of life had materially improved, the duration of life was longer, and the death-rate of children under one year had gone down by half. And all this under "the capitalistic regime"! Remembering these and other improvements, why, Miss Hartley asked, is there so much unrest? There is, she said, in her spirited and direct manner, "too much selfishness—we are asking for the impossible. The Trades Union Congress," she added in her peroration, "had great power, but power carried with it responsibility and opportunity, and she prayed that the delegates might be so guided that the Congress would tend to the betterment of the people of England and of the world, both industrially and nationally." One can heartily say "Amen" to that prayer.

Miss Hartley's was a speech that should have infused the right spirit into the Congress—a sorely needed spirit of amity and unity; but the debates were marked by but little less than the customary amount of acrimony and unreason that is rarely absent from such meetings. Even the presidential address was not entirely innocent of those bad qualities, although certainly Mr. Walker advanced no very violent views, nor yet, be it said, any ideas that were at all helpful towards a solution of the economic difficulties with which the nation—all Europe, indeed—is now engaged in a desperate, but by no means hopeless, struggle. There was the usual diatribe against capitalists. "Employers," said Mr. Walker, "seizing as an excuse the general economic situation—which they all admitted was bad enough, and which grew worse daily—had sought and were still seeking to reduce wages, to increase hours, and to deny the right of the worker to have any voice whatever in the control of the industry in which they were engaged. Over the whole business, like a sword suspended by a thread, hung the eternal menace of unemployment. It was this that gave the capitalists their advantage, and they were straining every nerve to push it to its fullest limits." Can nothing be done to educate labour to a truer perception of the economic facts?

To what extent these charges are untrue with respect to industry as a whole we do not pretend to say, but it is certainly unfair to impute such sinister and sordid motives to employers in the building industry. Building trades employers pay good wages, and do not always get an adequate return for them. "Ca' canny," however, is an old and a painful story which need not be revived as a counterblast to Mr. Walker's unfair accusations. To bandy words, incessantly to impute bad faith and rebut the charge is merely to darken counsel with profitless personalities and, by perpetuating quite unnecessary ill-feeling, to postpone "the betterment of the people of England and of the world," for which, like the Mayoress of Southport, we are all praying. Mr. Walker himself deprecated this froward spirit—as manifested among trades unionists themselves.

One has heard much of "sympathetic strikes," but it would seem that they have in them less of sympathetic feeling than of rather vindictive animus against the employer, actuated by the instinctive fear of being defeated in detail. And if the employed have no real sympathy among themselves, how can they be expected to extend any towards the employer in his economic difficulties? Yet the workers must be very well aware that employing builders of the better sort had the courage and the benevolence to refrain from passing on their hardships to the workers, who were kept together at considerable loss to their employers during the long period when building was at a complete standstill. Men for whom work had to be devised because the ordinary channels through which it should have flowed had gone completely dry were kept on out of pure kindly feeling.

Of such acts of generosity and self-sacrifice on the part of employers the public hear little or nothing, and are, consequently, the more prone to hearken to public utterances, such as that by Mr. Walker, about the "meanness" of employers, who, in Mr. Walker's own words (applied, however, to his own order, which he seems to regard as the sole repository of virtue), "must be prepared to face the misunderstanding and misrepresentation which seem the lot of all honest people." Sauce for the goose is sauce for the gander! And the proverb holds good for this fine-sounding passage: "We are warring not against a set of people, but against wrong ideas, and we need to carry on that war with courage and resolution. By that means alone shall we be able to rally our members and charge our movement again with new enthusiasm." Fine phrasing and excellent philosophizing, which will admit of general application; and so will the telling passage with which Mr. Walker concluded his by no means truculent address: "The world to-day is not big enough to quarrel in. Common sense and political experience are uniting to convince the world that it is an essential unity, and of the fact that no part can suffer and leave the rest unscathed." It would really seem that the trades unions are, by slow degrees, recovering their sanity.

Mr. Walker meant, by essential unity, the solidarity of the workers; but he should be reminded of an excellent phrase in his own speech: "We must keep a watch on ourselves, and preserve at all costs the broader view." Exactly: and the broader view of capital and labour is that, the one being indispensable to the other, there is an essential unity between employer and employed, who should both cease to act as if the essential thing were not unity but ceaseless, relentless, and senseless antagonism.

The tragedy is that this patent truth is realized but imperfectly, or not at all, even by Mr. Walker, who said, in the course of his address, "Certainly the full force of organization among the workers will never make itself felt, and the will inside our movement will never get its true expression, till the workers as a body can meet the employers as a body." They are to meet, it would seem from this, not to promote art, and craftsmanship, and harmony, and business prosperity, but to express the will inside the trade union movement! If the workers as a body can meet the employers as a body to no better purpose than that, Mr. Walker's aspiration is worse than futile. Has he considered the miserable failure of the alleged "Builders' Parliament"?

Brussels International Congress

The tenth International Congress of Architects was opened at Brussels on September 3, under the presidency of M. Jean de Win. Proceedings on the first day naturally went but little beyond the usual polite formalities and complimentary speeches, but the agenda comprises many interesting subjects for discussion when the real business meetings begin. In the supplementary exposition which the Société Centrale d'Architecture has arranged in celebration of its fifth anniversary our American cousins are said to figure very prominently, but their exhibits, according to a Belgian contemporary, are more remarkable for constructive ingenuity than for delicate artistry. They are, however, impressive by their mere number, and we should be glad to learn, from the further reports which we are awaiting, that the British exhibits are well up to the mark. For the honour of British art, even if there is no more material object to serve, it is important that Great Britain should be adequately represented on such occasions.

Architecture in the Lay Press

Architectural subjects find increasing favour with the editors of lay newspapers. Last Wednesday "The Evening News" had a delightful article on "Better-looking Houses," by Sir Lawrence Weaver, and next morning "The Daily Chronicle" published a rhapsody by Mr. Philip Cameron on the architectural amenities of Gidea Park. Sir Lawrence simply cannot help blossoming into frequent epigram. For instance, he knows, he says, that there are still people who believe that beauty lurks in bargeboards, and little oriel windows, and the quirks and tricks of the speculative builder which can be catalogued as quaint. To-day, however, sounder preferences prevail. "The public taste has happily set steadily in a return to eighteenth century traditions, and we have a right to be Georgian in our houses as in our loyalties." Again, with the Gothic Revival of the nineteenth century, "people wanted their houses served up like little abbeys on toast, and enthusiasts feared for their salvation if their kitchen windows lacked a pointed head." There has been one good result of "the tragic cost of building." For, says Sir Lawrence, "economy has brought us back, by the elimination of inessentials, to an art of common sense," and "at the same time the best of our architects have put the best of their skill into planning for comfort and health and not for appearances. They have taken counsel with the makers of grates and baths and sanitary dodges, so that economy and efficiency might be allied with seemly forms." But "that is not to say that simple houses are easy to do. The plainer the house, the more need for those subtle differences which give a plain building that elusive quality that we call style for want of a better word." An exact characterization of Sir Lawrence's delightful *obiter dicta*.

A City Church Redecorated

The custodians of the church of St. Nicholas Cole Abbey, in Queen Victoria Street, are evidently confident that it is immune from the fate with which so many City churches have been threatened. These courageous custodians have just spent about £500 on the repair and redecoration of St. Nicholas; not an heroic sum, truly, but any example of expenditure on building work of any kind is particularly welcome as an act of faith "encouraging the others." At one time there were in the City of London three churches dedicated to St. Nicholas—namely, St. Nicholas Acon, St. Nicholas Olave, and St. Nicholas Cole Abbey. Where several churches within a small area like that of the City of London were dedicated to the same saint it was necessary to distinguish each by a surname—usually it was an alluringly quaint one—lest there should be failure to identify any of the four St. Margarets, the seven St. Michaels, or the fourteen St. Marys. Only one of the three churches dedicated to St. Nicholas was rebuilt after the Great Fire, and its name of Cole Abbey is thought to be a corruption of Colby, possibly a founder or restorer. On the site there was a church of sufficient age to need restoration several years before the Great Fire, in which it was completely destroyed. St. Nicholas Cole Abbey is reputedly the first to be rebuilt after that fire, and was of course designed by Wren; and, with its stone parapet, its flaming urns at the angles of the four-story tower, its rows of ample windows on the north and east, and its dignified proportions, is sufficiently characteristic of his work to warrant the attribution.

Sunshine and Shop Windows

The Rev. H. Neville Hutchinson, writing from the Royal Societies Club, St. James's Street, protests that "if we valued sunlight as we ought to value it, we should not be so foolish and ignorant as deliberately to shut it out from our houses and shop windows." He adds that many shops are darkened because the shop window is piled up with goods. "I often speak of it to proprietors of shops," he says, "but they seem unwilling to take any steps to improve matters." They do but follow the too common habit of disregarding outside opinion. "You cannot teach me my own business," is too often the impatient and scornful comment with which suggestions from the architect, for instance, are met. Although the art of window-dressing is much more generally understood than it was, there are still many shopkeepers who have no better idea about it than to pack into the window as much as it will hold, and to keep it dark in order to preserve the freshness and colouring of the goods, thus harassing the eye and mind of the beholder, who goes away with very confused notions of the character and substance of the heterogeneous display. It happens that the writer of this note, remonstrating with a shopkeeper on the impolicy of overcrowding his shop window, was told, "The more I can show, the more I can sell. If people do not see in the window what they want, they conclude I haven't got it, and go elsewhere, so that I lose a sale and perhaps a customer." That is no doubt the crux of the matter, and the main reason why shopkeepers overcrowd their windows and darken their shops, and why shop fronts have been evolved on the show-case principle. "Little and often" might be a relevant motto for the local shopkeeper, whose customers live around him: he could change his display every day, and every change would bring fresh visits; but the system would hardly meet the case of the casual passer-by or of the visitor from a distance, who would not have the opportunity to follow kaleidoscopic changes. Overcrowding, however, is overdone, and is fatal to artistic display, and, *a fortiori*, to artistic shop-front design.

Joking Apart

(A Monthly Causerie)

Some Unmoulded Opinions

IT must gratify a profession whose business it is to build in beauty to notice that the arch enemy of Beauty—Industry—has at last perceived the error of his ways and incontinently changed sides. Before the middle of the eighteenth century our towns were things of beauty and were so esteemed; it was only after the death of George II that the so-called "Industrial Revolution" gradually transformed those beautiful towns into the agglomeration of unnecessary ugliness we now find them; and it has been reserved for us, after nearly two hundred years, to see a group of the leading spirits in commerce organizing to beautify and brighten London.

The inspiring motive of the Brighter London Campaign, which burst into blossom in the spring like a flower, has, however, like a flower, withered away at the approach of autumn. This is very sad, but, whatever the reason, it is not due to want of success; for like most of the new movements, new books, new plays, and new inventions of these times, the Brighter London Campaign was a success almost before it was born, and its success, as we know (from the papers), was never in doubt for a single day. Do we not see on all sides its benign and gladdening influence? The Executive Committee claims that London has been made a "City of light"; "the West End at night is," it points out, "ablaze with light," and this is certainly true. The variety and brilliance of the beautiful animated illuminated signs which burst upon us every evening transform the sinister gloom of night into a veritable fairy-land, engage our fancy with fascinating concepts, and enrich our minds with a wealth of curious information. Wheels go round, a thousand fireworks explode and re-form beneath our gaze, and delightful kaleidoscopic magic-lantern pictures challenge our attention on all sides in a lavish repetition which cheers us with its redundant lesson of perseverance. The shops flash coloured lights upon us as we pass, and with a thousand ingenious devices compete to capture our attention and banish thought; while at night their searchlights lie athwart the sky like glorious comets in a magnificence that pales the moon and shames the stars out of existence—for will not to-morrow's sun rise on a special bargain line in men's braces? Who, then, can rebut the claim that London has been brightened?

We are not to suppose, however, that the movement has confined itself to augmenting the number, brilliance, and liveliness of illuminated advertisements. It has done much more than this. It has extended the licensing hours into the early morning and made it possible for us to sup in the presence of a band of ecstatic pierrots who caper around our table and thus banish the boredom incidental to supping after an evening at the theatre. Music, too, has responded to the call for more brightness, and members of popular orchestras now prance in time with the tune and even distribute themselves among their audience, finally resuming their places only for the concluding phrase. The railways also have lent their aid. They advertise, on special illuminated signs under the heading "Brighter London," the most compelling attractions of the town—"Special illuminations at Poodle and Pippet's"; "Phenomenal sale of gloves at Mobbet's," and so on. They encourage us to visit Barnes by a picture of a barge, and Barnet (is it?) to see a countryman in a smock-frock and a top hat, with a basket of carrots on his arm. The retail traders have supported the movement and, in order to engage our minds, have called upon the resources of engineering science to make an entire shop front in Piccadilly revolve bodily like a meat-jack; and if they have but a pair of "snake-skin" slippers to dispose of at ten and six, or an unmounted briar pipe at two guineas, display them on velvet cushions under beautifully shaded and tinted lights in a setting far surpassing in splendour that of the regalia at the Tower. The theatres, in the words of the Executive Committee, "have played their part in brightening the City with some of the brightest shows that have ever been staged"; or, if our taste is for drama, we can enjoy the smell of actual live camels and experience the authentic dust of the African desert blown by real wind into our hair and ears. By following the sound principle of reproducing only what has already passed the test of success, and by avoiding new ideas, the theatres are able to secure their patrons against boredom and mental fatigue. The Press also has nobly lent its weight to the campaign. Even the children have not been forgotten, and a "Great Daily" has sought to brighten their little lives by devising delightful competitive games for them during their holidays, encouraging them with handsome prizes and teaching them the useful lesson that the game best worth playing is the game with money in it.

It might be supposed that such unity of purpose among activities, in which the pocket is generally supposed to be the throne of the conscience, has been due to some motive other than philanthropy; but this, it appears, is not the case. The Brighter London Society has definitely stated that the campaign has been organized in what it believes to be the best interests of London, and with the object of developing an increase of good-will towards London and of "moulding," in other countries, a higher opinion of London as a social and business centre. As has been pointed out, much has already been done to effect this high purpose; but more is readily possible. By a simple adjustment of the escapement of the clockwork the illuminated wheels could be made to go round faster and increased vigour given to the firework effects. Why, we may reasonably ask, are not *all* shop fronts made to revolve, and why do we hear so little of the stentorphone? The resources of that wonderful magnifying power-gramophone would remain almost unknown to us had not a "Great Daily" used it to brighten up the pensive crowd which gathers at St. Paul's at midnight on the last day of the old year, with vociferations of "Stop yer tickling, Jock," or other ditties appropriate to the occasion. The power of the stentorphone to brighten London is enormous, for, unlike our moving signs, it is not dependent on darkness. It could be kept going in our public squares and central thoroughfares day and night without intermission, and, supported by the revolving shop fronts, animated illuminations and flashing signs, might be the means of converting London into a scene of gaiety and brightness comparable to ten thousand Mitcham Fairs rolled into one, and be the means of making old England indisputably a land fit for shopkeepers to live in.

Perhaps another occasion will give opportunity to display in this page the direct bearing this hocus-pocus and hypocritical claptrap of "moulding" opinion, and Brightening London, has on architecture and the ideas, tastes, and aspirations by which architecture lives. Every member of any corporation or town council of any of our leading pleasure resorts knows that the element of shoddy popularity and jigging gaiety—so esteemed in the Brighter London Campaign—is one which, for their own well-being, they are obliged to discourage; and that the principle which is to brighten London and raise her reputation as a social and business centre would wreck Bournemouth and Eastbourne and Torquay in three years.

KARSISH.

Rebuilding Soviet Russia

By HUNTLY CARTER

1.–Ambitious Soviet Plans

Since the Revolution Mr. Huntly Carter has travelled a great deal in Russia. He has become familiar with the famine areas, and has studied the various problems with which the country is faced. In this and the following articles he will deal with the Revolution from the point of view of its effect upon Russian architecture and art, including the art of the theatre. At the same time he will try to draw a true picture of the Modern Russia of to-day.

DURING my visits to Soviet Russia since the Revolution I have been much impressed by one fact at least. I have noticed that it is one thing to read about Russia and another, and vastly different one, to see it with one's own eyes. Before entering Soviet Russia I had read a great deal in current books and periodicals and newspapers about the Communist experiment, and in this way I accumulated quite a lot of information about the political, economic, and industrial situation. I believed, in fact, that I knew all there was to be known about the new mysterious and incorrigible Russia, and had formed a really illuminating picture of its actual conditions.

But I had not been five minutes in Russia before I realized that with all my reading I knew practically nothing about its actual conditions. The picture I had formed of the situation in Soviet Russia was as far from the truth as the average film drama is. I found indeed that I had no picture in my mind of what life in Russia really was; and it was no wonder that I came to the conclusion that the situation and the prevailing conditions cannot be wholly realized by those who read about them in distant countries. The conditions must be observed and, as far as possible, actually experienced. Failing an opportunity to see, feel, and live the life, for it is neither easy nor cheap to enter Russia to-day, the only thing left is the account by the witness who has entered Russia not as a guest of the Soviet Government, but as an independent observer, and is in a position to observe facts for himself and is capable of doing so honestly.

THE RED PLACE, MOSCOW.

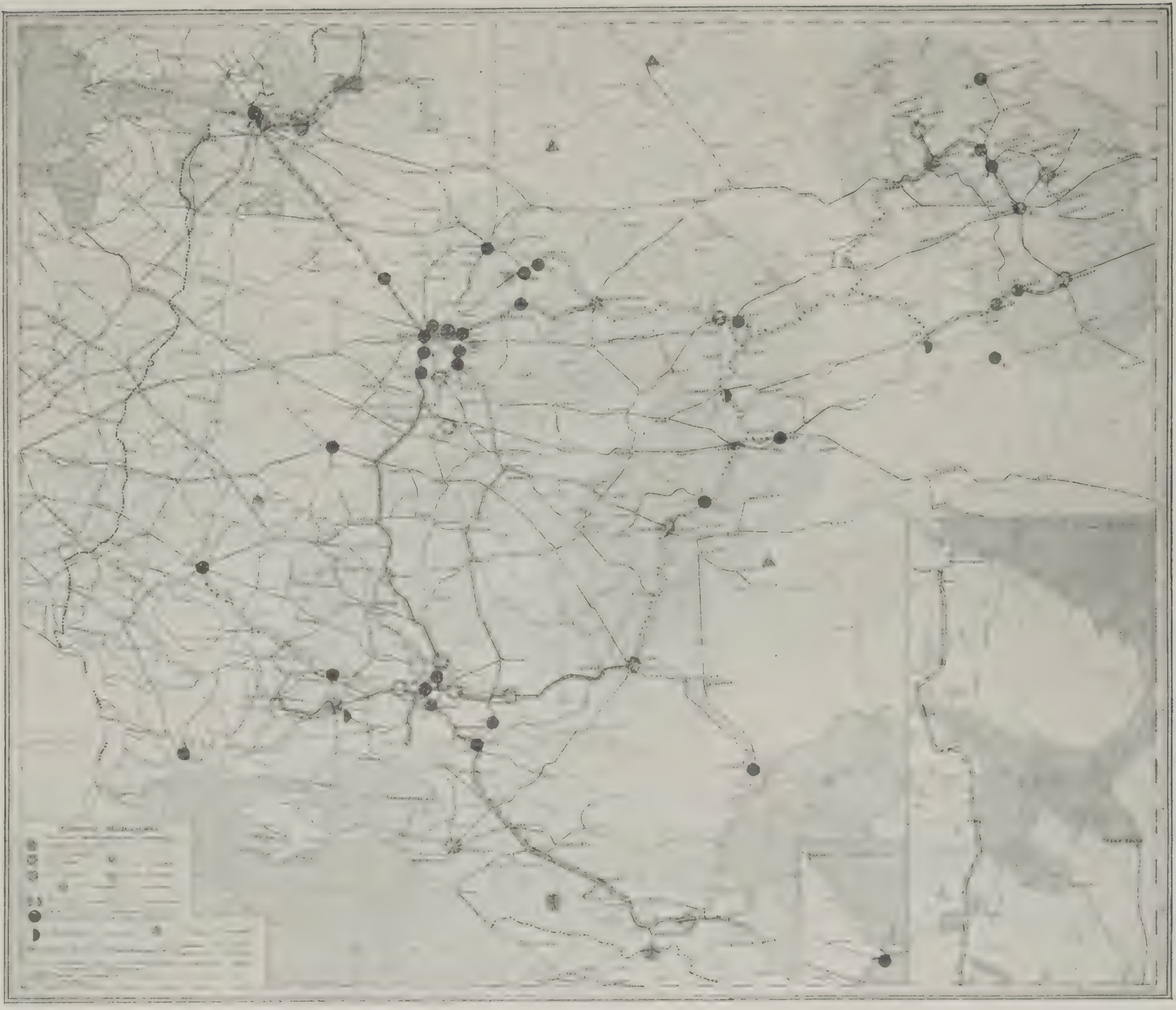
A year ago it was not possible for observers to enter Russia and roam about at will. Every visitor was a guest of the Government and was treated accordingly. Since then the Government have changed their policy. Free trade has been re-established, shops and markets have been opened, and to-day the visitor is left to himself to behave much as he does in other countries, provided he is able to pay his way—a very dear one—and keep his opinion of the programme of the Third International or the Communists to himself. Though Soviet Russia permits free trading it does not permit free opinion.

Of course, all this implies that not only must the observer go to Russia to see things as they really are, but he must go periodically. To prove this I have only to enumerate the many and varied changes that in my experience have taken place during the past twelvemonth. But there is not space for that. Moreover, I am not concerned in this and the following article with tracing the historical course of events. I am concerned with the question of rebuilding Soviet Russia, and the appalling conditions that must be overcome before such work can be carried out.

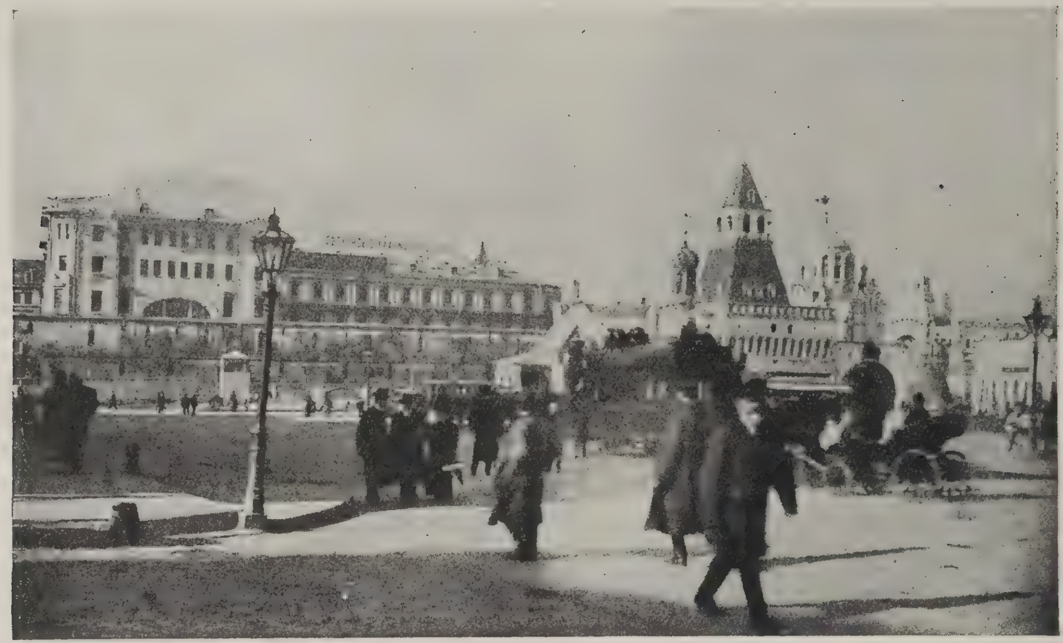
Since my previous visit to Russia I have been greatly interested in the reconstruction of this country. Indeed, I have been writing on the subject, as the article I contributed to THE ARCHITECTS' JOURNAL some months ago shows. It is no news to some people that reconstruction plans of a very ambitious character have been formed by the Soviet Government, and their intentions with regard to the rebuilding of Russia, when economic and other circumstances permit, are pretty well known by this time. It will have been noticed that quite a lot has been said, and is being said, in the daily papers on the subject of rebuilding Russia; and this and that country, especially Germany, are credited with the intention to collar the building trade, and in this and other ways to subject Russia to their own aims of recovery. A day or two ago it was stated by the "Westminster Gazette" that Germany, in the person of

RUSSIAN ARCHITECTURE OF PRE-REVOLUTION DAYS: TWO VIEWS IN MOSCOW.

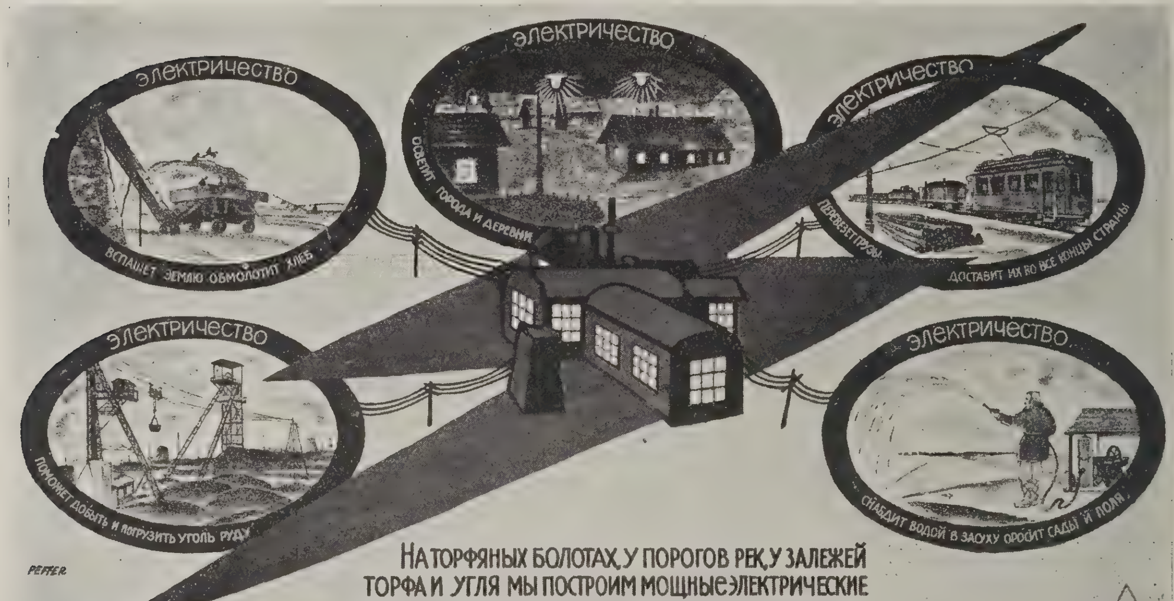
Two Hundred Experts for the Electrification of the Whole of Russia



The dark spots indicate existing electric work, the light spots indicate the presence of water-power, and the rings the presence of coal power. The dotted lines indicate proposed waterways with electric tracks, and the thick lines and lines of dashes electrified stations.



THE LOUBIANSKAYA PLACE, MOSCOW, SHOWING OLD RUSSIAN ARCHITECTURE ON THE RIGHT-HAND SIDE AND NEW ON THE LEFT.


ЭЛЕКТРИЧЕСТВО
ВСПАШЕТ ЗЕМЛЮ ОБМОЛОТИТ ХЛЕБ
ЭЛЕКТРИЧЕСТВО
ОСВЕТИТ ГОРОДА И ДЕРЕВНИ
ЭЛЕКТРИЧЕСТВО
ПЕРЕВЕЗЕТ ГРУЗЫ
ДОСТАВИТ ИХ ВО ВСЕ КОНЦЫ СТРАНЫ
ЭЛЕКТРИЧЕСТВО
ПОМОЖЕТ ДОБЫТЬ И ПОГРУЗИТЬ УГОЛЬ РУДУ
ЭЛЕКТРИЧЕСТВО
СНАБДИТ ВОДОЙ В ЗАСУХУ ОРОСИТ САДЫ И ПОЛЯ
PEFFER
НА ТОРФЯНЫХ БОЛОТАХ, У ПОРОГОВ РЕК, У ЗАЛЕЖЕЙ ТОРФА И УГЛЯ МЫ ПОСТРОИМ МОЩНЫЕ ЭЛЕКТРИЧЕСКИЕ СТАНЦИИ И ПО ПРОВОЛОКАМ ЭЛЕКТРИЧЕСКАЯ СИЛА ПОБЕЖИТ ВО ВСЕ УГОЛКИ НАШЕЙ РОДИНЫ.
БИНТ
ЭЛЕКТРИЧЕСТВО-ВЕЛИКАЯ СИЛА

In the centre of this poster stands an electric power station which is connected with every form of industry. Reading from left to right, the first vignette says: "It (electricity) will till the soil and yield bread"; the second, "It will illuminate town and village"; the third, "It will make goods accessible to all parts of the country." Of the two lower vignettes, that on the left says, "It will bring the coal to the surface," and that on the right, "It will provide water in time of drought and irrigate fields and orchards." Under the drawing of the power station are the words, "On the peat marshes, on river banks, at the coal mines, we will build great power stations, and by copper cables the power will run to all corners of our Motherland." At the bottom in huge letters are the words, "Electricity is the Great Force."

A SOVIET POSTER ADVERTISING THE SCHEME FOR THE ELECTRIFICATION OF RUSSIA.

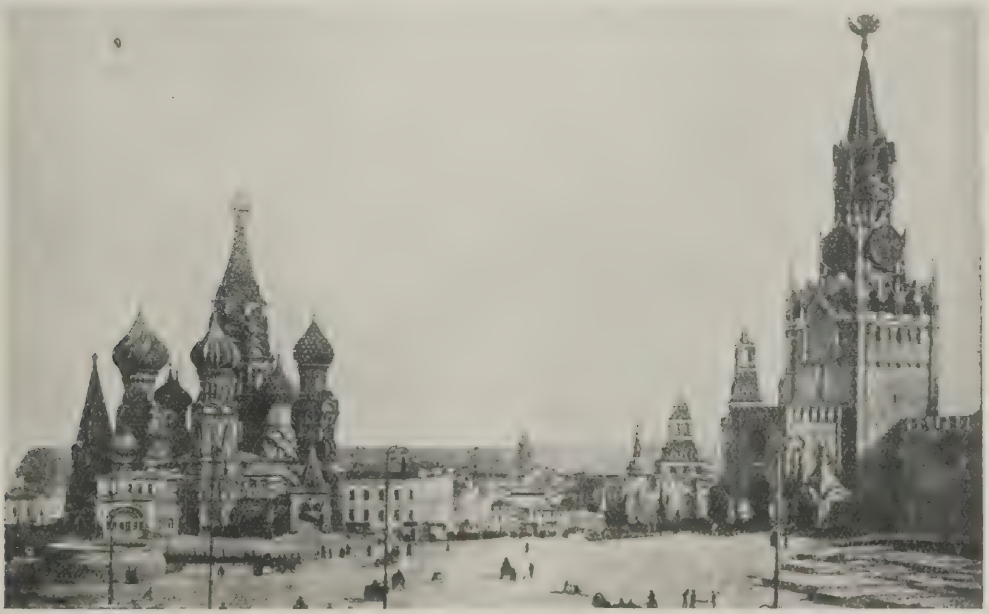
Herr Stinnes, had already arranged to rebuild Petrograd, and a political turn was given to the matter by the statement that Petrograd occupies a strategic position favourable to German economic and military aims. More recently there appeared in the "Daily Express," and subsequently in "The Times," a prophecy by Mr. Leslie Urquhart, a gentleman who controls vast business interests and who has more than once come into conflict with the Soviet Government over the question of trading possibilities. Mr. Urquhart now foresees an early resumption of business with Russia, which he believes is made possible by the confidence to be placed in the Soviet Government when presently they put pen to paper. He declares the Government are honest in their intentions, and therefore to be trusted. All of which must be of interest to British architects who wish to take part in the greatest rebuilding undertaking the world has ever known.

THE KREMLIN, MOSCOW.

So when I re-entered Russia this May for a prolonged stay I had a fairly clear idea of the vast rebuilding schemes upon which the Soviet Government wished to embark. These included the electrification of the whole of Russia; the rebuilding of towns and cities and villages according to an "electric city" model; road making and repairing on an immense scale; and the reconstruction and extension of railways. Any one of these projects was sufficient to set a whole army of experts and technicians to work.

I knew, too, that plans had been carefully drawn up. For instance, in view of the urgent necessity of electrifying Russia a plan of electrification had recently been prepared. The work was undertaken by more than 200 experts, nearly all of whom were opposed to the Soviet régime, yet were, nevertheless, sufficiently convinced of the importance of the proposed electrification to the economic regeneration of their country to set aside their opposition. The report of the Commission, which received the unanimous approval and the enthusiastic consent of the Eighth Party Convention, provides for the establishment during the next two years of a series of central overland stations, most of them for heating purposes, for the building of vast electricity transmitters and nets of distribution, for the electrification of the railways and industries, and for the extension of the use of electrical power in agriculture, in the institutions of public health and welfare, and for domestic use. This gigantic plan now awaits money and foreign experts and technicians to carry it out. There were also important town-planning and garden city plans—ambitious plans for the erection of workmen's dwellings, for converting villages into garden "cities," and for town improvement and embellishment of all kinds, including the beautification of municipal parks, open spaces, and so on. These might be studied at the Soviet Department for Architecture under the enlightened direction of Joltowskoi.

I was also aware that the Soviet Government had done something by way of preparation. I knew they had expressed willingness to co-operate, as far as the principles they stood for would allow, with outside forces to secure a new "architectural" Russia. They were willing to recall Capitalism, to re-invite experts and technicians, including those they had banished, to give large concessions to private capital, in short, to pawn their own country for the sake of realizing ambitious schemes for which there was no money in Russia. Such, briefly, were the facts which I had gathered outside Soviet Russia. There were other, and perhaps more important facts, which could be gathered only inside Soviet Russia. There were, for instance, facts on the actual condition of Russia. I will come to these in my next article.



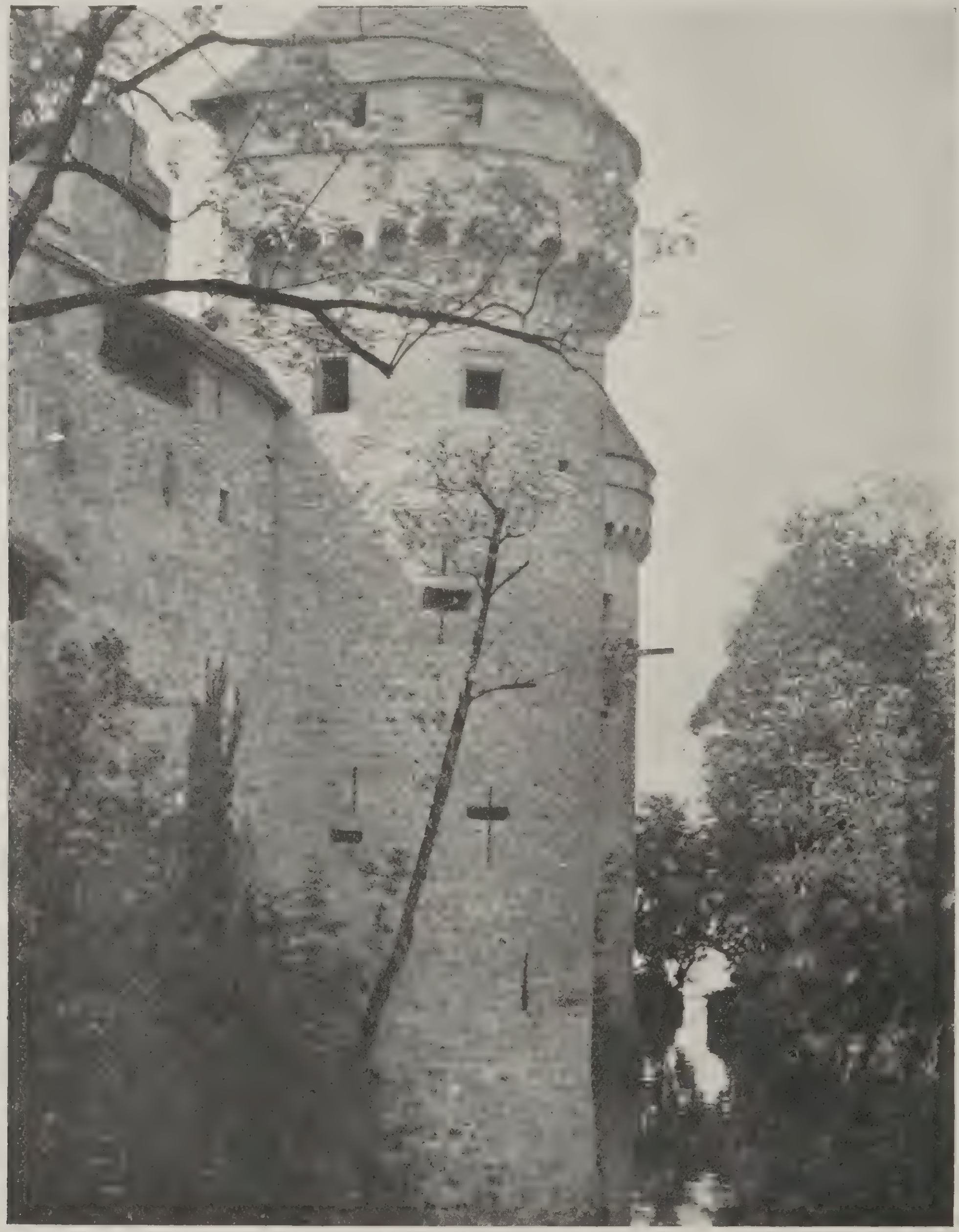
TYPICAL RUSSIAN MONUMENTAL ARCHITECTURE IN THE RED PLACE, MOSCOW, NOW THE SCENE OF HUGE SOVIET MEETINGS.

The Château de Chillon

By H. A. J. LAMB, A.R.I.B.A.

THIS famous and well-preserved old castle is situated on the north side of the Lake of Geneva and separated from the mainland by a narrow moat—also close to Villeneuve at the mouth of the Rhone. It can be reached by tramway from Vevey; or better still by steamboat to Territet or Villeneuve. It is from the lake that one sees the beautiful picture it makes, surrounded by magnificent scenery with a glimpse of the snow-capped Dents du Midi in the distance; one can the more easily realize why it has been the subject of so many paintings.

It is, however, curious to note that Charles Dickens was evidently not very impressed by it, for in a letter he writes: "The insupportable solitude and dreariness of the white walls and towers, the sluggish moat and drawbridge and the lonely ramparts, I never saw the like of."

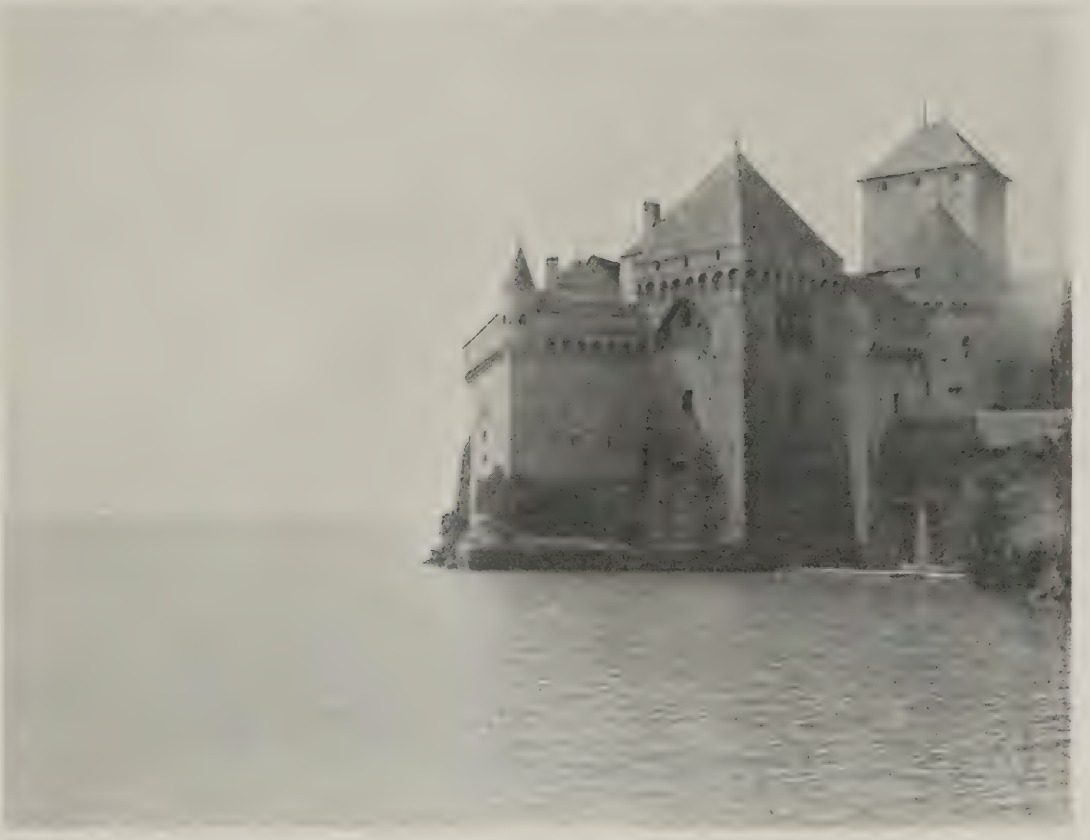


A DEFENCE TOWER.

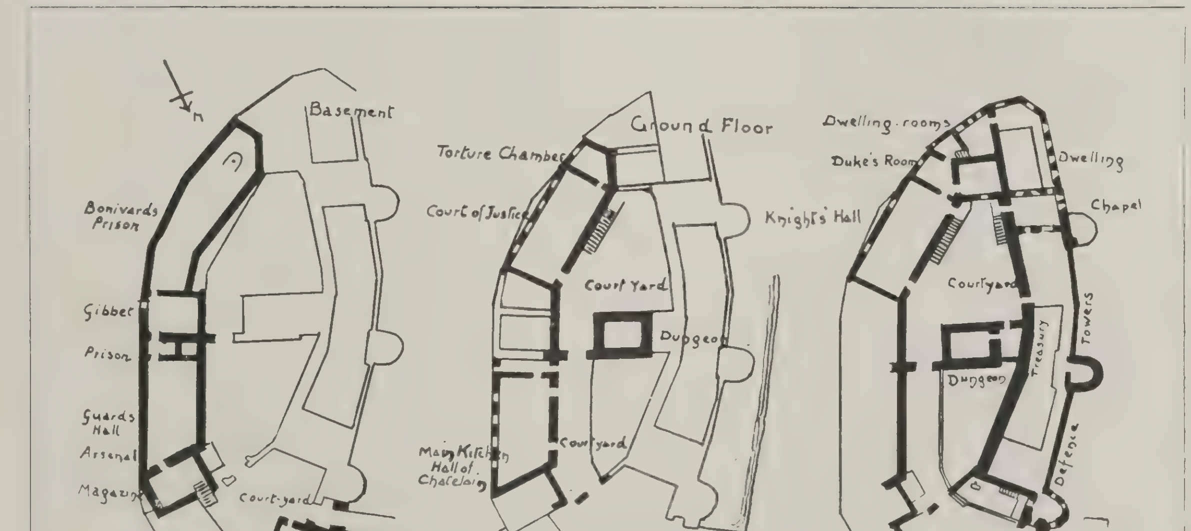
The Château was probably altered and enlarged considerably by Count Pierre II, of Savoy, in 1256–1263, and continued by his successors up to the fifteenth century, though in all probability something in the nature of a small garrison existed in the eighth or ninth centuries. The keep, which is of great height, is believed to date back to the eleventh century.

The first written record of the Castle refers to 1005, when it belonged to the Bishop of Sion. Chillon remained in the hands of the Savoyards until the year 1536, when it was captured by the Bernese. In 1798 it changed hands again, and was seized without bloodshed by the people of Vevey, who thus freed it from the dominion of Berne.

From the land side, entrance was originally gained over a drawbridge, which is guarded by a square tower of the



VIEW FROM LAKE GENEVA.

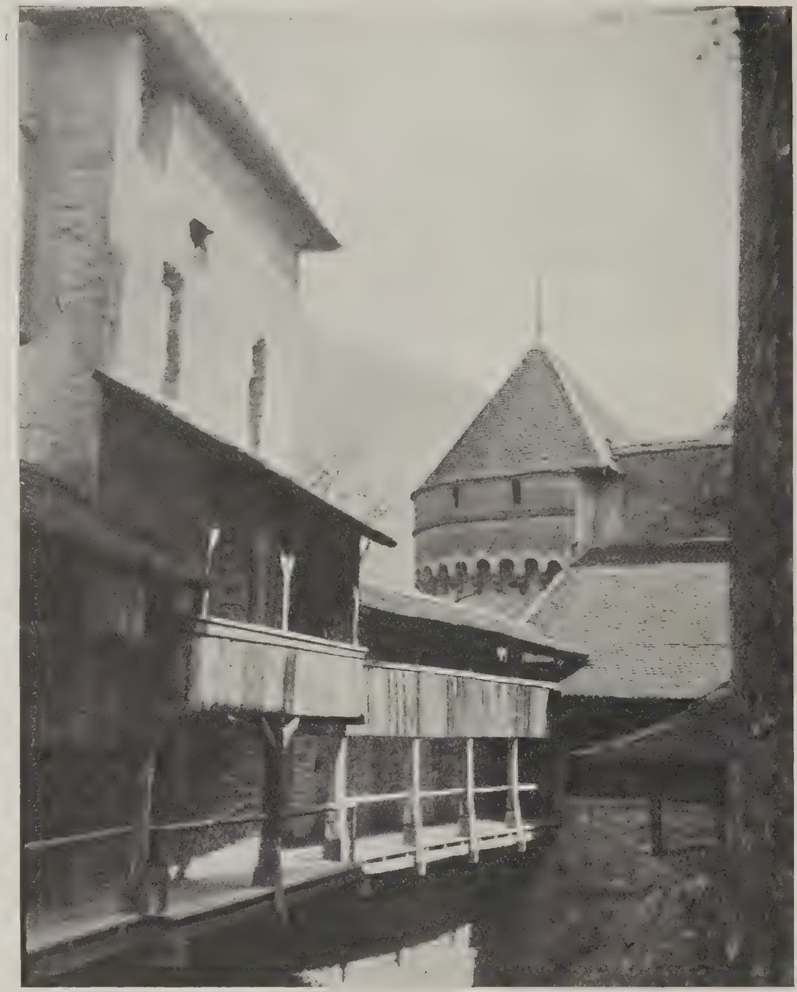


PLANS OF BASEMENT, GROUND FLOOR AND FIRST FLOOR.

THE CHÂTEAU DE CHILLON.

thirteenth and fourteenth centuries. On the right of this are three tall towers, pierced by numerous loopholes and crowned by machicolations, behind which lie extensive patrol galleries. These stone machicolations were constructed in 1376, to replace former rough wooden walling which, however, still remains at the top of the rectangular tower at the entrance.

Entering the main gateway, one emerges into the first of the five courtyards, round which the buildings are ranged. On the left is the guards' lodge, and a few steps farther on one passes into the guards' hall, prison and dungeons, which are under the main building, and just above lake level. These were constructed between 1254 and 1264 and consist of a series of communicating chambers, which include the condemned cell and execution chamber, in which the gallows beam may still be seen to-day.



PATROL GALLERIES IN THE CHÂTEAU DE CHILLON.

At the end of the main dungeon is the spot where Bonivard was chained to one of the round columns supporting the vaulted roof. Byron, in his well-known poem "The Prisoner of Chillon," in which he gives an imaginative account of the political prisoner Bonivard, who was confined there from 1530–1536, says :—

> " There are seven pillars of Gothic mould
> In Chillon's dungeons deep and old."

This particular dungeon is long and narrow, with walls hewn out of the solid rock, from which the floor too has been roughly levelled. For windows there are narrow slits opening into round arched embrasures.

Opening directly on to the lake from the execution chamber is a doorway through which, one imagines, the bodies of unfortunate victims were cast. Nowadays, however, it is fascinating to stand here and gaze down into the clear blue depths of the lake, and watch the multitudes of fish which can be clearly seen far below the surface of the water. Above the dungeons and facing the lake is the Great Hall, a magnificent room, with four fine Gothic windows, in which there are window seats of great depth. Massive columns of chestnut wood with boldly carved capitals support the ceiling.

Practically adjoining the Great Hall is the Court of Justice, another imposing apartment, with black marble pillars, whose capitals still bear traces of colour, supporting a ceiling of coffered squares. This was carried out in 1437 by the architect Aymonet Corniaux. The walls are decorated in squares of grey and white with red joints. Leading out of this is the torture chamber, which was used as such in the seventeenth century. Instead of being grim and forbidding, it is really a most cheerful room, with a handsome thirteenth century window, and walls decorated in courses of red and white with black joints. This squared treatment of decoration, formed of oblique rectangular bands, is typical of the period, 1256–1259.

The ceiling is elaborately painted in green, scarlet, and white. In the centre of the room is a tall, roughly painted wooden post up which the unfortunates were hoisted by means of ropes, whilst hot irons were applied to their feet. The base of the pillar is much charred and worn away.

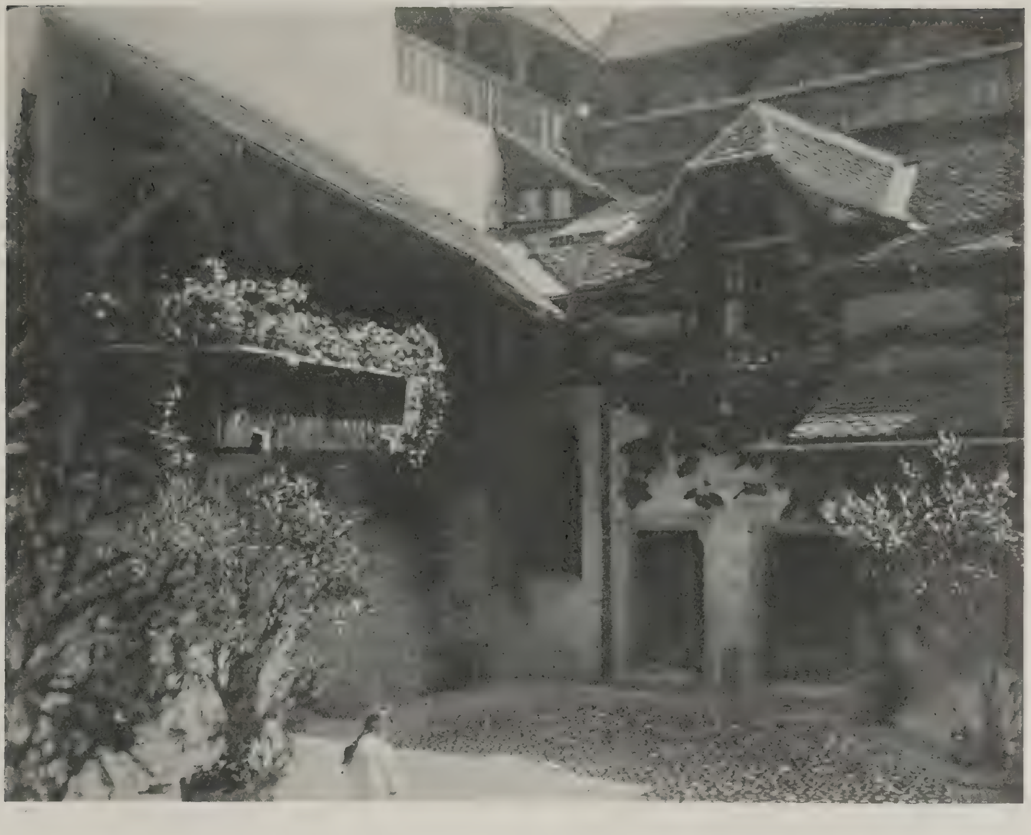
From the courtyard one must now ascend a long flight of steps, picturesquely roofed in, to gain access to the Knights' Hall, another fine room with two large windows, paintings on the walls, and an enormous fireplace. The room also contains several beautifully carved oak chests and many other fine pieces of furniture.

Leading out of this is the Duke's bedroom, with vivid red walls ; out of this again is a smaller room, probably a sitting room. On the opposite side of the courtyard, another flight of steps leads up to the beautiful little chapel of St. George, built in the middle of the thirteenth century, with finely decorated Gothic ceiling and four lancet windows. The paintings on the walls and vaulting belong to two periods—1259 and 1314. In 1314 Count Amédée V, who was then living at Chillon, had the chapel redecorated. The paintings depict biblical scenes and heraldic designs, whilst the embrasures of the slender thirteenth century windows are almost covered with curiously executed figures.

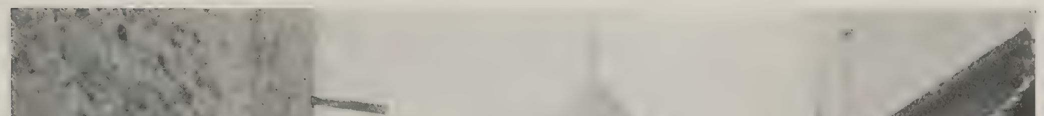
There are many other rooms, planned in a rambling manner, with echoing corridors and numerous staircases. Here and there the walls are tremendously thick, and occasionally one finds curious loopholes and heavily barred windows.

Parts of the castle are closed to visitors, being used as quarters for the caretakers and guides.

Further details which it is impossible to give in these short notes will be found in a small book issued by the "Association pour la Restoration du Château de Chillon," in whose hands is the necessary upkeep and restoration of the Castle.

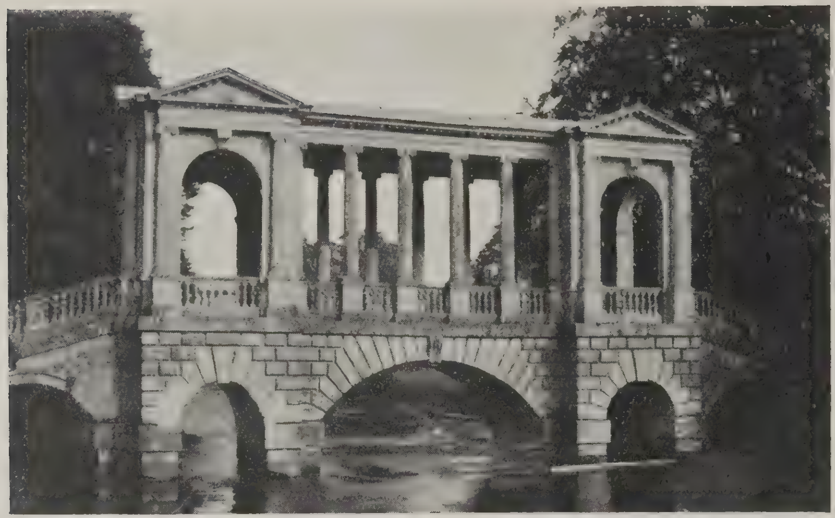


A COURTYARD.



THE PATROL GALLERIES.

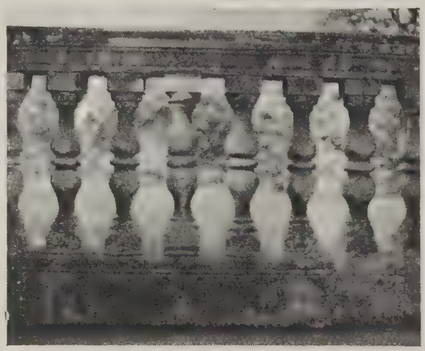
THE CHÂTEAU DE CHILLON.



THE BRIDGE.

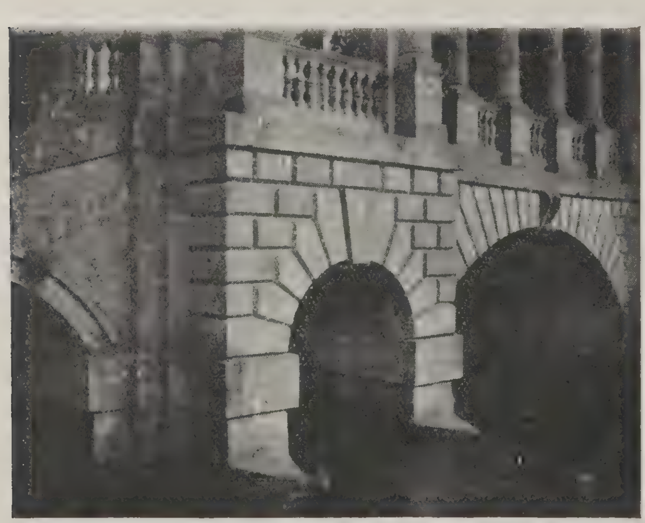
The Palladian Bridge, Wilton House, Wilts

Measured and Drawn by C. J. W. Lindley

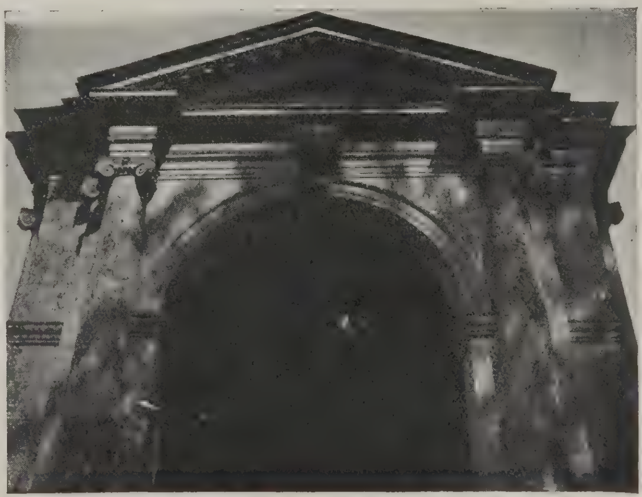


DETAIL OF BALUSTRADING.

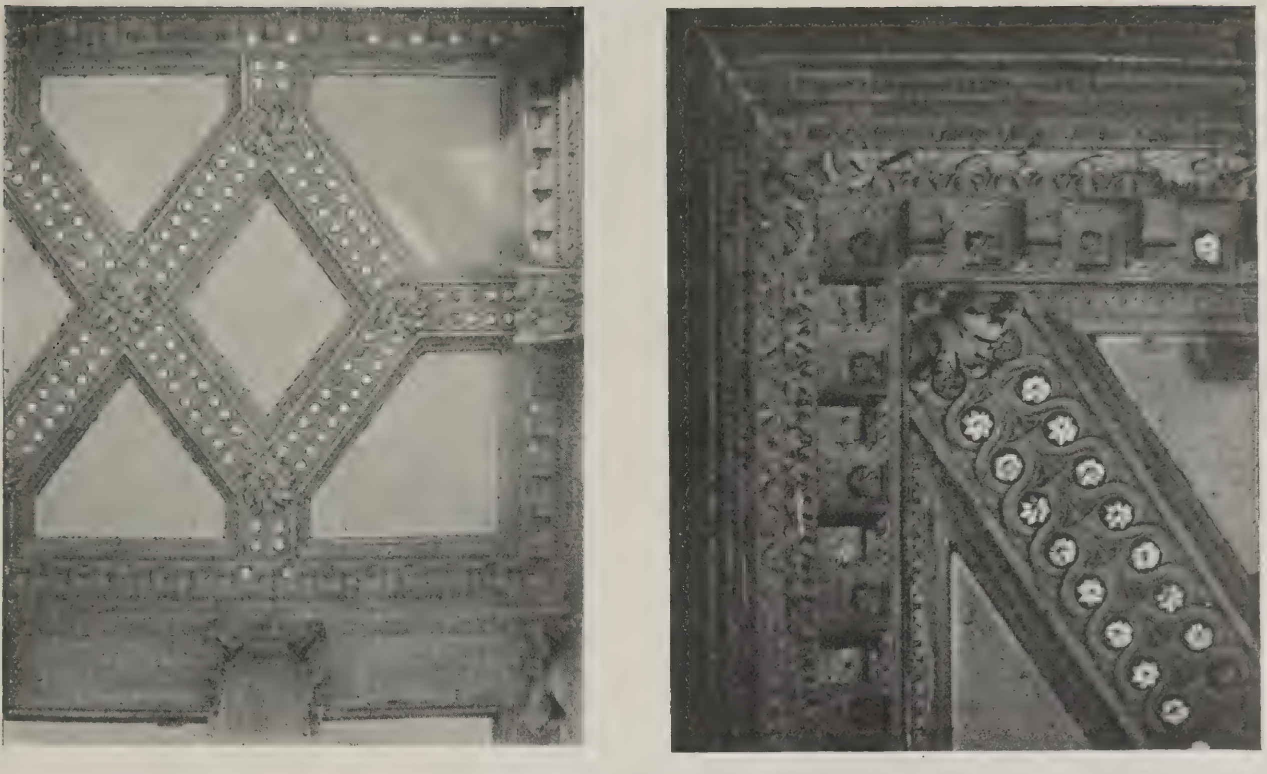
THE original Wilton House was largely destroyed by fire in 1648, and Inigo Jones was employed to rebuild it. His designs show a strong Italian influence—an influence which is reflected in the Italian gardens before the house, which were designed by Isaac de Caus in 1640. It is often said that Inigo Jones designed the Palladian Bridge at the same time, but as a matter of fact this bridge was built during the eighteenth century by Robert Morris, who was an architect of some originality, and built also Inverary Castle (1745–61, his first work); the lodge in Richmond Park; Brandenburgh House, Hammersmith (destroyed); a house for Lady Suffolk at Twickenham; Coom Bank in Kent; Wimbledon House (destroyed), and Kirby Hall in Yorkshire. The bridge at Wilton has become a classic—so much so that various imitations of it have been erected at different times, including two at Prior Park and Stow. Its proportions are almost perfect, and the motive of the wide central arch and small side arches, the projecting wings and the colonnade, is the most satisfactory that has been evolved for a bridge treatment of this nature. The river runs parallel to the front of the house, so that the bridge stands at right angles; the archway of its end pavilion closes the vista at the bottom of the broad pathway which forms a connection between the two features. Wilton House is the home of the Earls of Pembroke.



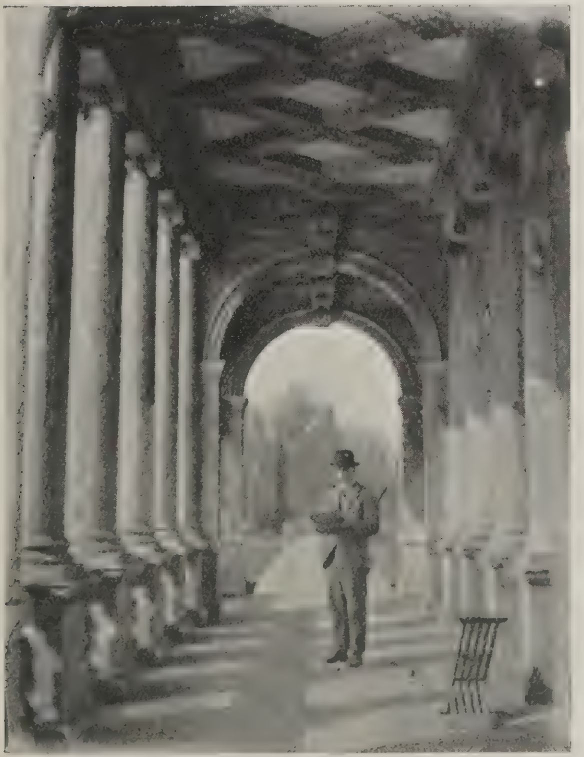
A DETAIL OF THE ARCHES AND VOUSSOIRS.



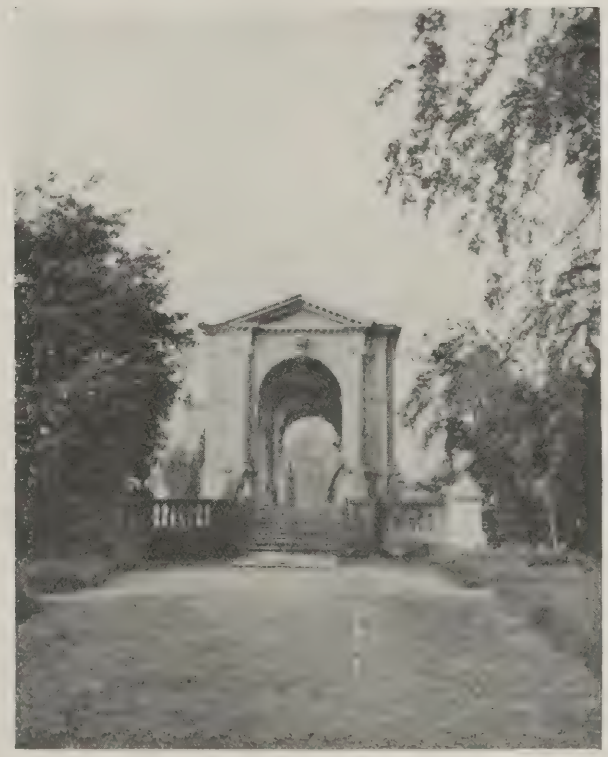
THE ENTRANCE ARCH, SHOWING CORNER TREATMENT.



THE CEILING TREATMENT: TWO DETAILS.



WITHIN THE COLONNADE.

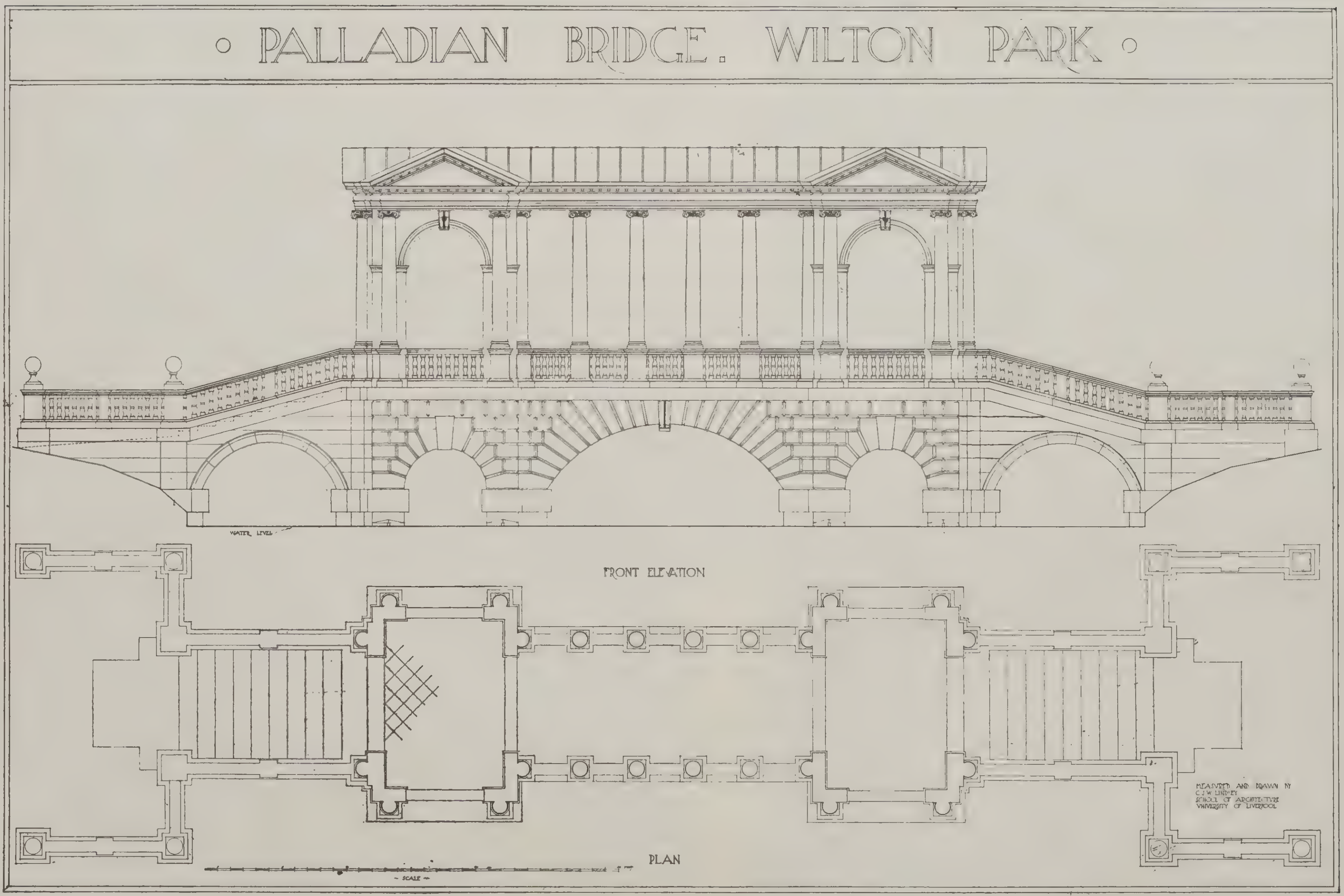


THE APPROACH.

THE PALLADIAN BRIDGE, WILTON PARK, WILTS.

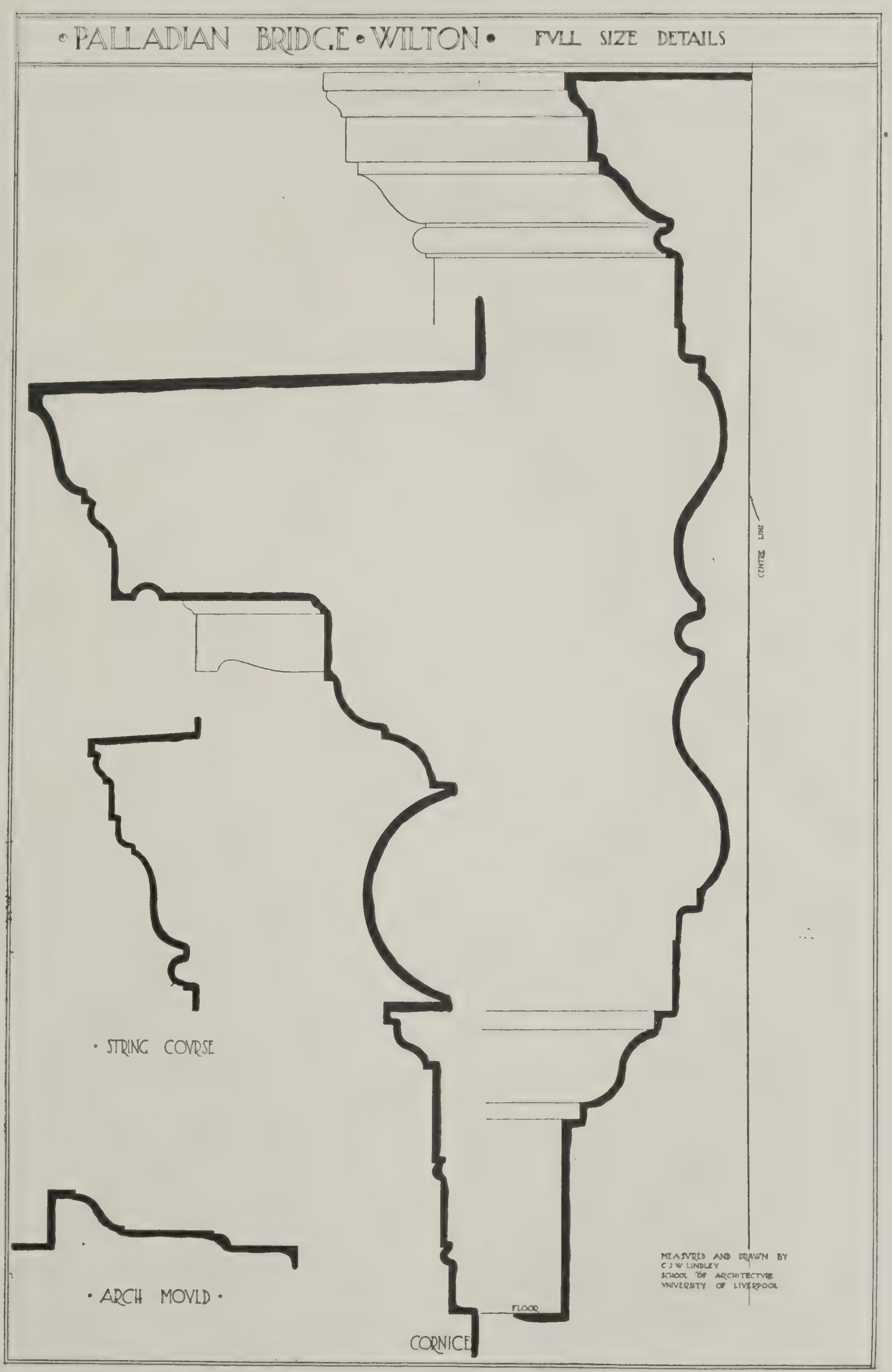
Measured Drawings. 13.—The Palladian Bridge, Wilton Park, Wilts

Measured and Drawn by C. J. W. Lindley



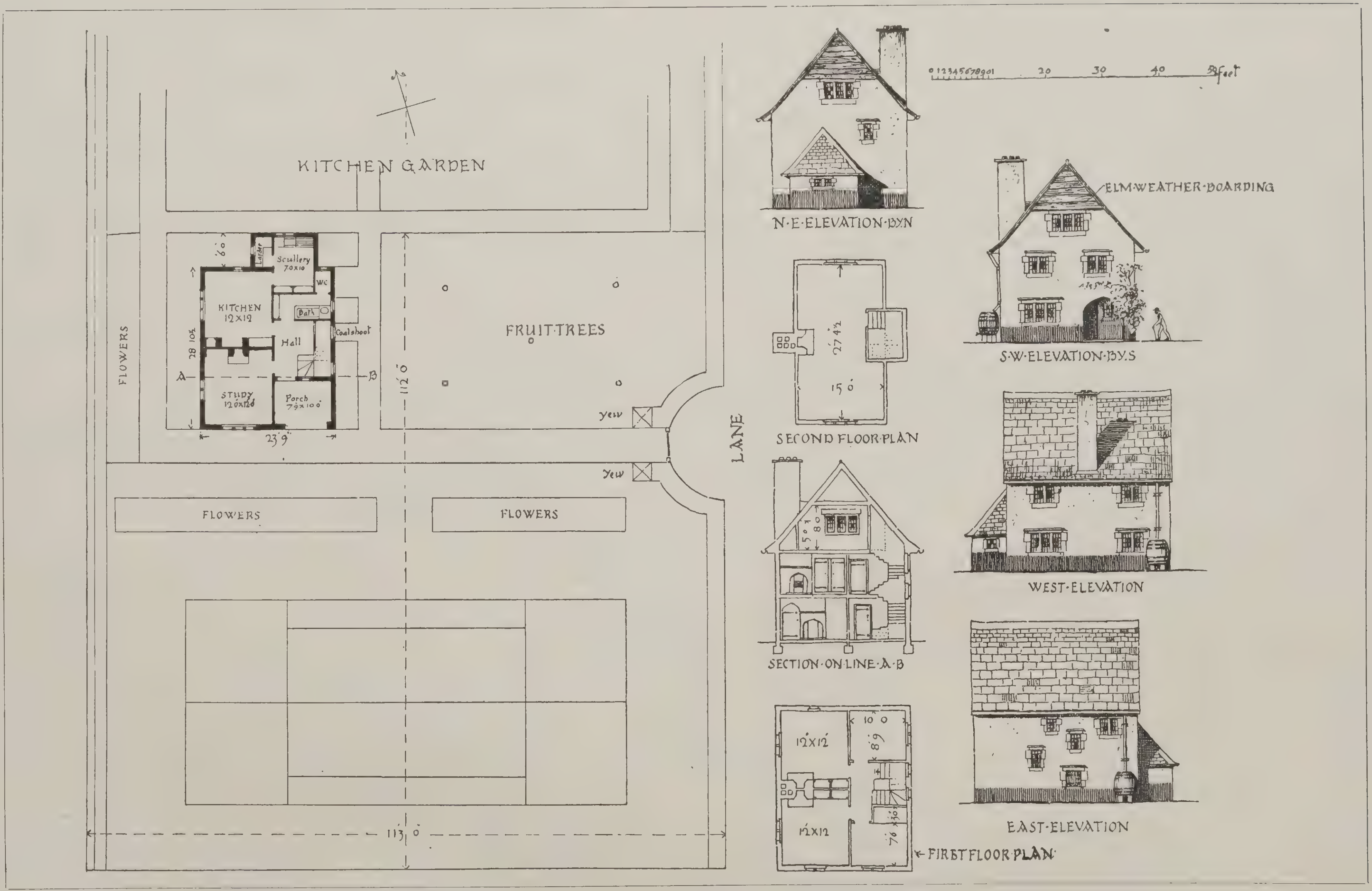
Measured Drawings. 14.—The Palladian Bridge, Wilton Park, Wilts: Details of Mouldings

Measured and Drawn by C. J. W. Lindley

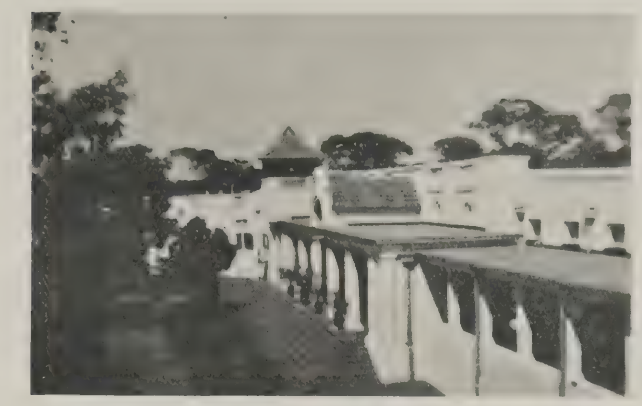


A House at St. Nicholas, at Wade, Isle of Thanet

C. F. A. Voysey, Architect



This house is now in course of erection. It is being built of one-inch cement rough-cast, with stone windows, iron casements, lead glazing, and hand-made dark local roofing tiles. All joinery is of English Oak. In the rooms there is a green glazed tile skirting flush with the plaster, and green glazed tile window sills. Hard coarse plaster is being used for the walls without wood linings or architraves, and Delabole Slate paving for the hall, porch, kitchen, and offices.



A BIRD'S-EYE VIEW OF THE FRONTAGE TO THE FALLS.

A New Hotel at Victoria Falls, Rhodesia

By FRANK SCOTT, M.S.A.

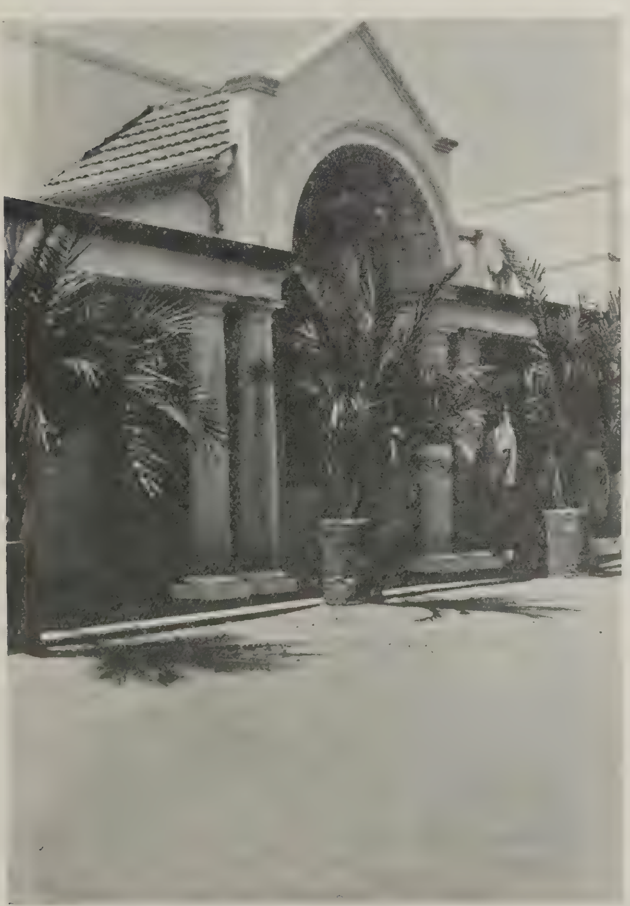
THIS hotel has been erected from the designs of Mr. Frank Scott, M.S.A., at the Victoria Falls, Rhodesia. The building is a flat-roofed, fireproof, skeleton-framed building constructed of reinforced concrete with an external "fill in" of brickwork, all plastered and creamed with a tint just less than white. The internal divisions are generally in Hy-rib partitions. Mr. Scott has produced an architectural effect suitable to the tropics by a free interpretation of such Portuguese work as one sees on the East Coast of Africa.

No comprehensive view of the whole building by means of an actual photograph is obtainable on account of its enormous length, but some interesting views of the more important details are reproduced on this and the succeeding pages.

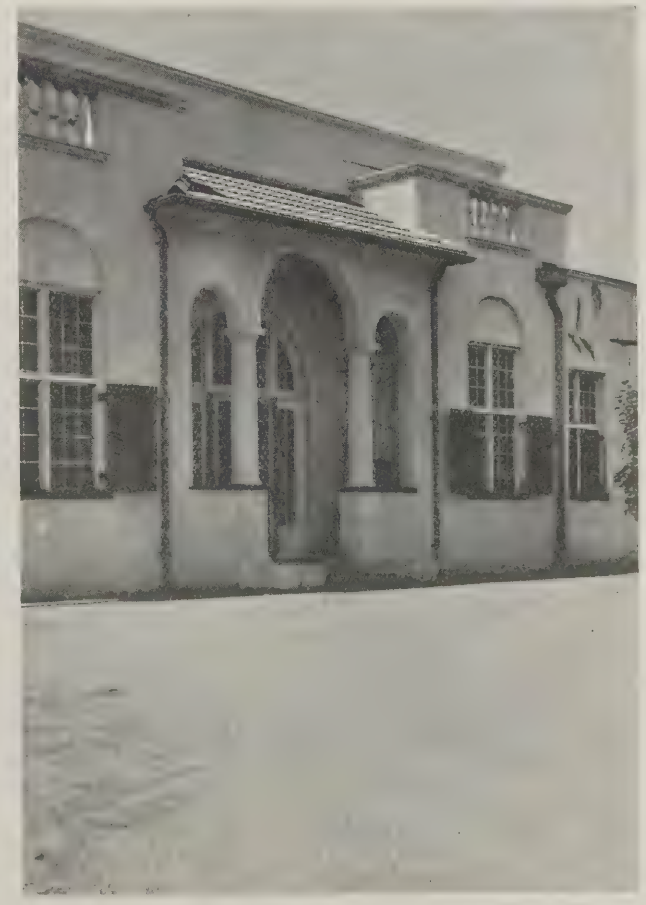
The erection of the building presented a problem of some intricacy owing to the position of the site, which is remotely situated from any town. Labour was hard to obtain, and materials were transported only with great difficulty.

As will be seen from the accompanying illustrations, Mr. Scott has taken advantage of the nature of the climate. Nearly all his effects are obtained in a simple way by a bold treatment of lights and shadows. The deep shadows thrown by the veranda and main entrance serve to attach to the square wings of the building a contrasting solidity and simplicity.

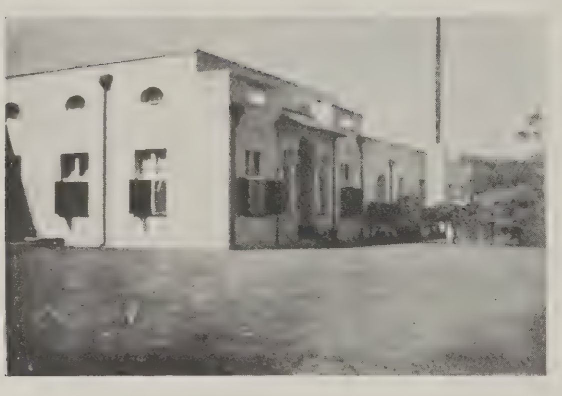
The importance of the main entrance is stressed by the use of columns, pilasters, and entablature. On either side of the main loggia is a veranda, which carries on cleverly the architectural treatment of the entrance. Great prominence has been given to the main loggia and the verandas owing to the fact that they face the Victoria Falls. At the end of each of the verandas is a tower, from which some fine views may be obtained of the falls and the surrounding country.



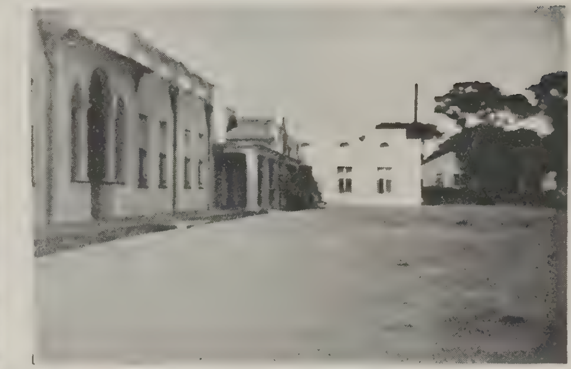
A DETAIL OF THE MAIN ENTRANCE



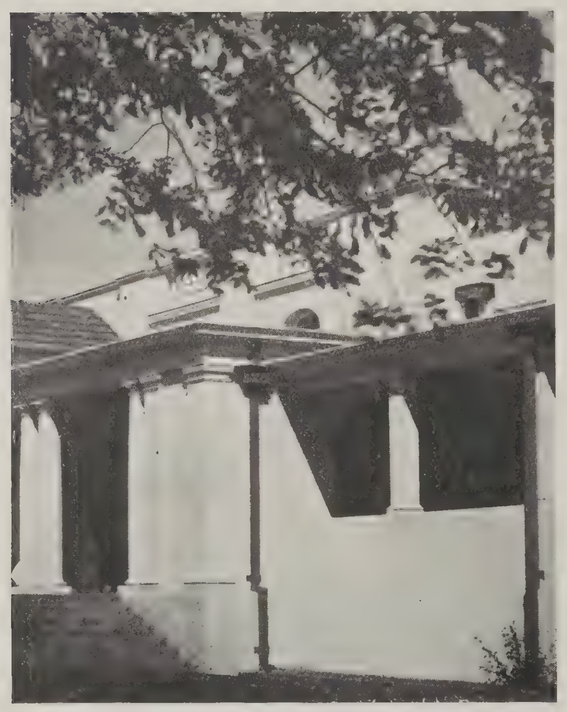
A DETAIL OF THE DINING-ROOM ENTRANCE.



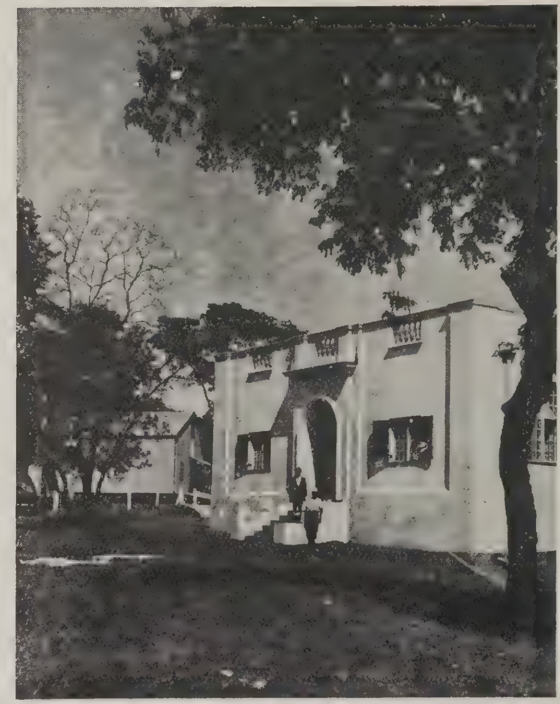
THE DINING-ROOM WING.



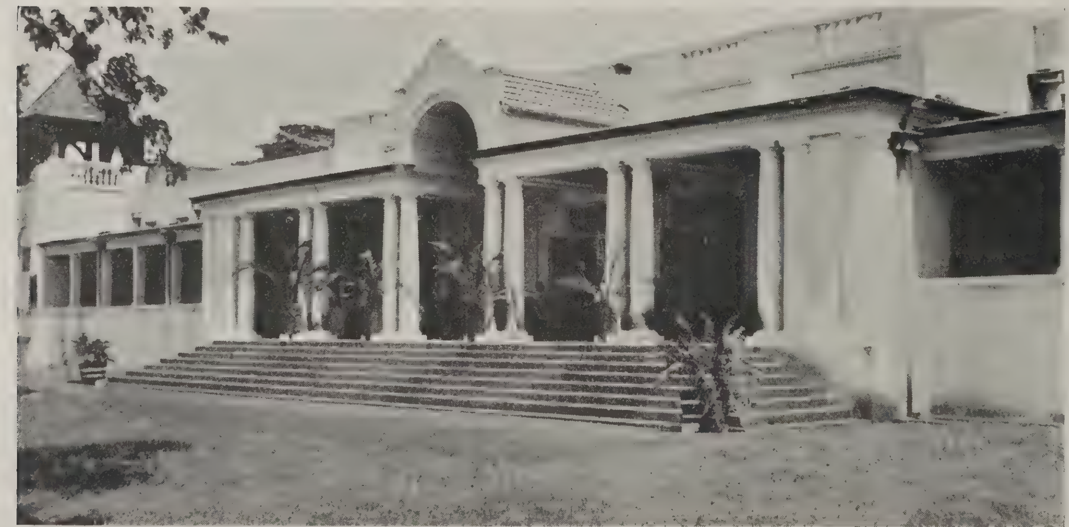
THE MAIN ENTRANCE FRONT.



A DETAIL OF THE VERANDA.

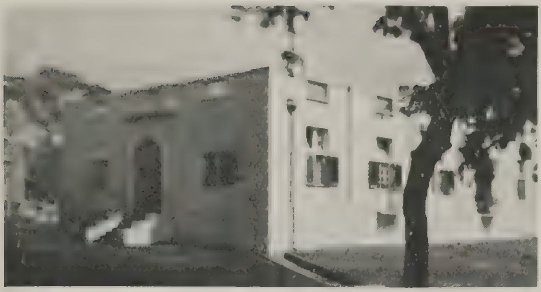


ENTRANCE TO THE SOUTH BEDROOM WING.

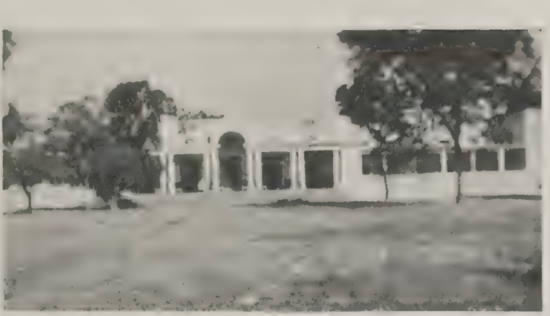


THE LOGGIA FACING THE FALLS.

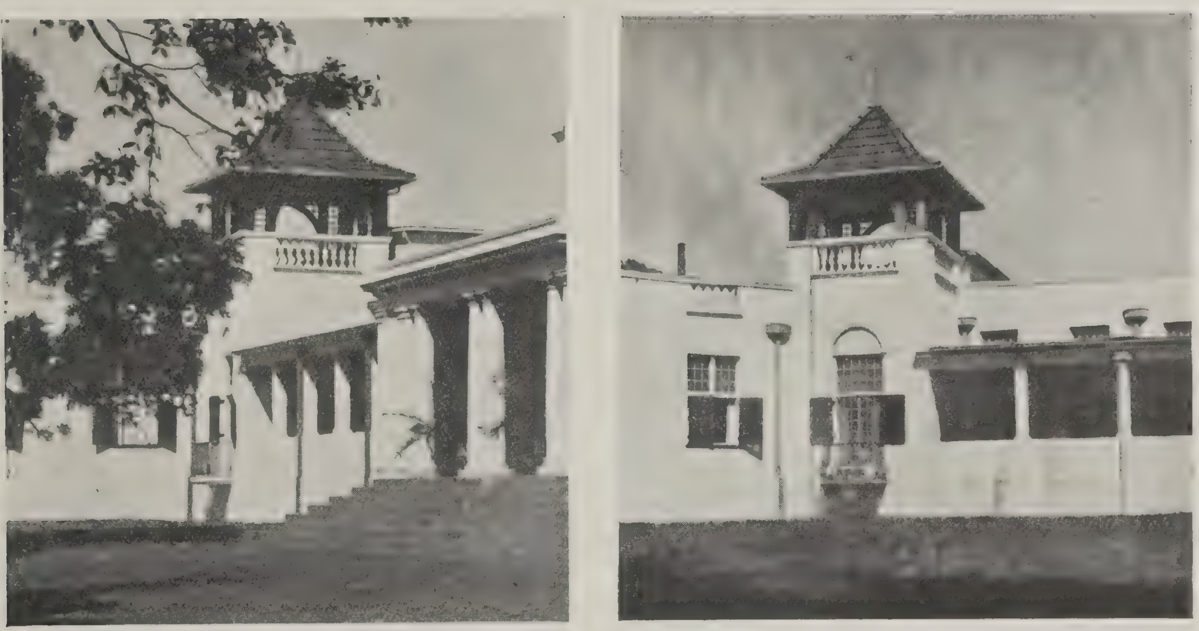
THE VICTORIA FALLS HOTEL, RHODESIA. FRANK SCOTT, M.S.A., ARCHITECT.



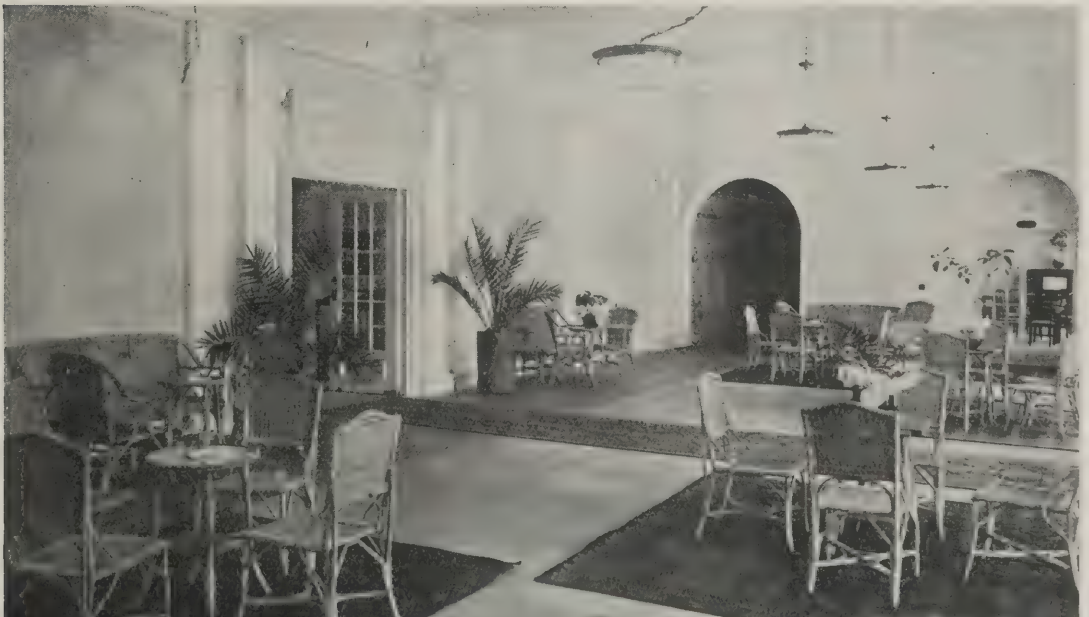
A BEDROOM WING.



A GENERAL VIEW OF THE FALLS FRONT.



TWO VIEWS OF THE SOUTH TOWER, FACING THE FALLS.



THE LOUNGE.

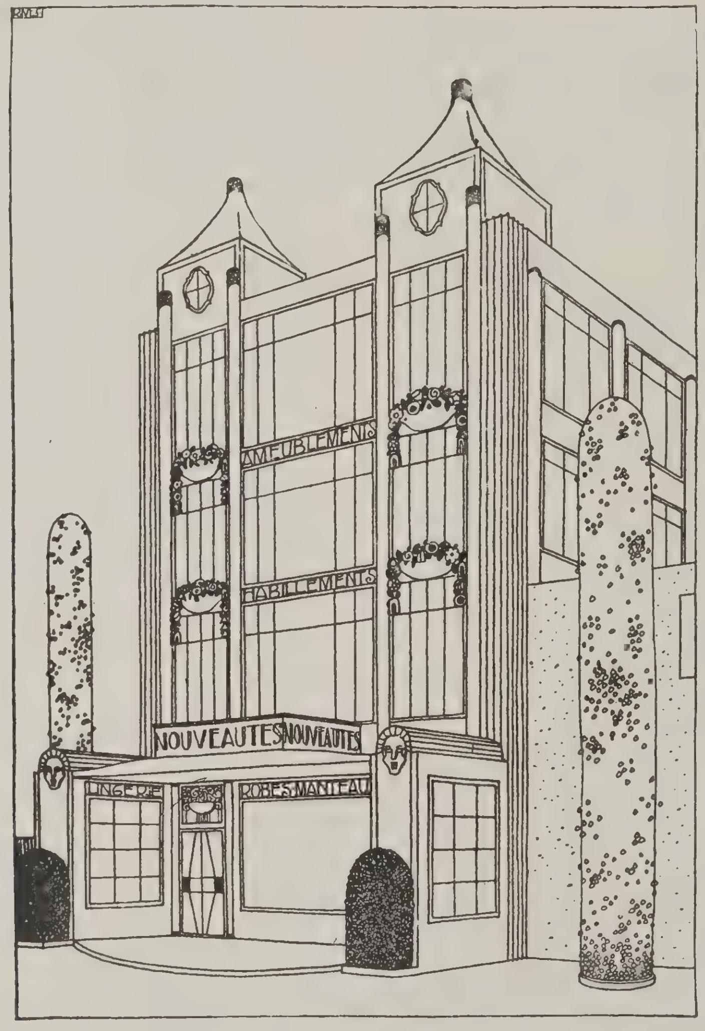
THE VICTORIA FALLS HOTEL, RHODESIA. FRANK SCOTT, M.S.A., ARCHITECT.

"A Modern City"[*]

A LAUDABLE enthusiasm for suggesting new civic forms has carried Mr. Mallet-Stevens such a long way in his rapid ascent towards ultra-modernism that, with this present volume of heterogeneous designs, he has brought himself under the cold light of criticism which spares in its function neither the heart's impulses nor the head's elucubrations.

It is one thing to be dissatisfied with the architectural forms at present obtaining in any city, quite another to replace them by new and better ones. The process of bettering buildings or blocks of buildings may be radical in the extreme, but it should be based upon enlightened convictions. Convictions which should be arrived at after long and thoughtful considerations of many problems. The importance and extent and position of civic centres; the claims of traffic; the activities of commerce and industries; the storing and showing off of goods of all kinds; the housing of the population; the extent and quality of its amusements; its need of open spaces—these and a hundred other aspects of such a huge problem should be very carefully considered before committing to paper and giving out to the public any scheme whatever. But such problems as have just been adumbrated Mr. Mallet-Stevens does not appear to consider at all. Some of his designs are quaint, simple, and occasionally rather agreeable, but taking them as a whole they seem to us to display a paucity of cohesion, a lack of scale, which no veneer of unusual shapes or draughtsmanship could seriously hide.

The fact is that the title of the book is a misnomer. Inside you will find none of those visionary, but thought-alluring general views or bird's-eye perspectives that show new ordinances or town-planning ideals. Each plate consists of an ink-line perspective drawing of various types of buildings: a town hall, a stores, a museum, a theatre, workmen's dwellings, and so on. To heighten the effect, a single wash has been introduced, so that the eye is disturbed away from the general design by red woodwork, purple or blue roofs, and yellow doorways. It is all rather arbitrary and superficially thought out, and the sense of scale throughout is unsatisfying. How far from those generous, considered, and architectural conceptions of Hébrard, Tony Garnier, Ludovicini, or of the Wagner school. However utopian, theirs were architectural entities. The life of the city was then analysed and given expression; its vast possibilities studied, and much skill shown in both conception and execution.



A STORES.

Not one plan or section is given in Mr. Mallet-Stevens' book. Further, if no sense of co-ordination pervades the whole, none does duty with the parts thereof, and the net result of all those thirty-two plates is consequently meagre and carries no weight. It would therefore be advisable for Mr. Mallet-Stevens to go more seriously into the heart of this problem, to consider it in a more practical and architectural spirit, and then to present the fruit of his labour in a more winning way. The flippancy displayed in some of these drawings suggests that they are not taken in earnest. One finds it difficult to believe that as an architect he considers them seriously. The drawings, as such, seem too full of the "arty" and slick tricks of draughtsmanship of modern French magazine work to commend them over here. Something solider and more technical is required. And if the author evinces in his designs a nodding acquaintance with the atmosphere of the German modern movement, it cannot be said that he does it justice. No serious Teutonic architect would ever be guilty of such "enfantillages" as the shower baths

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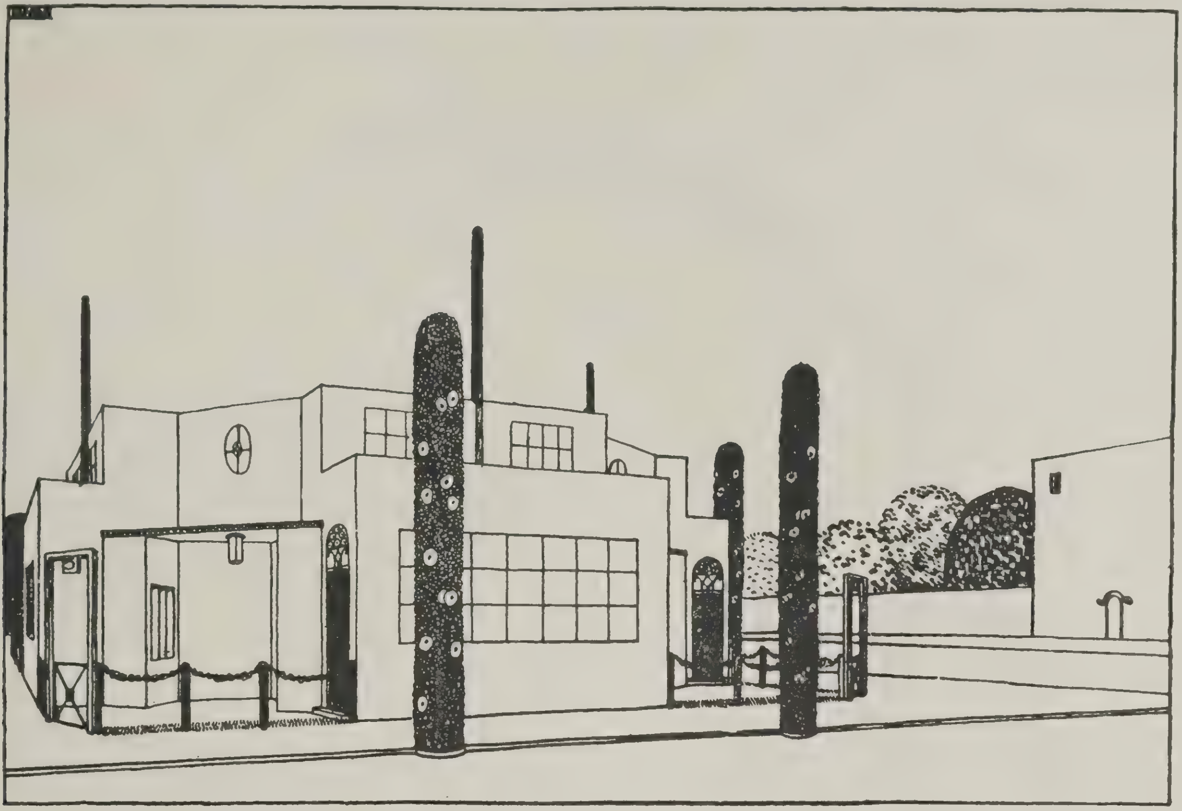
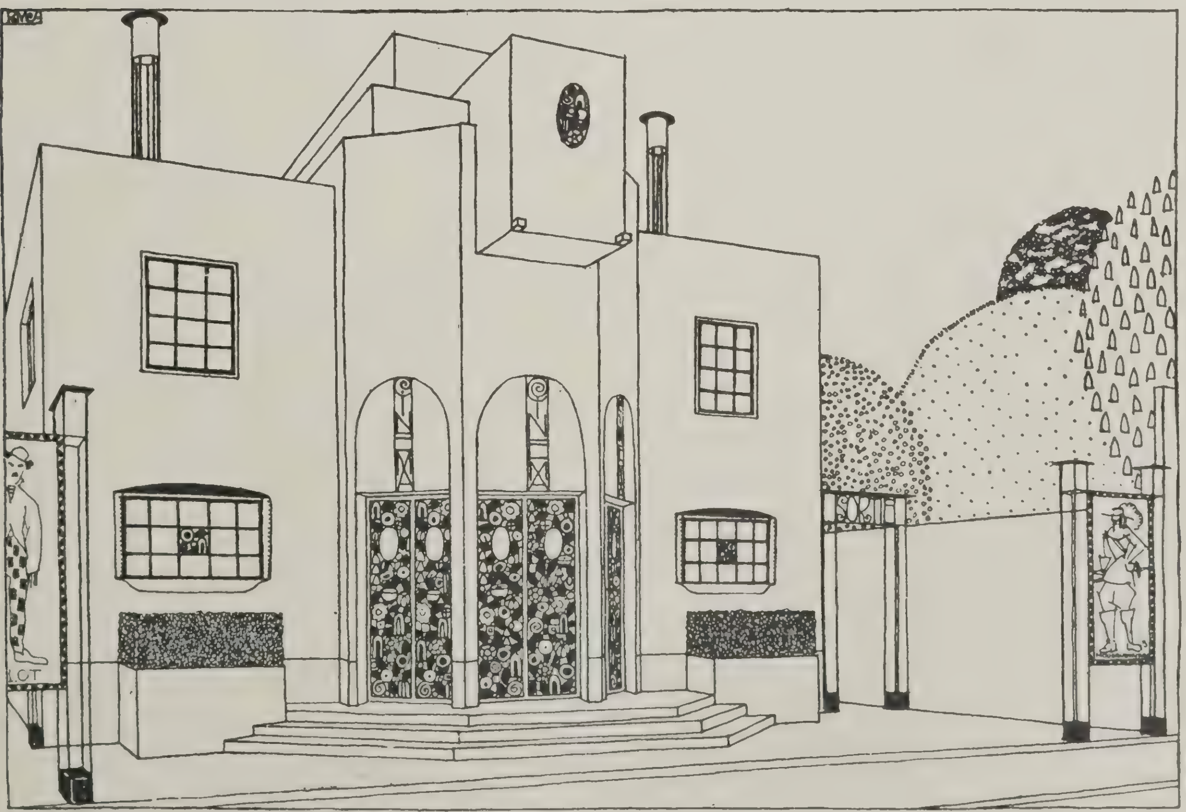
[*] "A Modern City." Designs by Rob Mallet-Stevens, Architect, London. Benn Brothers, Ltd., 8 Bouverie Street. 30s.



WORKMEN'S HOUSES.



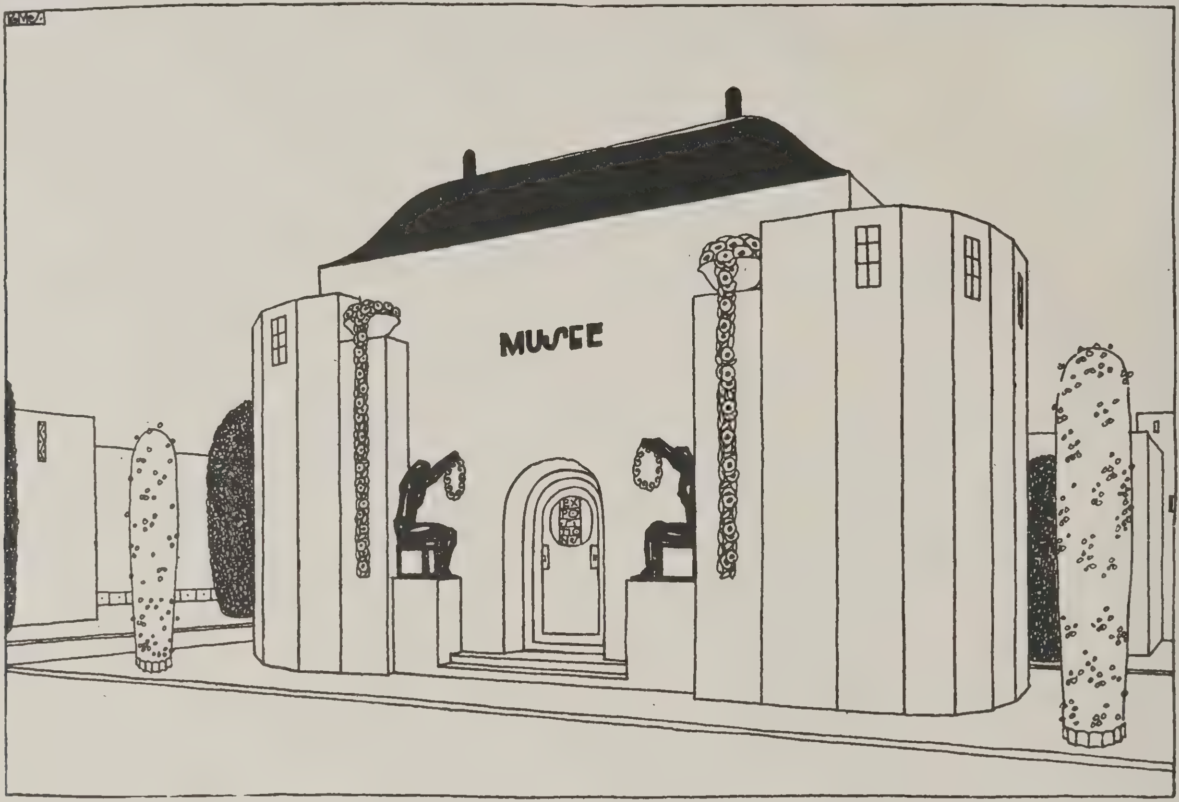
A CINEMA.

FROM "A MODERN CITY": BY ROB MALLET-STEVENS.

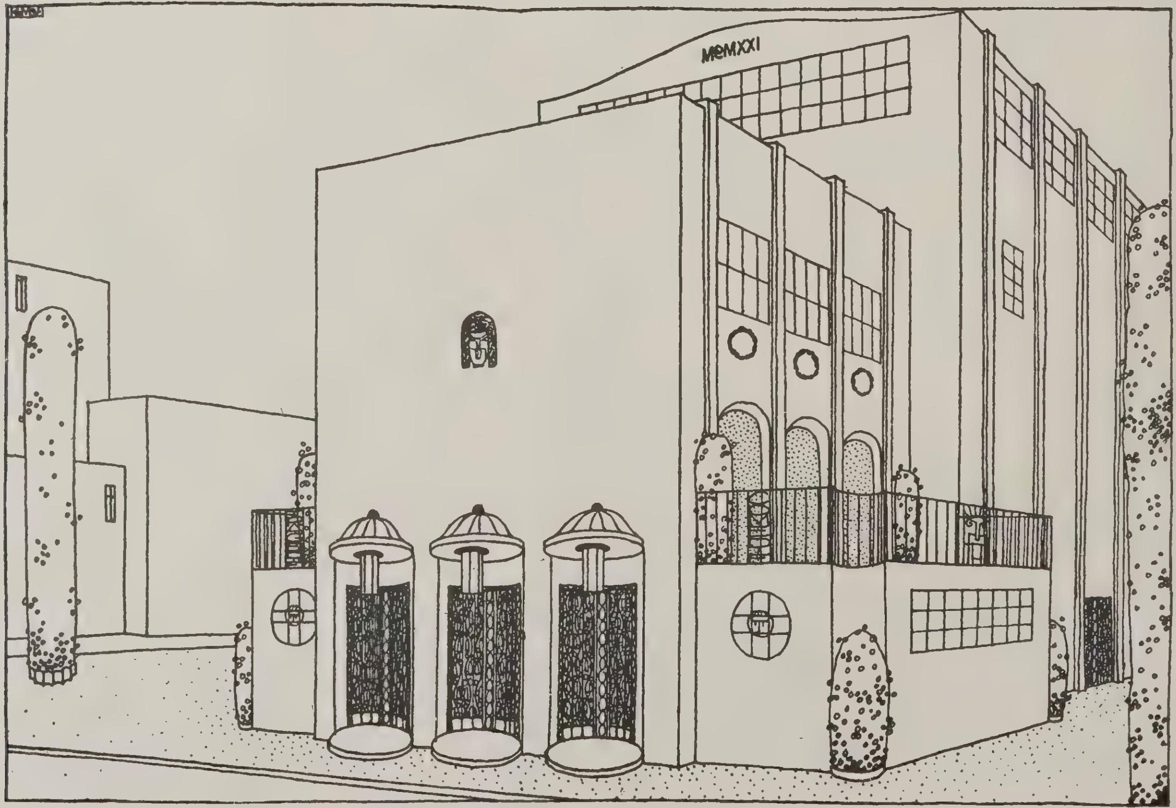
which Mr. Mallet-Stevens insists are entrances to the theatre below, and the cubism grafted on the façade of the cinema (on the preceding page) would find but scanty favour even in those inviting by-streets of Vienna or Münich where such things do sometimes show up under a bolder and happier disguise.

It is rather a thankless task to have to review a portfolio of designs adversely, but, when all is said and done, the reviewer has certain definite duties to perform to the public, and it is not one of them to encourage the propagation of such "new" ideas.

G. Holt.



A MUSEUM.



A THEATRE.

FROM "A MODERN CITY": BY ROB MALLET-STEVENS.

The Tenth International Congress of Architects

THE formal opening of the Tenth International Congress of Architects took place on Monday of last week in the hall of the Brussels Academy. M. Jean de Win was in the chair, and MM. Charles Girault, of the French Institute, and Caluwaert were respectively honorary president and vice-president. King Albert was represented, and delegates from eleven countries were present.

After opening the conference M. de Win introduced M. Girault, who welcomed the delegates and outlined the programme of the Congress. He concluded by saying that since Belgium had been chosen as the scene of friendly intercourse among those engaged in constructional work, the Brussels Congress could not fail to be crowned with success.

M. J. B. de Win expressed his gratitude to the King for allowing himself to be represented by General de Moor. He then proceeded to discuss the function of the architect, both as craftsman and as apostle of beauty. He said that the domain of the architect was almost unlimited, including both the workman's cottage and the palace, and he would continue to inculcate to a still greater extent a universal taste for simplicity and beauty.

M. Monaert, secretary to the Congress, traced its history from the first session which should have taken place in St. Petersburg in 1915. He paid tribute to M. Caluwaert, the inspiring genius of the organizing committee, and said he was the first to be convinced that artistic isolation was no longer possible. The war had opened wider horizons, and had upset old convictions. It was important to collect and tabulate the results of this wealth of new influences, of unprecedented developments.

M. Arthur Daxhelet, speaking for the Director-General of Science and Art, said that he was paying particular attention to the problem of houses suitable for the peculiar needs of the life of the period. It was in this way that architecture reflected the characteristics of a race and of a country. It must be adapted to daily necessities of life and thus become a social matter. M. Daxhelet then discussed the evolution of the working-class dwelling, and dwelt on the desire of designers to bring beauty into the daily life of the masses. Delegates from the following countries then spoke: England, Denmark, Spain, United States of America, France, Holland, Japan, Mexico, Luxemburg, Russia, Poland, Sweden, Switzerland, Uruguay.

Mr. Edward Warren, who, together with Mr. John Slater, represented the R.I.B.A., acknowledged the welcome given to the delegates, and expressed their cordial co-operation in the International Congress just inaugurated. He begged them to accept an expression of warm sympathy with the Société Centrale d'Architecture de Belgique, and for his own part wished to express his personal pleasure in being present in Brussels and meeting the president and members of the Congress.

He concluded by conveying on behalf of Mr. Paul Waterhouse his regret for his unavoidable absence, and his best wishes for the success of the Brussels Congress.

Discussing the photographs of American architecture now being exhibited in Brussels, "L'Independence Belge" says: All the work is powerful, often well-balanced, and it is always daring. It does not carry the hall-mark of originality, neither does it reveal any particular sensitiveness in its creators. American architects are constructional engineers rather than artists.

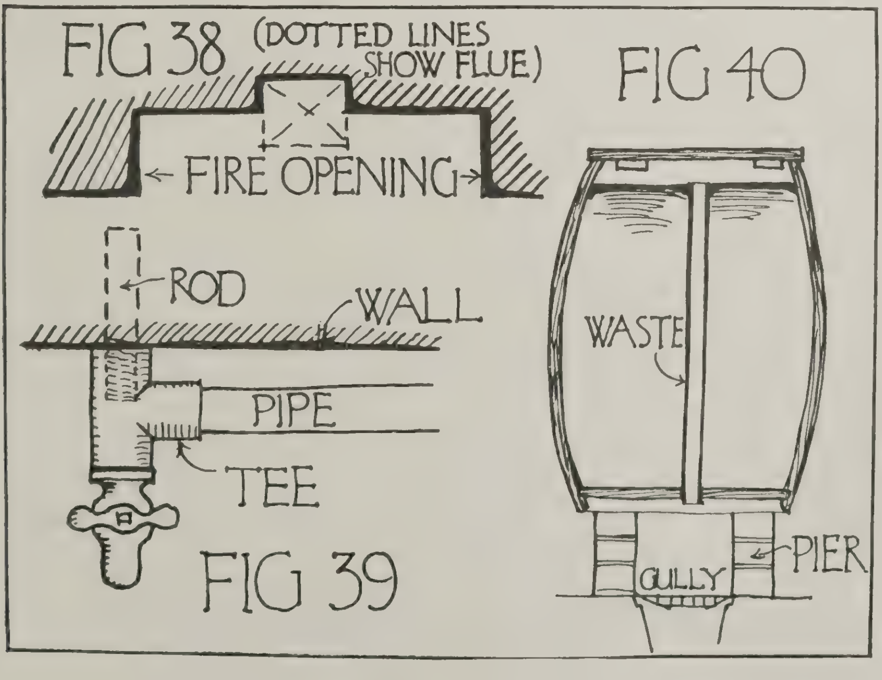
They are determined, also, in their boldness, but not often logical. Otherwise they would hardly design a school playground in the style of a mediæval cloister, a bank entrance like the portal of a Doric temple, or a station hall that might be taken for Roman baths.

Everything about this school of building seems abnormal as regards its æsthetic principles, but amazes and attracts by its size and solidity. Often indeed, the spectator is, as it were, challenged. . . But is there not a lesson for us, conservative and timid that we are, in these wonderful buildings, sometimes sheerly magnificent, always expressive of the personality of the most industrious race on earth ?

Little Things that Matter. XIV—Miscellaneous

By EDWIN GUNN, A.R.I.B.A.

Dog grates, hob grates and smoky chimneys.—It is sometimes necessary to fix grates of one or other of the above types, which although not conforming to the most approved modern principles in efficiency, are desired for their intrinsic beauty. In such cases that horror, the smoky chimney, is greatly to be feared; the cause being not so much "down-draught" in the generally accepted sense, but lack of quick definition in the initial momentum of the ascending hot air immediately above the fire. If a vertical chase, 4½ in. deep, and, say, 14 in. wide, is formed from the level of the fire back well into the gathering of the flue, the chance of a good draught will be greatly increased. I have cured existing smoky chimneys merely by forming such a chase by building up the angles of the opening from the hob level. See Fig. 38.



Fixing bibcocks over sinks.—The neatest and most effective way I know of fixing the hot and cold taps to iron barrel over the ordinary scullery sink is to use a tee instead of an elbow next the tap. The backward-looking arm of the tee is plugged by a 4 in. length of ¾ in. solid rod screwed in and pinned in cement to the brickwork, the shoulder formed by the greater diameter of the tee lying against the wall face. This makes a perfectly rigid job, and is very much neater than any arrangement of clips or holderbats. See Fig. 39.

Overflow from rain-water butt.—The customary methods of arranging this necessary adjunct are not wholly satisfactory. They are (1) a hole about 2 in. below the top of the butt, through which the water dribbles down the outside and finds its way (or perhaps not) into the drain below, and (2) a length of lead pipe down the side of the butt to direct the water to the drain. A better arrangement is an internal standing-waste, consisting of a length of iron barrel fitting in a hole bored in the bottom of the butt. This is invisible, and provides a means of emptying the barrel for periodical cleansing, merely by the removal of the waste pipe. See Fig. 40.

The Erection of Large Steel Towers

FREQUENTLY the erection of large steel structures calls for the exercise of very considerable ingenuity and skill on the part of the engineers responsible for the work. Often, indeed, the problem necessitates the employment of tackle of a costly and elaborate character that has been devised specially for the purpose.

Of more than usual interest is the solution found for an erection problem in connection with several large steel towers built some months ago in the South of England to the order of the British War Department, by Messrs. Braithwaite & Co. (Engineers), Ltd., Victoria Street, Westminster, S.W.1. For obvious reasons the purpose and exact location of these towers cannot be disclosed, but it is sufficient to state that the larger towers of the series are about 210 ft. in height, and weigh 40 tons apiece. Each tower is made up of four legs braced on all four sides, and fitted with internal diagonal bracing at intervals, all riveted together and secured to a massive concrete foundation by holding-down bolts. As these towers have to resist severe lateral pulls at varying distances from the top, they are further secured or stayed by guys of steel wire cables provided with adjusting gear.

In towers of this size and height it is customary to commence erection from the base, hoisting each section into position and riveting up each stage as the erection proceeds. This piecemeal method naturally is somewhat slow, and owing to the height, the risks to the workmen increase. Necessarily the workmanship tends to deteriorate as the distance from the ground increases. As first-class workmanship was essential and speedy erection desirable, eventually it was decided by the constructional engineers to assemble and to rivet up the towers complete on the ground and to lift each completed structure in one piece.

A small scale model of the towers and appliances first was made by the engineers at their works to demonstrate the practicability of this scheme of erection. This being accomplished, an accurate calculation of the position of the centre of gravity of a tower was made, to determine the best position for the trunnion or lifting point which was situated some distance above the actual centre of gravity so that the base end was heavier than the upper end. The trunnion consisted of a 5 in. diameter shaft passing through the tower, while the bay in which the trunnion was situated was strengthened temporarily by means of heavy bars and bracings.

A preliminary test was made at the makers' works, by lifting from the trunnion a tower that had been assembled temporarily in a horizontal position. This test removed any doubt as to the danger of excessive deflection of the upper end, or that any undue distortion or over-stressing of members would occur during lifting. The tower was assembled and riveted up complete in a horizontal position across the foundations, with the help of a steam locomotive crane.

The base of the tower was provided at the site with two wheels running in channel guides, to enable the base to move forward towards the derricks as the tower was lifted. The actual lifting was done by means of steam winches and two steel lattice derricks, these being part of the stock equipment of the engineers. These derricks are 104 ft. long and are capable of safely lifting a load of 24 tons each. The lifting tackle consisted of heavy blocks and wire ropes, the ropes being led to the two steam winches, which were situated behind the base end of the tower. The illustration on the opposite page shows one of the towers being raised.

We understand that the whole operation of raising each tower occupied a period of thirty minutes only, and was completed according to programme without a hitch. On reaching the vertical position, the whole weight of 40 tons was carried by the two derrick poles, the base being allowed to rise clear of the foundations. After the removal of the guide wheels, the tower was lowered gently over the holding-down bolts into its final position and bolted down. Subsequently the tackle and derrick were dismantled, preparatory to erecting the next tower.

The above particulars are from "Steel Structures," by the courtesy of whose publishers and that of Messrs. Braithwaite & Co. (Engineers), Ltd., the illustration on the opposite page is reproduced.

Book Reviews

Experimental Cottages

Under the title "Experimental Cottages" the Department of Scientific and Industrial Research have published a report, prepared by Mr. W. R. Jaggard, F.R.I.B.A., on the work of the department at Amesbury, Wilts, where experimental cottages were erected to test various methods of building with local materials and such new construction of floors, roofing, etc., as might be thought promising. When one pays five shillings for a technical report, one at least expects it to be authoritative—but in a prefatory note we are calmly told that "In publishing the report, the department expresses no opinion on the success or failure of any of the experimental features described, and does not accept responsibility for any opinions expressed." That is indeed cautious, but if the department has a little lost its nerve since it first embarked on its remarkable experiments it is scarcely to be wondered at.

Mr. Jaggard, the department's "Architectural Consultant," is named as (with the "Technical Officers") "responsible for the design of the cottages and their various experimental features." And he is also the author of the report.

Mr. Jaggard has clearly served his chiefs zealously, and has rendered his account of his stewardship as dispassionately as he can, but it is not in human nature to be vigilantly just and critical when it is our own actions that are up for trial before us. We become very merciful judges and see what we want to see. "Seek and ye shall find" is a terribly true saying that all investigators and experimenters should read as a solemn warning rather than as encouragement. It is unreasonable to blame an experiment for being a failure, as any operation assured of success is clearly no experiment.

One is apt to grow a little weary of a demonstrator who will insist on carrying out a tedious series of rather pretentious experiments to prove to us what we knew already, i.e., that certain materials used in certain ways will entail, if not indeed certain failure, at any rate poor results. Such success as the department has had appears to have been in its least experimental and most nearly normal constructions—whereby the practical excellence of traditional methods is confirmed and the wisdom of our ancestors vindicated. The report is embellished with nearly a hundred admirable diagrams and photographs, and it seems ungrateful to say that they are mostly quite unnecessary as illustrating either what is valueless or merely platitudinous in building construction or design. That the department has contributed nothing to the sum of our building knowledge is not for one moment suggested—we only wish that it had achieved more and written less.

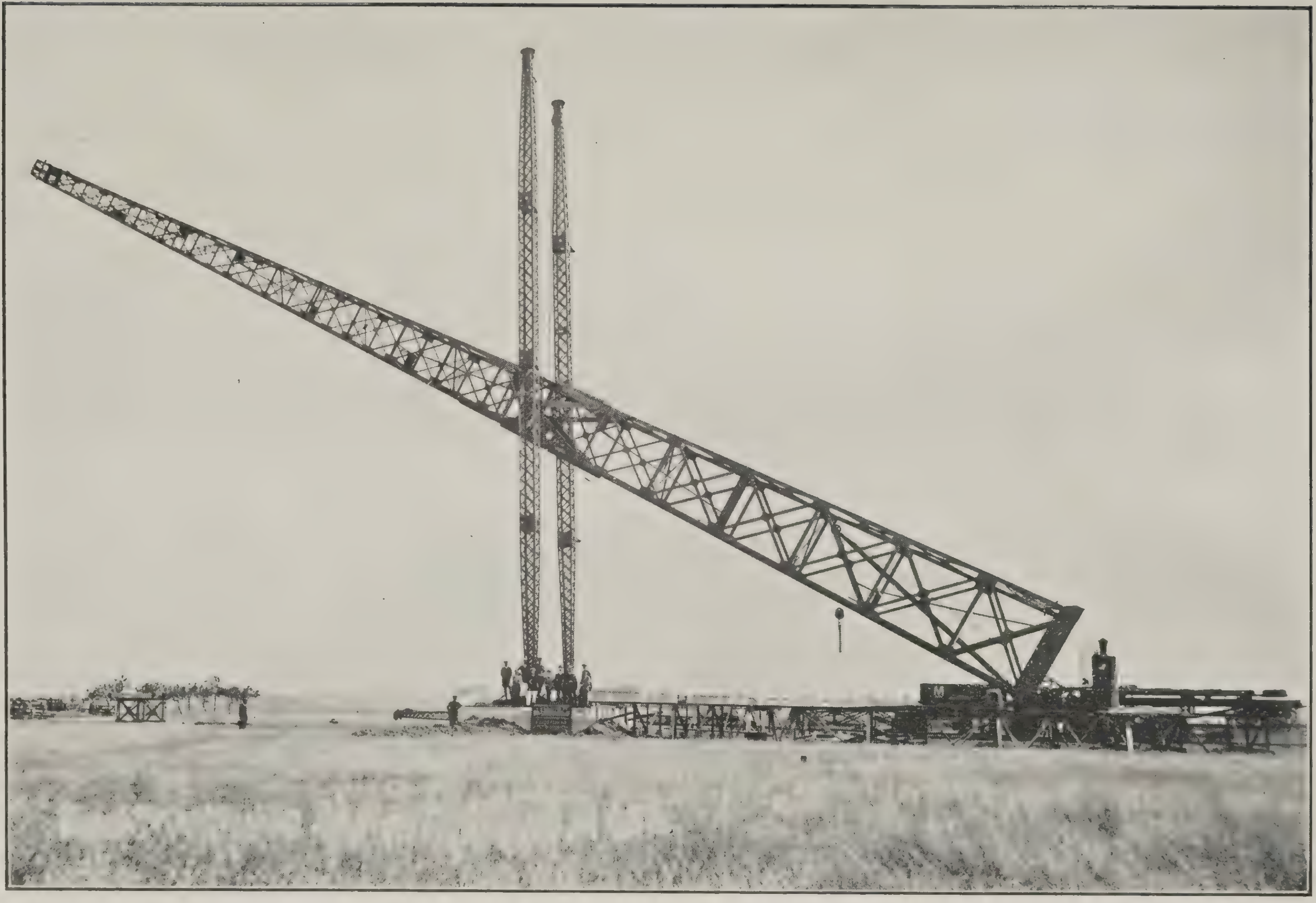
A single extract will serve to show the uneven quality of the report :—

"In most hollow walls, the outer half-brick wall is laid in stretching bond, and produces a somewhat monotonous effect. By selecting a number of 'flared' headers and using these as half bats in the wall, and by making no attempt to select facing bricks of uniform colour, a very pleasing texture was obtained. The effect was still further enhanced by using bright red bricks for the quoins and joggled brick lintels of the window openings.

"The window jambs were finished square without rebates, and were bonded solid with a vertical slate damp-proof course at the joint of the external wall with the inner wall. The two walls were tied together with galvanised iron wall-ties, laid zig-zag at 3 ft. centres on every fourth course for the ground floor, and at 4 ft. 6 in. centres in every third course for the upper floor walls.

"The window heads were formed with bricks on end, the upper part of the frog being cut away, the margins carefully jointed in 3 to 1 cement mortar, and the whole lintel grouted with thin cement grout. Pre-cast concrete lintels were used internally to the window openings, and the woodwork was protected with 4 lb. sheet lead aprons carried over the tops of the brick lintels (*see* detail, Fig. 37).

"The internal walls were built of brick in cement mortar, and were all either



RAISING A LARGE STEEL TOWER BY MEANS OF STEAM WINCHES AND STEEL LATTICE DERRICKS.

(See article on opposite page.)

4½ in. or 3 in. in thickness. The chimney breasts are gathered together into one stack, containing four flues and surrounded with 9-in. brick walls, instead of the usual 4½-in. walls, which are often the cause of smoky chimneys. . . .

"The actual time occupied by building brickwork was about nine weeks.

"In the building of this brickwork it was desired to show that it was not necessary to obtain special and expensive bricks for facings, since by careful watching and instructions, a pleasing effect could be obtained at little, if any, extra cost, by a reasonable selection from the ordinary stack of bricks. The appearance of the cottage has, it is hoped, been still further improved by the arrangement and treatment of the doors and windows, together with the eaves and roof.

"An analysis of the costs of the various types of walling, as carried out under the conditions prevailing at Amesbury, has produced the following interesting results. The comparison is made by establishing a unit cost, represented by the figure 10, for the brickwork of the 'control' cottage No. 14."

Comparative Costs of various Types of Walling per Unit Cube.

—	Materials.	No. of Cottage.	Costs taken as 1
1	Brickwork in mortar with 2-in. cavity and galvanized iron wall ties—11-in. work ..	14	10.0
2	Chalk and cement, 20 to 1, rammed between shuttering reinforced with wire netting every 3 ft. in height and rendered externally with 1 coat of lime slurry—15 in. work	10	8.1
3	Solid concrete, 8 to 1, rammed between shuttering — 9 in. work	12	8.095
4	Chalk and cement blocks, 12 to 1, with 2-in. cavity, and galvanized iron wall ties and rendered externally with one coat of slurry—10-in. work..	13	6.19
5	7-in. concrete blocks, external face rendered and set in cement	11	6.19
6	Wet chalk — "Winterslow" method—15 in. work ..	9	6.19
7	Rammed chalk pisé rendered externally—15-in. work ..	19	6.19
8	Do. do. do.	5, Ratfyn	5.95
9	Do. do. do.	26 and 27	5.476
10	Chalk and straw rammed between shuttering — 15-in. work	4, Ratfyn	5.0

The analysis of comparative costs is interesting enough and of some practical value, but is what goes before it really worth printing in a departmental report that is presumably chiefly addressed to architects ?

But perhaps its appeal is intended to be a "popular" one, as—unless it is a beginning of a "Brighter Blue Books" campaign—the following passage would seem to indicate : "More success attended our efforts in Wiltshire, and some exceedingly useful and suggestive information was obtained from Mr. Bundy an old 'Mud Waller,' who is now enjoying a well-earned leisure as 'Mine host' of the 'Plume of Feathers' at Shrewton." We had hopes that we should turn over and find a snapshot of this venerable artisan in a smock-frock surrounded by his descendants to the third generation, with perhaps a stanza from Gray's Elegy below it, but we can find no further reference to the obliging Mr. Bundy. It is a tantalizing glimpse—but perhaps the Scientific and Industrial Research Department decided that "Village Vignettes" hardly came within its terms of reference, and that any further gossip about even so engaging a character must be sternly excluded from a Government publication if only in deference to the taxpayer. CLOUGH WILLIAMS-ELLIS.

Experimental Cottages. A Report on the Work of the Department of Scientific and Industrial Research. By W. R. Jaggard, F.R.I.B.A. Price 5/- net. Published by H.M. Stationery Office.

Steam Heating

The demand for steam heat in institutions, business and industrial premises makes it essential that the architect and the heating engineer should become as fully acquainted with the subject as possible. Until the publication of this book practically no means were available for obtaining reliable information on the many different methods, such as steam, low pressure, vapour, vacuum, high pressure, reduced pressure, exhaust steam, which offer themselves for adoption. In this country the heating of water and cooking are the most popular uses to which steam is put, and the practical information put forward by Mr. Dye on these two important branches, together with the clear description of the method of calculating for cooking requirements—believed to be published for the first time—should alone make the book of great value. In heating water by steam there are some ingenious appliances and methods for getting special results. Over here the practice of steam heating is not developed to anything like the extent that it is in America and European States, largely because it is not favoured for domestic work. Mr. Dye, however, thinks it a matter for wonder that steam is not employed in warming places of worship. There are, he points out, two features requiring special consideration in such buildings, one being quick heating up from cold, the other being the effects of frost. He says that a steam heating apparatus becomes hot, and fully hot, long before a system of hot-water pipes and radiators, and except for the boiler a steam apparatus frees itself of water when cold. The book contains 212 pages, fully describing the general practice of steam heating, many useful hints on the method of calculating for radiating surface pipe sizes and boiler powers, and there are fifty-seven illustrations. The book should do much to promote the increased use of steam for heat whenever it can be employed with advantage.

Steam Heating. By Frederick W. Dye, Consulting Engineer, M.Inst. H. and V.E. Price 8s. 6d. net. E. and F. N. Spon, Ltd., 57 Haymarket, London, S.W. 1.

A Book about Sweden

Such is the title of a small volume, issued by the Swedish Traffic Association, of Stockholm, an organization whose principal object is to stimulate touring in Sweden. The book, however, covers a very much wider field than a guidebook of the predominant type. It provides an introduction to the history and politics, industrial conditions, scientific and literary activities and state of culture in general of the Swedish people, finishing up with an illustrated travellers' guide.

The main part of the book is divided into two chapters : "Economic Life and Industry," and "Through Sweden." In the first of these chapters the reader is made familiar with facts and figures relating to agriculture, forestry, and mining, with their adjuncts. Amongst the art industries, the manufactures of china and glassware, etched and engraved steel articles, etc., and the products of artistic handicraft are dealt with. The subjects are necessarily treated concisely, but the main object of the book is to encourage travelling to and in Sweden.

The chapter "Through Sweden" is treated more comprehensively, and the illustrations are more numerous. One finds that going to Sweden is both easy and comfortable, and that travelling in the country is exceptionally so. The reader is familiarized with the principal towns, the unique canal routes, and other features ; but besides this the book takes the reader to the wilds in Northern Sweden, which can be reached in comfort by rail. It is a characteristic of the book under review that it treats of many of these out-of-the-way places all over the country, and one gets a kaleidoscopic view of forest and field, river and lake, mountain and waterfall, in an almost bewildering variety. It must, however, be borne in mind that the walnut tree grows in the oak and beech region of the south, and that the country extends in a northerly direction to the region of the dwarf birch, which rises some six inches from the ground only. Hence this variety of landscape, of which a book can give a feeble idea only.

Cambridge Gate of Honour

During the recent restoration of the Gate of Honour of Gonville and Caius College, Cambridge, plaster casts were made of some of the more interesting details, and a set of these casts, twelve in number, has been presented to the Victoria and Albert Museum by the Master and Fellows of the College. This Gate, one of the most pleasing works of the early Renaissance in England, was erected in 1574, traditionally by an architect named Theodore Haveus, a native of Cleves, but more probably by Dr. Caius himself, who refounded the College and was responsible for the Court on to which the Gate of Honour opens.

The Restoration of Paisley Abbey

Sir Robert Lorimer, A.R.A., R.S.A., has been appointed architect for the restoration of Paisley Abbey. Ten years have elapsed since the present scheme of restoration was inaugurated, and during that time there have been many vicissitudes. The Chairman of Committee, Sir Chas. Bine Renshaw, Bart., the builder, Mr. Taylor, and the architect, Dr. P. MacGregor Chalmers, have all passed away, and operations on the fabric ceased under a Government order affecting the whole country, in January, 1918. Since that time all work has been in abeyance for, even when the Government order ceased to be effective, building costs were prohibitive. However, the committee will lose no time so soon as they are satisfied that their finances warrant them going on with the work. Sir Robert Lorimer's design was accepted in January last for the Paisley war memorial to be erected at the Cross. He has also carried out several church restoration schemes.

Correspondence

The International Theatre Exhibition

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue for August 16 you published an "autopsy" on The International Theatre Exhibition, but, in fact, this exhibition is not dead. On the contrary, it has started on a tour of the principal provincial cities, after which it is considered that its health will still be robust enough to allow of its crossing the Atlantic. This being so, may I have a few words on the still live topic ?

The writer of your obituary paragraph wishes to be taken seriously, I suppose, since he heads his causerie "Joking Apart," but I regret that he is not himself sufficiently serious when he complains that Mr. Gordon Craig's theory of the theatre was not anywhere explained at the exhibition, and suggests that it remains a secret in Mr. Craig's heart.

Mr. Craig's books on the theatre explain his theory clearly enough to those who will study them with as much patience as they have been written, and these books were all laid out on a table in the library at South Kensington Museum for the enlightenment of those who, joking apart, genuinely wished to learn. There were numerous notices calling attention to the availability of these and other writings.

In the opening chapter of "Towards a New Theatre," Mr. Craig gives a comprehensive view of the history of stage production, and remarks that three scenic methods have been used :—

The Architectural Open-air Scene.

The Architectural Indoor Scene of the Church stage.

The Indoor "Sceneries" aiming to imitate architecture and nature.

Mr. Craig's path has been steadily away from "Sceneries" towards the invention of yet another scene which shall fulfil the fundamental requirements for the enactment of the highest form of Drama, more fully than did the two great architectural scenes of the past, and which shall escape the weaknesses of "sceneries." His invention of the mobile screens, as shown in the three models at South Kensington, gave to me a sufficient hint of an instrument which is nothing in itself but which has infinite possibilities of use as a "part" of a dramatic presentation. A person seeing a musical instrument for the first time might well wonder at its form until music was drawn from it and he learned its purpose, and a visitor to the theatre exhibition with no grasp of Mr. Craig's writings would similarly fail to realize that this instrument of his is a thing to be played upon and that, moreover, as with a musical instrument, the performance will vary with the skill of the player. The function of this instrument, I imagine, is to move from shape to shape in accordance with the requirements of the action of the drama and without interruption of this action. The practical working of these screens was demonstrated in Mr. Craig's production of "Hamlet" at the Moscow Art Theatre, and but for the general "hold-up" of the war we should have seen their use in England ere now.

While your contributor imagines that Mr. Craig has become so *dematerialized* as to be "half-way to heaven," it is amusing to find Mr. St. John Ervine, in "The Observer" of the following Sunday, unhesitatingly assert that "There never was a man so obsessed by *materialism* in the theatre as Mr. Craig." These two critics cannot both be right. In my opinion they are both wrong. The first may well be reminded—or informed—that Mr. Craig spent some fifteen years in practice in the theatre before he began to theorize on its wider possibilities of expression, and he must be allowed to know what the problem of presenting a great play involves.

If more men of like courage and love of adventure would appear in the English theatre I should hope to see them convince even Mr. Ervine that the art of the theatre is the art of *presenting* a play (it may or may not involve the art of writing one), and it begins with the construction of a place perfectly adapted to this end ; it is necessarily rooted in the material, as is all art, but the spirit will inhabit the place when the material is mastered—not before.

L. K. S.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The article by "Karsish"—"Joking Apart"—which appeared in your issue for August 16, provides a very unnecessary contrast to the helpful criticisms which you recently published of the International Theatre Exhibition.

In one sentence concerning this exhibition "Karsish" says that he finds Mr. Craig's designs "inexplicable," and in the next, contradicts himself by explaining that Mr. Craig is guilty of preciousness by "leaving everything to the imagination," and that, therefore, his designs involve "not the art of stage setting, but the art of explaining a theory" . . . how is it possible for anyone to criticize a thing which, to himself, is "inexplicable" ?

That your contributor should draw the attention of Messrs. Diaghlieff, Butt, Moss, and Cochran (I cannot recall any of their work being exhibited) to the problem of decorating stage-cloths, or rendering the floor of a stage inoffensive, is scarcely an intelligent suggestion. In your issue for July 12 you reproduced some designs in which this point is fully dealt with, and no doubt many of your readers have seen some of the decorative stage-cloths which Mr. Cochran uses in his productions.

Maybe I lack a sense of humour—I was never prepared for a series of comic criticisms in an architectural paper—but surely it is not desirable that men who devote their whole lives to the work of making the theatre a thing of beauty should be scoffed at by writers such as "Karsish."

DUNCAN MACPHERSON.

Sham Gothic

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. Clutton Brock's address on "Sham Gothic," published in your issue for August 16, and the letters published subsequently, have greatly interested me. Will you, therefore, allow me space to give the views of an engineer-architect?

1. Not every town and village is fortunate enough to possess an ancient Gothic church.

2. Is there any style so adapted and inspiring to Christian devotion, of whatever school of thought it may be, as Gothic ?

We all make mistakes, even Gilbert Scott and Street did, but it is better to make mistakes than to revert to undevotional styles. Can genuine honest efforts be called sham ? If so, then it is quite as much a sham to copy the Classic orders in our public buildings. I fail to see why modern Gothic, with all its limitations and failings, should be called "sham." I admit that restoration work requires careful and reverent treatment, and, above all, the avoidance of incongruities. If Gothic is to be scrapped, then what is to take its place ?

Gothic is no mere fad of the clergy. It is the style of architecture that raises man's thoughts to higher things. In the words of Welby Pugin, "Why revert to dead Pagan styles, than to that which sprang up and grew with Christianity ?" While fully appreciating the use of Classic and Renaissance architecture for civic purposes, and while not denying that some fine buildings in those styles have been erected for Christian worship, yet in a sense of devotion there appears to be something lacking in them.

This is an age of engineering, iron, and concrete, an ugly one, perhaps, in some ways, but a progressive one in others, giving us many comforts and conveniences. But for worship an inspiring environment is needed, one that will lift the minds above the everyday rut. What is more impressive in Manchester than its Cathedral, or in Newcastle the magnificent Gothic church by Sir Gilbert Scott ?

Gothic should be used solely for religious and perhaps collegiate purposes. Adaptations for civic and domestic purposes are generally failures. Although the Gothic revival was led, in the early part of the nineteenth century, by Welby Pugin, a Roman Catholic, and Thomas Richman, a Quaker, two men of opposite extremes, the style draws men to worship, to whatever school of thought they may belong.

Why should engineering structures be necessarily ugly, though undoubtedly some are ? While in Durham I admired the noble viaduct of the N.E.Rly. There is something solid about it—a linking-up of civilization—and at the same time it is not ungraceful. Beyond it, on a rock, is set Durham Cathedral, a sermon in stone : "That, with all modern progress, man must look to higher things."

The Gothic revival brought many ludicrous shams and blunders, such as those of Horace Walpole and Wyatt, but even these faulty examples revived an interest in the past, and led to more useful research. In these days no earnest student undertaking research with the aid of literature and good examples, can be a total failure; true, he may make mistakes, but who does not make them some time or another?

Architecture, like the other arts, should convey its teaching. Classic architecture gives dignity and majesty to civic buildings, but in the environment of Gothic architecture good and noble lives have sprung up, and Gothic undoubtedly draws the mind of man nearer to the "Great Architect."

WALTER H. WHITAKER,
M.INST.M. & CY.E.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. Hughes, in his letter published in your issue for August 30, contends that "the spirit that evolved the Gothic style is a more vital and inspiring one than the spirit, also appropriate to its own era, that evolved the Pagan style."

Surely the battle-cry of the Romanticists, that Gothic is Christian and Classic is Pagan, has been abandoned by now as being irrelevant to the true meaning of architecture. It was merely a coincidence that Gothic architecture was evolved during the greatest period of church building in Western Europe. This was a period of continual warfare, and the only people who had the time and means to build on a large scale were the Religious Orders.

For this reason Gothic architecture has come to be regarded as symbolical of Christianity. The spirit that evolved the actual style or method of building was almost entirely utilitarian. The great engineering skill of the Romans had been lost, and the art of building had to start again from the beginning, using for its materials small stones. The requirements were buildings which should be suitably planned and lighted for the services of the Christian Church, and which should also be fireproof in order to protect the greatest source of revenue, namely, the relics. This last requirement is very important, since from it arose the vault, itself the origin of the pointed arch and the buttress. Æsthetic effect was largely accidental, and the detail usually crude. Sentiment accounts for a large part of the appreciation of Mediæval Architecture. The beauty of a Gothic church can be compared to that of the Forth Bridge or of the express locomotive, namely, the successful solution of a mechanical problem.

Provided, as we are at the present day with an intimate knowledge of every period of architecture, we can learn something from each and apply the best in them without mere slavish imitation. From the Egyptians we can learn the beauty of massive simplicity; from the Greeks refinement, both of proportion and of detail; from the Romans the value of symmetrical planning and of vistas; and from the Renaissance, and more especially Baroque, the fact that architecture, while using the same methods of construction and the same language, can be independent of these in its search for beauty.

Architecture, as the mistress art, can stand alone unfettered by literary criticism which calls in religion, ethics, and mechanics to invent standards which have no connection with architecture as an art.

CANTAB.

Registration

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I am informed that in one of the States in Australia electricians have to be registered. Those engaged in this trade as a means of livelihood are given a third-class certificate and have to qualify by examination for the higher grades. Apprentices just entering the trade have to pass various set examinations before being registered. Could not the registration of architects be treated on similar lines and a Bill framed prohibiting councils from passing plans unless drawn by a registered architect?

W. LEVER.

The Replanning of Piccadilly Circus

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—As a provincial architect who loves London I was very interested in Mr. W. Harding Thompson's article on the reconstruction of Piccadilly Circus. In all the schemes I've seen they all retain the site of The County Fire Office (possibly for some reason unknown to me). When one sees the amount of traffic which enters and leaves Glasshouse Street and Sherwood Street one would think that this is a part which requires some alteration.

I enclose you a sketch plan (reproduced), frankly based on Mr. Norman Shaw's plan, of how it might be altered by taking away the fire offices and giving them another site as shown. The whole was just a fleeting impression which occurred to me while looking at the plans which accompany the article.

JOHN W. BOYD.

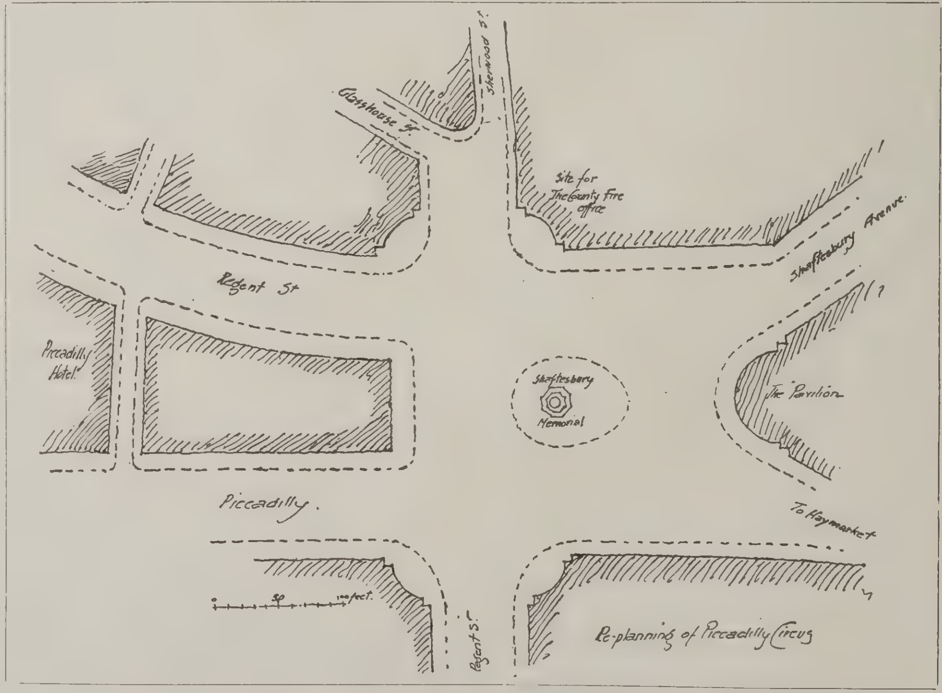
Courses in Architecture and Allied Subjects

Royal Sanitary Institute.

The courses of lectures and demonstrations of the Royal Sanitary Institute for sanitary officers commence on September 27. The course comprises the subjects scheduled for the examinations of the Institute and the Sanitary Inspectors' Examination Board, formed by the Institute and other bodies. Inspections and demonstrations are arranged, and include visits to public and private works illustrative of sanitary practice and administration. The lecturers include Messrs. Alan E. Munby, M.A., F.R.I.B.A., W. C. Tyndale, O.B.E., M.Inst.C.E., Edward Willis, M.Inst.C.E., F.S.I., A. J. Martin, M.Inst.C.E., F.G.S., Wm. Matthews, M.Inst.C.E., and W. R. Hicks, Assoc. M.Inst.C.E. A booklet may be obtained from Mr. E. White Wallis, F.S.S., 90 Buckingham Palace Road, S.W.1.

L.C.C. School of Arts and Crafts.

The Schools of Architecture and Building Crafts, of Painted and Sculptured Architectural Decoration, of Stained Glass and of Furniture at the London County Council School of Arts and Crafts, reopen on September 25. Mr. F. V. Burridge, R.E., is the principal of the school, and the educational staff is as follows: Architecture and building crafts, Messrs. E. S. Andrews, B.Sc., S. B. K. Caulfield, F.R.I.B.A., F. H. Mansfield, L.R.I.B.A., and B. Oliver, F.R.I.B.A.; painted and sculptured architectural decoration, Messrs. W. Askew, Richard Garbe, J. A. Grant, A. S. Hartrick, R.W.S., B. Meninsky, T. H. Paget, Noel Rooke, A.R.E., Alfred Turner, Mrs. M. Bacon, Miss M. Hindshaw, and Miss E. M. Willis, A.R.M.S.; stained glass, Messrs. Karl Parsons, V. J. Drury, and E. L. Armitage; furniture, Messrs. C. Spooner, F.R.I.B.A., J. H. Brandt, J. C. Chamberlain, E. L. Minihane, S. H. Owen, F. J. Rutherford, and F. Stuttig. A prospectus and time table of the courses may be obtained from the secretary, Mr. C. J. H. Tapping, B.A., Southampton Row, S.W.1.



MR. BOYD'S SCHEME FOR THE REPLANNING OF PICCADILLY CIRCUS.

Obituary

Mr. Robert Harvey Adams.

We regret to record the death of Mr. Robert Harvey Adams, one of the managing principals of the firm of Robert Adams, 3 and 5 Emerald Street, Holborn, W.C. For many years he had taken an important part in the business to which, with his brother, Mr. Sidney J. Adams, and the late Mr. Henry E. Adams (who died in France in 1916, from wounds received in action), he succeeded in 1914, on the death of their father the founder of the firm. He will be missed by a wide circle of friends who valued him for his upright, genial, and generous personality. Endowed in an eminent degree with those talents for mechanical invention for which his late father was so justly reputed, and thorough in all he undertook, he gave invaluable aid in carrying on the traditions of the firm for work of high quality, and in the development of new ideas and improvements in design and methods of manufacture. The recent types of "Victor" door springs, window fittings, panic bolts, and other specialities of the firm, demonstrate his technical ability and resource. He was fifty years of age, and leaves a widow and four children.

Among the recent contracts carried out under his supervision may be mentioned the bronze balustrade for the new Public Offices, Dublin, under Sir Aston Webb, P.R.A. and Sir Thomas Deane, architects. We reproduce an illustration of a portion of this balustrade, which stands among the best examples of its kind in its effective proportions and design, and fine craftsmanship.

The present managing principal of the firm is Mr. Sidney J. Adams, who has been for many years associated in its direction, and who will be assisted by his nephew, Mr. S. F. Adams, the son of the late partner.

The funeral service was held at Brixton, and at Streatham Park Cemetery, the Rev. John Darlington, D.D., M.A., of St. Mark's Church, Brixton, officiating, and was attended by a numerous company, including the employees of the firm, some of whom, of many years' service, acted as bearers for their late respected chief. The Rev. Dr. Darlington said that the firm had been like one large family, as the attendance there that day bore witness. It was a noble and splendid record that there had not been a strike or lock-out during the history of the firm—over fifty years.

Mr. Arthur Harrison.

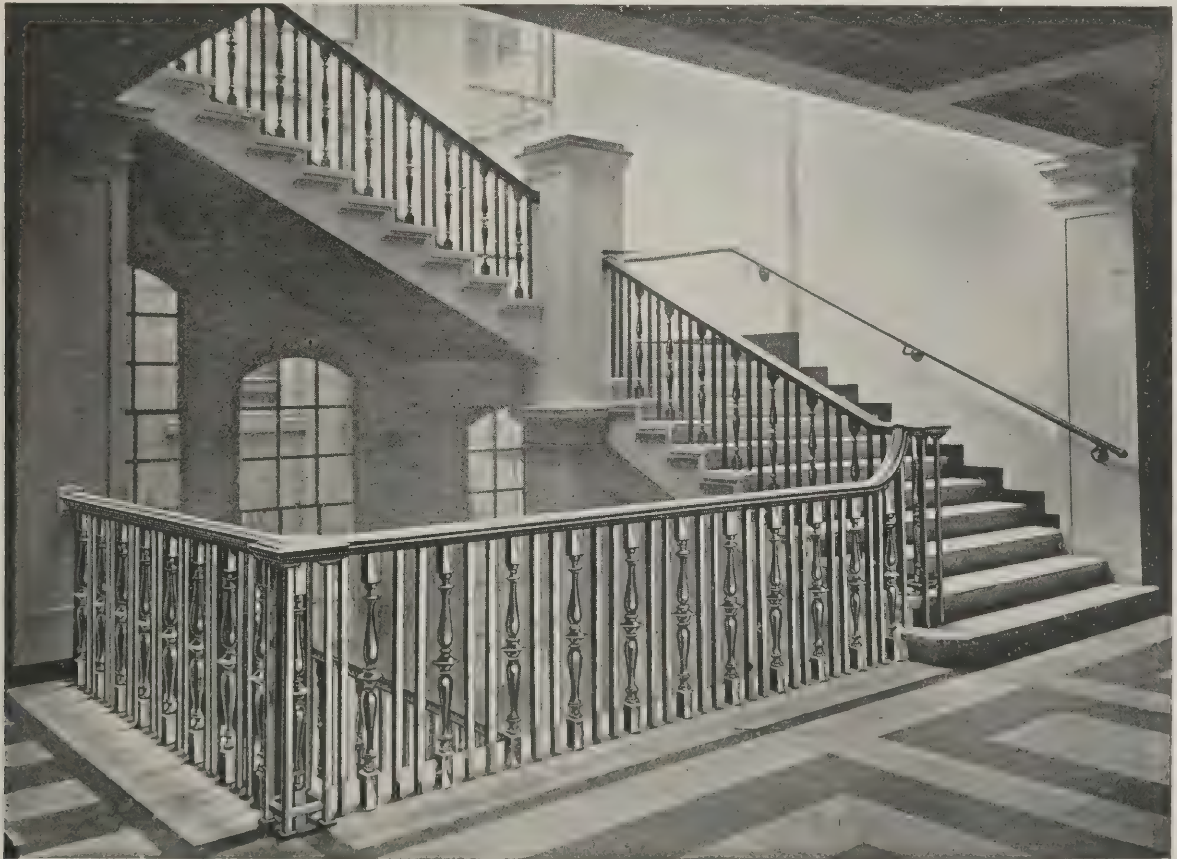
We regret to record the death of Mr. Arthur Harrison, F.R.I.B.A., a member of the firm of Messrs. Harrison and Cox of Birmingham. Born in Nottingham in 1861, he commenced practice on his own account in 1888, and was president of the Birmingham Architectural Association from 1892 to 1894. During his career Mr. Harrison was responsible for many municipal buildings, schools, and electrical sub-stations, and for much ecclesiastical and domestic work. Among his most important works were the Moseley Road Fire Station, and the Nechells Baths, Birmingham; elementary schools at Greet, Hall Green and Yardley; Wesleyan Church and Schools at Saltley; the Sparkhall Primitive Methodist Church Schools and Lecture Hall; the Sparkhill Institute and Wesleyan Schools; extensions to the National Schools at Bosbury and at Upton Bishop, Herefordshire; and the Town Hall at Newmilns, Ayrshire.

Mr. C. A. Hemingway.

We regret to record the death at Teddington of Mr. Charles Arthur Hemingway, one of the early pioneers of electrical contracting. In the early days of his career he was associated with Messrs. Drake & Gorham, and afterwards, with a partner, he commenced business under the style of Hemingway & Pritt, at Victoria Street, S.W., and Richmond. At a later stage he joined the staff of the General Electric Co., Ltd., where his ripe experience and genial personality made him a valued employee and a respected colleague.

Mr. A. R. Calvert.

We regret to record the death of Mr. A. R. Calvert, of Nottingham. Mr. Calvert was a son of a late Vicar of Huddersfield, and he had been in practice in Nottingham for most of his adult life. He was the architect of the Constitutional Club, in Market Street, of which institution he was secretary for many years.



THE BRONZE BALUSTRADE IN THE NEW PUBLIC OFFICES, DUBLIN.

The Week's News

Cardiff Castle.

The castle wall is being demolished rapidly, and is to be reconstructed along the line of the old Roman wall.

£40,000 Wesleyan Hall.

Foundation stones of Blackburn's new Wesleyan Hall, to cost £40,000, have been laid.

New Municipal Buildings for Gourock.

Plans have been passed for the erection of municipal buildings at Gourock. An early commencement is to be made with the work.

£20,000 for Railway Viaducts.

Contracts for over £20,000 for the construction of viaducts, bridges, and platforms for the Torrington-Halwill railway are reported to have been signed.

International Housing Congress.

Mr. G. Topham Forrest, F.R.I.B.A., has been appointed to represent the R.I.B.A. at the International Housing Congress, Rome, from September 21 to 26.

Sixteenth Century Mansion Destroyed.

Greatford Hall, near Stamford, has been totally destroyed by fire. The mansion was built in 1504 by John Fitzwilliam, an ancestor of the present owner, Major C. C. L. Fitzwilliam.

Dover Improvements.

The Dover Corporation has decided to complete the road along the face of the cliffs between the Castle and St. Margaret's Bay, at a cost of £43,000, to provide work for the local unemployed.

St. Peter's Church Site, Liverpool.

The Ministry of Health has decided to hold a public inquiry into the Liverpool Corporation's proposal to purchase the site of St. Peter's Church from the Ecclesiastical Commissioners for £235,000.

St. Nicholas Cole Abbey.

The Church of St. Nicholas Cole Abbey, in Queen Victoria Street, the first rebuilt after the Great Fire, has been reopened after redecoration and repair costing nearly £500.

Peterborough Cathedral in Danger.

It has been discovered that the north-east wall of the chancel aisle of Peterborough Cathedral has moved one foot out of the perpendicular. Immediate buttressing of the wall has become imperative to save this part of the fabric from ruin.

Future of Devonshire House.

In a letter to "The Times" Mr. Beresford Chancellor suggests that Devonshire House should be turned into an "International" club. The forecourt could be paved and made into an open-air restaurant.

Housing at Llanelly.

Llanelly Corporation have decided to apply to the Ministry of Health for sanction to proceed immediately with the erection of a further 200 houses. Officially compiled figures show that to meet fully the needs of applicants 847 houses are required.

Selby Abbey.

Somewhat serious cracks are making their appearance in the south transept of Selby Abbey Church. It is feared that the foundations of cement are giving way.

Housing at Tredegar.

Tredegar Urban District Council have decided to apply to the Ministry of Health for permission to erect more houses. The Council's existing scheme comprises one hundred houses of varying types, about three-quarters of which have been completed and are occupied.

Housing at Wrexham.

Wrexham Town Council have accepted a tender at £379 per house, including the construction of the main drains, for twenty-two additional dwellings to complete the Acton Park housing scheme. The cost of previous houses on the same site averaged £1,000.

Tenement Houses for Glasgow.

Glasgow Corporation Housing Department are undertaking the erection of 102 tenement houses in Polmadie district, the estimate being £29,162. The cost is, for two-apartment houses, £285 each, and for three-apartment houses, £305.

York Racecourse.

York Corporation has approved a plan submitted by the York Race Committee showing the proposed improvements in the enclosure of the racecourse on Knavesmire with the elevation of the proposed buildings. The buildings will be constructed of a grit stone of a brown tint.

Building at Dundee.

At Dundee plans have been approved for the construction of houses, warehouse premises, workshops, etc. Further work is to be undertaken at the new Caird Hall, including the construction of two bays for market purposes at an outlay of £6,500. The east wing is also to be built, and plans are in hand.

A War Memorial at Nottingham.

A memorial is being erected in Nottingham by the parents of Captain Albert Ball, V.C., to the memory of their son. It takes the form of eight homes for mothers or widows of men who fell in the war, and the architect, Lieut.-Col. A. W. Brewill, D.S.O., has equipped them with every modern labour-saving convenience.

Neath War Memorial.

The Gnoll mansion and estate near Neath, the home of the late Sir Evan Thomas and the birthplace of Admiral Sir Hugh Evan Thomas, is to be purchased by the Neath Town Council for approximately £25,000 as a war memorial for the town. The mansion will probably be converted into a hospital or a technical school, and the estate will provide the corporation with a large amount of land for building purposes.

New London Air Station.

Strong representations are being made to the Civil Aviation Department of the Air Ministry that London should have an air terminus much nearer to the heart of the metropolis than is the present air station at Croydon. The question has been referred to a committee, who will, it is understood, proceed on the basis of considering future possible needs rather than immediate requirements.

The Drawings of William Walcot.

A lecture on the drawings by William Walcot, A.R.E., F.R.I.B.A., of the great temples of antiquity and some Roman compositions will be given by Miss Atkins at the Architectural Association, 34 Bedford Square, W.C., on Thursday, September 14, 1922, at 4 p.m. The lecture will be illustrated by lantern slides.

Jersey Housing Scheme.

The States of Jersey have considered an offer from Sir Jesse Boot to build fourteen houses on a plot of land where the States have already erected a certain number of huts to relieve the housing problem. A portion of the land will be reserved for a children's playground. It has been decided that the land required should be leased to Sir Jesse Boot at a nominal rent, and that a letter of thanks should be sent to him.

Historic House Sold.

Belhus Park, Aveley, Essex, the Tudor mansion and estate of Sir Thomas Barrett-Lennard, Bt., has been sold by him to the Thames Land Company, of which Lord Cowdray is the head. The house has been the residence of the family since 1346. Queen Elizabeth stayed there before reviewing the troops at Tilbury. Her bedroom remains adorned with hangings of blue and gold brocade. There is a complete collection of family portraits, including examples by Holbein, Vandyke, Lely, Dahl, and Opee. The furniture is to be sold next spring.

"New Village Communities in Wales."

Mr. E. Hall Williams, of Rhiwbina, Cardiff, secretary of the Welsh Town-Planning Trust and several Welsh garden villages, has read an interesting paper on "New Village Communities in Wales" before the Welsh School of Social Service, held at Llandrindod Wells. Mr. Williams explained that his object was to interest the members of the school in the progress of co-operative garden villages. He mentioned that in one of the Welsh villages with which he was connected houses were now being built at below half the cost incurred in building the same type of house during the time of the boom period of 1919-20.

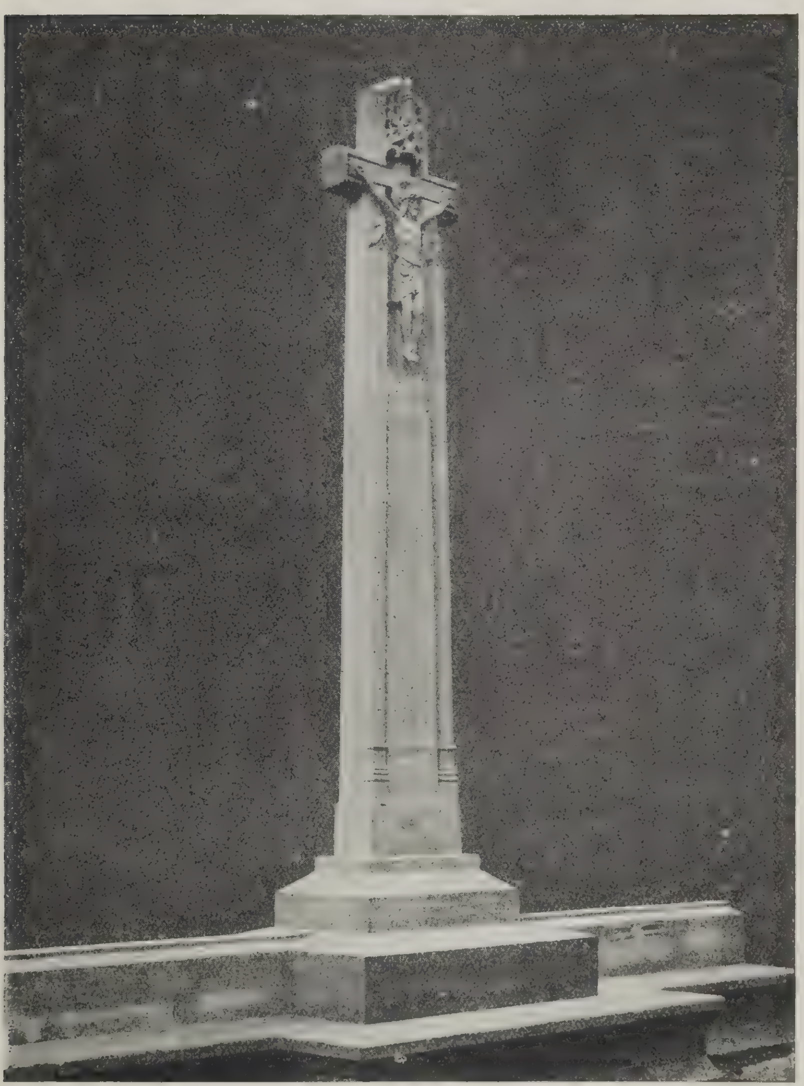
St. Paul's Cathedral.

The Skinners' Company have voted a grant of £300 towards the Cathedral Preservation Fund. Among other recent contributors have been: Hoare's Bank, £250; Williams Deacons' Bank, and Messrs. Whitbread & Co., 100 guineas each; the Union Bank of Australia, St. John del Rey Mining Company, and Mr. E. S. Hamilton, £100 each; and Messrs. Sharp & Perrin, 50 guineas. Further contributions are urgently needed, and should be sent either to the Treasurer (Canon Alexander) at the Cathedral, or to the Receiver (Mr. H. T. A. Dashwood) at the Chapter House, St. Paul's, E.C.4. Cheques may be crossed "Hoare's Bank."

Wednesday, September 20, 1922 Vol. LVI. No. 1446

THE ARCHITECTS' JOURNAL & Architectural Engineer

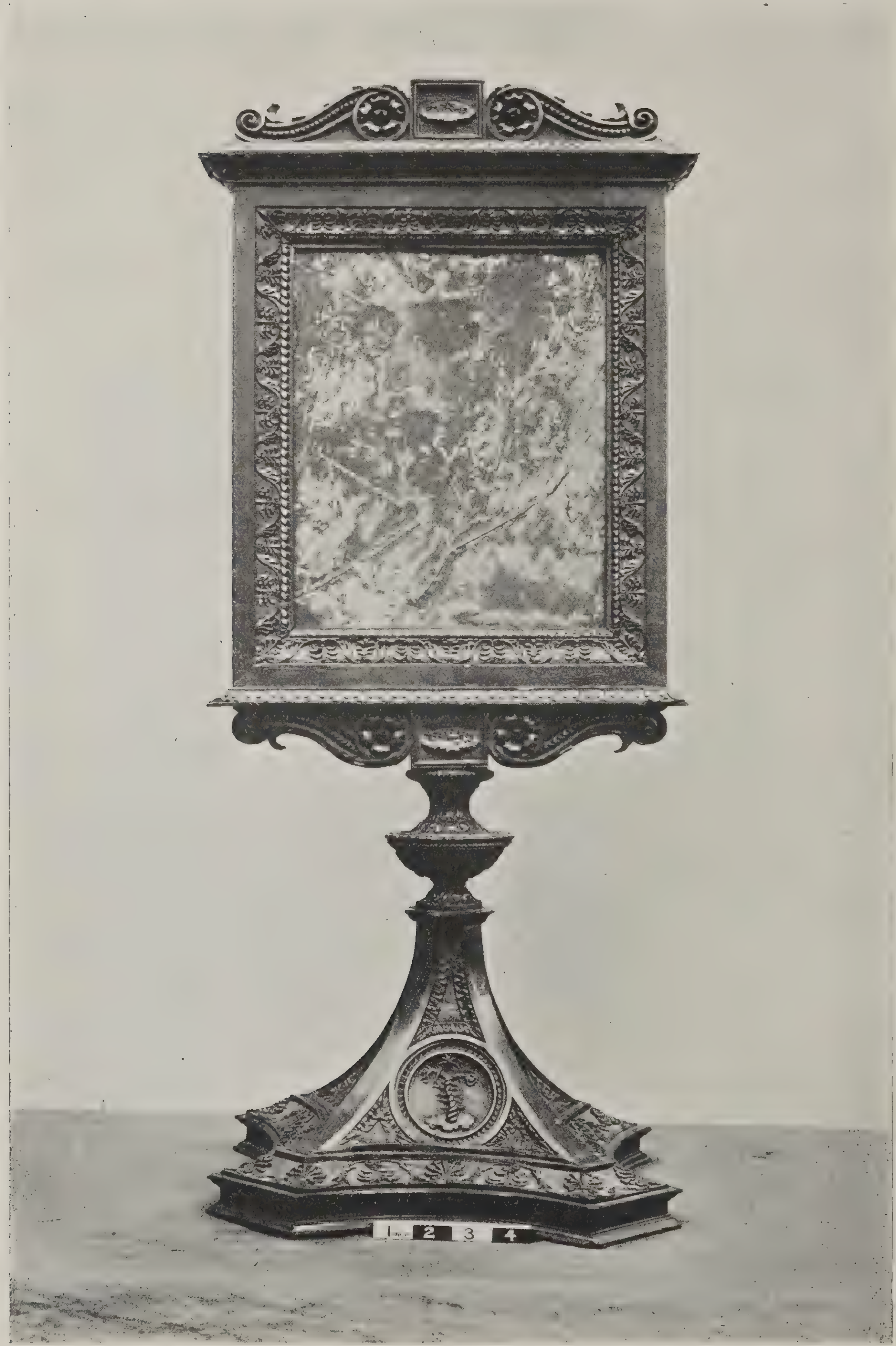
With which is incorporated "The Builders' Journal."



WAR MEMORIAL AT ST. MARY'S CHURCH, CLAPHAM.
G. GILBERT SCOTT, R.A., ARCHITECT.

27-29 Tothill Street, Westminster, S.W. 1.

Details of Craftsmanship. 14.—A Metal Mirror.



This mirror is Italian, and belongs to the second half of the 15th century. It is enclosed in a walnut frame which is in its turn supported on a stand. The design is extremely graceful and delicate. This mirror can be found in the South Kensington Museum.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, September 20, 1922 Volume LVI. No. 1446

R.I.B.A. Conferences

In view of the fact that the conferences held by the R.I.B.A. at Liverpool and Cardiff are but the first two of a long series, it may not be unwise to review the position, to endeavour to see clearly what are the objects of these conferences, and by what means these objects may best be achieved. It is admitted on all hands that the conferences already held were highly successful, reflecting great credit on those who worked so ungrudgingly for them, but the question naturally arises whether any means can be found to make those of the future even more successful. It may be assumed that the primary object of a Royal Institute Conference is the advancement of architecture, and that we endeavour,

(1) To get together in one place as many members of the R.I.B.A. and of the allied societies as possible;

(2) To arrange for certain experts to put before these members their views on subjects of interest to architects, and to provide opportunities for discussion either formally at the meeting, or informally afterwards;

(3) To arrange visits to buildings of architectural interest;

(4) To arrange various social functions such as a civic reception, a dinner, and the like;

(5) To provide a somewhat special stunt to wind up the proceedings, such as the river trip at Liverpool or the Wye Valley excursion from Cardiff;

(6) To interest the public in the district in which the conference is held, and if possible over a much wider area.

Let us consider the points in order.

(1) At the previous conferences there were good attendances, but it is naturally hoped that the numbers will grow from year to year. How can more architects be got together? The date of the conference is, of course, very important. It has been suggested that the one selected for Cardiff—the week-end following Whit Monday—was not a good one, and it is possible that the Friday and Saturday immediately preceding Whit Monday might work better. It would mean giving up work from Thursday afternoon to Tuesday morning, but it would mean only one break instead of two. The early summer seems to be a good time, but it is just possible that further thought may show that the autumn would be preferable. How can those responsible for the arrangements proceed in the best way to ensure that the members of the Institute and its allied societies really get it firmly fixed in their minds that a conference which will be well worth attending is to be held at a certain place, at a certain date, and that by a certain previous date applications must be received at headquarters? It does not seem possible to do much more than was done in the case of the last conference. Perhaps something more could be done in the direction of persuading the committee of each allied society to work up enthusiasm in its own area some little time before the conference, so that each allied society would be as strongly represented as possible. The date of sending out the final invitations is also important; if they are sent out too early they may be put on one side for future consideration and possibly be forgotten, while on the other hand, if a sufficient interval is not allowed members may be prevented from attending the conference by previously made engagements.

(2) The question of papers is one which affects the whole programme, the tendency being to overcrowd it. When a preliminary programme first appears it will probably be found best to treat it as a breaking load, and to divide it by a factor of safety. At Cardiff, for instance, while possibly some found the fixtures arranged all they could tackle, others fixed up extra ones and managed to squeeze in between tea and dinner a visit to Llandaff Cathedral, to a garden village, or to a colliery some considerable distance away. In any case it would seem wise to leave some brief intervals either for rest on the part of the weaker brethren or for additional activities of an informal character for the more energetic ones. While the programme must not be overloaded with papers it should at the same time be realized that they are an extremely important item on the programme. If anything, the amount of time devoted to this part of the conference at Cardiff was, perhaps, too short. The question of leaving time for ample discussion is also important. While it may not be well to lay down any definite rules, it would seem generally advisable to allow plenty of time.

(3) It is not clear that the visits to important buildings are an absolutely fundamental necessity. At Liverpool and Cardiff such visits formed an important part of the proceedings, as they will, doubtless, in due course, at Edinburgh and Oxford. Still, the promoters will probably find it advisable to hold a conference some year in a city much less attractive from this point of view. In this case the social functions and the papers with discussions would become more prominent.

(4) The social functions—the receptions, the dinners—these are, of course, such stuff as conferences are made of. They give opportunities for members from different parts of the country to get to know one another better, and generally speaking they help to oil valuable machinery which gets a bit rusty now and again. But in addition to the formal reception and the dinner there should be an informal evening if possible. The smoking concert at Cardiff was invaluable as a means of bringing people together, the opportunities for general talk being obviously far greater at such a gathering than at a dinner. Unfortunately the available evenings are few. If there were a fourth, a supper—at about half the cost of the dinner—might be found very attractive.

(5) The special stunt to end the proceedings has so far been found very useful indeed, both the river trip at Liverpool and the motor tour of the Wye Valley proving very attractive features. Such efforts may not always be possible, but when they are they should be adopted. They add a holiday touch to the proceedings and give ample opportunities for just the right sort of social intercourse.

(6) The question of interesting the public is fundamental. At Cardiff this was managed in various ways, direct and

indirect. There was no public meeting at the conference proper; the difficulty being, of course, that the summer is not a good time for public meetings. At Cardiff two meetings to introduce the conference and its objects to the Press and the public were held some time before the conference proper. These were followed by a series of six or eight articles in the local press, which also gave reports of the meetings and of the speeches at the dinner and other functions. Clearly the last conference did good work in this direction locally, and that should always be one of the results of our conferences. A Royal Institute Conference is, however, not only a local affair, and it is hoped that the growing interest in architecture may result before long in our conferences being adequately recognized as national affairs by our leading papers.

In the hope, then, of furthering the interests of our conferences, let us be quite frank. Does anyone who attended either or both of the past conferences see ways in which such efforts can be improved in the future, and are there any who were absent for reasons within the control of those arranging the conferences? Constructive criticism can but help the Institute in its attempt to bring together in the interests of architecture the maximum number of its members and of the members of the allied societies.

The Rebuilding of Russia

At long last we have apparently to deal with a repentant Russia—a Russia once again more eager to build than to destroy, to attract capital rather than to attack it. Mr. Huntly Carter's articles on the subject come at a peculiarly opportune moment, when Russia is giving proofs that it has awakened to the folly, as well as the wickedness, of attempting the annihilation of eternal principles like honesty and justice. Once again the gates are being thrown open to foreign trade, and schemes for reconstruction are being projected on so large a scale as to raise rather anxious doubts as to whether the power to carry them out is equal to the aspiration, the Russian character tending rather to over-elaboration of theory than to perseverance in practice. It is to the foreigner that the Russian looks to get things done—and paid for! If the Russian publicist is really astute, he will look to Britain rather than to Germany for substantial help in his extensive schemes of reconstruction, and in the honest and effective development of Russia's vast natural resources. When Russian trade rights itself, a general return of business prosperity for the rest of the world will be well within sight. Mr. Huntly Carter's timely and well-informed articles give some idea of the deplorable state of that country. And now that it is essential, we hope for Russia's sake that outside aid will come from England.

The Institution of Structural Engineers

The Concrete Institute proposes to enlarge its functions and change its title. Under its memorandum of association, the Concrete Institute was restricted to research work in concrete and reinforced concrete. It now seeks to widen its scope so as to include every kind of structural engineering. The proposed changes are coming up for consideration at an extraordinary general meeting of the Concrete Institute, to be held on September 28, at Denison House, Vauxhall Bridge Road, and there can be but little doubt that on that date the Concrete Institute will cease to be, and the Institution of Structural Engineers will come into existence. Some such change has been long foreseen, and was ripe for debate when the war intervened. Founded in 1908 and incorporated in 1909, the Institute has been for fourteen years *de facto* what it now seeks to become *de jure*, an Institution of Structural Engineers, dealing not merely with the materials, but also, and perhaps mainly, with the methods of construction of certain special types. It would be interesting to know exactly when and by whom the comparatively new term "structural engineer" was introduced. It did not come into general use until iron or mild steel became a familiar substitute for timber in building construction, while reinforced concrete came largely into use instead of brickwork. Several years before the Concrete Institute was founded this Journal had discerned the vitality and importance of the newer methods and materials of building construction, and in 1906 had actually assumed as its supplementary title that of "Architectural Engineer," which term many professional men still think preferable to "Structural Engineer," as being more definite and distinctive, and more accurately descriptive, besides implying due recognition of the art of architecture; for the art of the architect is independent of systems and materials, and is not to be lightly ignored. It would therefore be wise for the new Institution to embody in its title some plain indication that architecture enters into its calculations.

Land Drainage and Roadmaking

Simultaneously with the announcement that large land-drainage schemes are to provide work for the unemployed comes a complaint that "The delay in providing houses is attributable largely to the fact that there are no roads made up along which to erect them." If, it is contended, local authorities could obtain available sites and intersect them with roads properly laid and sewered, there would be no lack of builders coming forward to purchase the land and erect houses thereon. Might it not be profitably combined with the land-drainage scheme and other relief works contemplated by the Government?

Norland Old Hall Expatriated

The very stones of Norland Hall cry out against their expatriation. They have been bought by an enterprising American, and are being packed for shipment to San Francisco. Mr. Louis Ambler, in protesting—vainly, alas!—against this ab-alienation of a fine old Yorkshire house, states that its stone front was built 250 years ago by Joseph Taylor, whose initials and the date, 1672, appear on the door-head and elsewhere; "but there was much of the old timber work of the original house remaining before the building was dismantled nearly nine years ago by a London firm of antique dealers, who proposed to remove and re-erect it in Surrey." Mr. Ambler thought it would be a misfortune to send into Surrey "a typical example of a West Riding seventeenth-century house, with its large many-mullioned hall window and two other features which are peculiar to the locality, namely, the upper floor windows, with the two more lights in width below the transomes than above, and the finely and elaborately carved terminals to the label mouldings." Very interesting indeed; but ninety-nine-hundredths of the interest will evaporate in an alien atmosphere; and we are in most hearty agreement with Mr. Ambler in his suggestion that there ought to be a law preventing the removal of ancient and historical buildings from one country to another. The ancient jest about wealthy Americans carrying off St. Paul's, the Abbey, and the Tower of London, is beginning to wear a sinister aspect.

Mr. Arnold Mitchell's "Find"

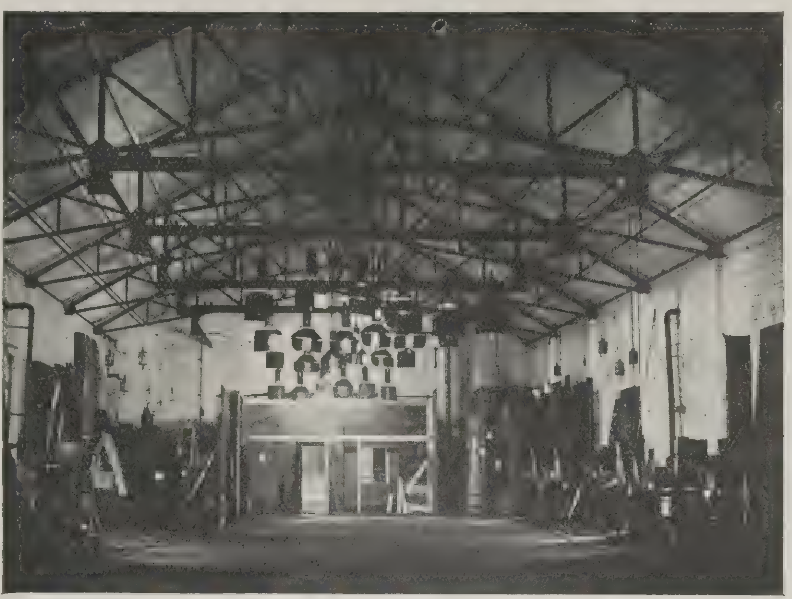
Mr. Arnold Mitchell, F.R.I.B.A., is now to be counted among the select band of architects who have made important archæological discoveries. In Dorset he has found a Greek statue of great beauty and antiquity. It is of marble, and is of a woman. Dr. Percy Gardner, Professor of Classical Archæology at Oxford University, is said to believe that the statue was probably carved *circa* 300 B.C., and is thus 2,200 years old. It is thought that the marble, which is "the coarse-grained material of the Islands," may have come from somewhere near Smyrna. But how came it to Dorset? That is an unanswerable question, except conjecturally. It is now deposited in the Ashmolean Museum.

A Street in Cinema-Land

THE great mercury lamps of cinema-land shone white over a street in seventeenth-century London. A camera-man with intent eyes peered over his apparatus as he wound. The producer danced wildly and shouted incomprehensibly: "Now you're smiling. Now you're holding him by the hand. Now you're happy. . . . Good!"

The hand of the camera-man ceased its steady winding and the actors gathered round the producer laughing, and became, despite their picturesque clothes, just ordinary people. Also, the writer walked round the back of that lath and plaster street in seventeenth-century London, and beheld the ledges and braces that kept it up.

But in a few months, when the play appears, such things will never be guessed at by the audience in the crowded picture-palace. The curtain will ring down upon a loving couple who, it is quite clear, live happily ever after; villainy has been vanquished; virtue upheld. They leave the theatre satisfied that the play has ended just as they always like it to end, and carry in their memory some charming pictures of London during the period of the plague—cobbled streets, galleried and half-timbered houses diamond-paned windows, picturesquely projecting upper floors. Nor will they ask whether all the decorative and structural details are in keeping with the time. Architects, however, are more exacting; and we would here say without hesitation that when film companies go to the trouble of building in their grounds whole towns of half-timbered houses it is worth their while to call in expert advice for their design—indeed it is really essential.

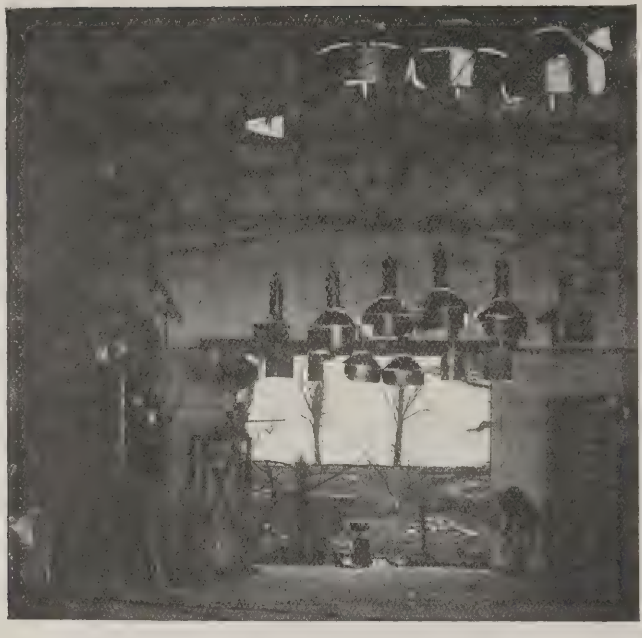

AN INTERIOR OF THE DARK STUDIO AT ISLEWORTH.

This has already been done in America. Not only does the architect have to see that every building to be screened is period-perfect, but he is responsible for the design and lay-out of the whole film. Describing how a screen architect works out the whole conception, a writer in an American contemporary says: "First, after reading the story of the play and deciding upon the type of sets to be made, he draws a number of sketches. From these, finished detail drawings are made of the various sets, and an army of draughtsmen are then turned on to produce scores of blue-prints from which, in many cases, models of every scene are erected so that the directional staff may work out the grouping of the actors, and test in miniature the effect of lighting arrangements, besides recording for future reference the exact action of the various players involved. The construction department is then entrusted with the erection of the sets, and the whole scheme materializes, still under the actual supervision of the architect."

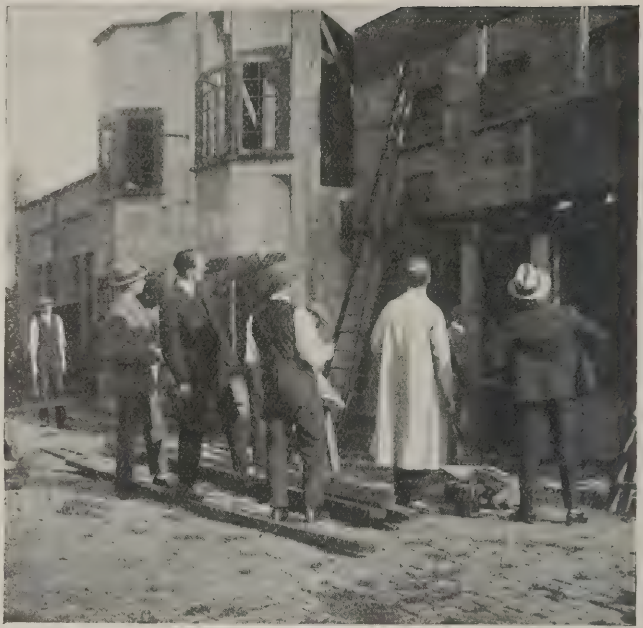
The writer remembers a film of Dante's "Divine Comedy," which was shown some years ago. The very gates of the Italian's Hell appeared in lurid light upon the screen. And as one read those dread characters above the lofty arch of the portal, "Per me si va nella citta dolente," those massive gates swayed visibly in a wind which came from the back of the studio.

The Hardy Film Company are to be congratulated on having taken careful precautions against any such mishaps. The windows here are real windows, the doors real doors, and the houses real houses—at least in front. Crossing

THE HEADQUARTERS OF A FILM COMPANY: TWO FRONT VIEWS OF THE STUDIOS AT ISLEWORTH, ORIGINALLY A FINE NINETEENTH-CENTURY MANSION.



ONE OF THE GREAT STUDIOS SHOWING THE ENORMOUS ARC LAMPS.

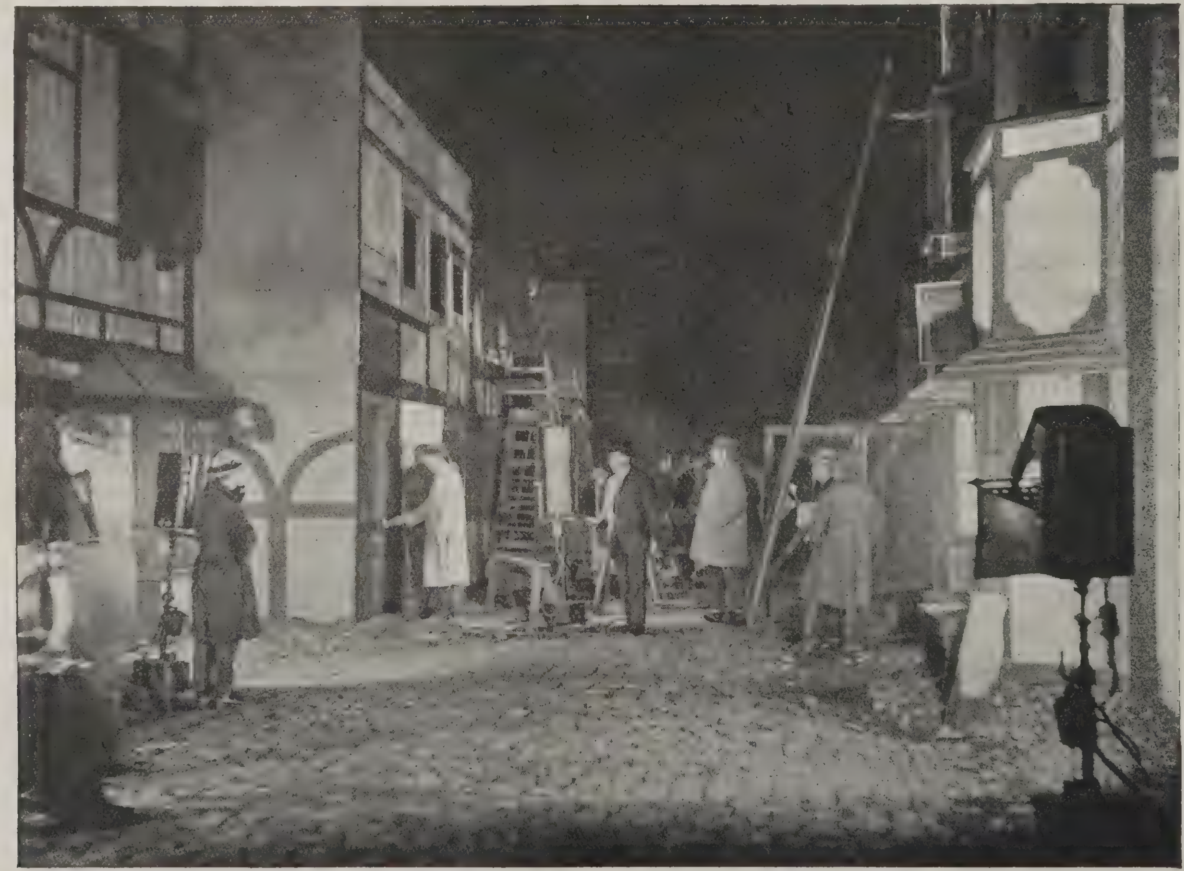


THE SEVENTEENTH-CENTURY TOWN IN THE MAKING.

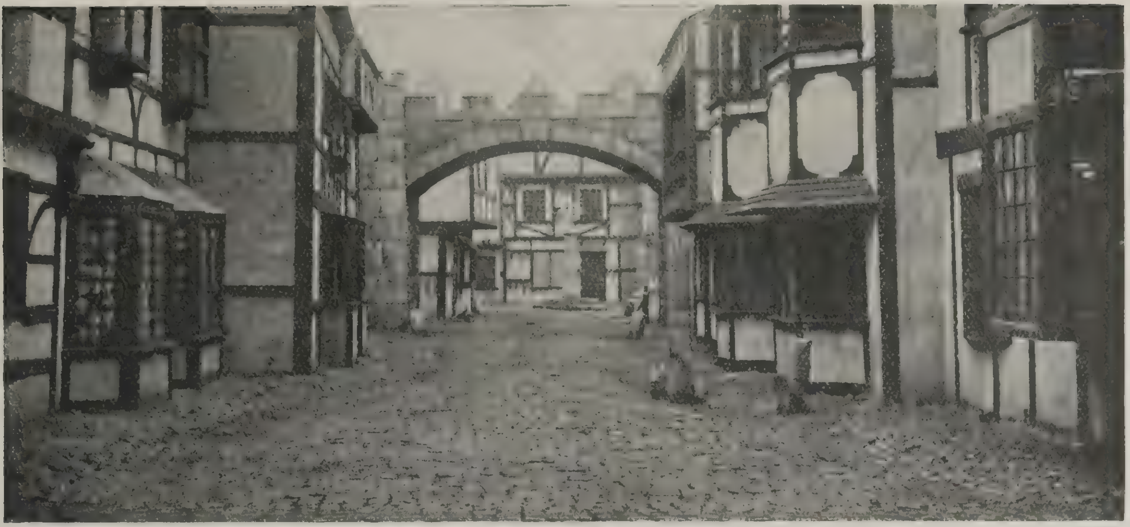
the wide grounds which belong to the studio—a handsome nineteenth-century mansion—you come upon the street from the back. It is hidden amongst trees and studio sheds, and looks like a jumble of hoardings. At one moment you are surrounded by the life and noise of the twentieth century; the next you have stepped into the atmosphere of a mediæval city. It is a curious sensation. You see Ned Holles passing, who served under Cromwell; you find that the date is 1665 not 1922. George Monk, Duke of Albemarle, governs in Whitehall, and is greatly perturbed at the appearance of the plague in London, while the Duke of Buckingham, handsome and dissolute, a notorious rake, heedlessly pursues his pleasures with some of his satellites. Buckingham is madly in love with Sylvia Farquharson of the Duke's Playhouse. He gets her into his clutches, and she is only rescued by catching the plague. Holles, who has discovered in Sylvia his early love, endeavours to defend her, and when she is deserted, nurses her back to health, only to catch the plague himself as she recovers. When he is well he receives from Albemarle an appointment in the Indies, and carries Sylvia off with him.

The play is entitled "The Scourge," and is adapted from the book by Rafael Sabatini. It is to be produced shortly by the Hardy Film Company.

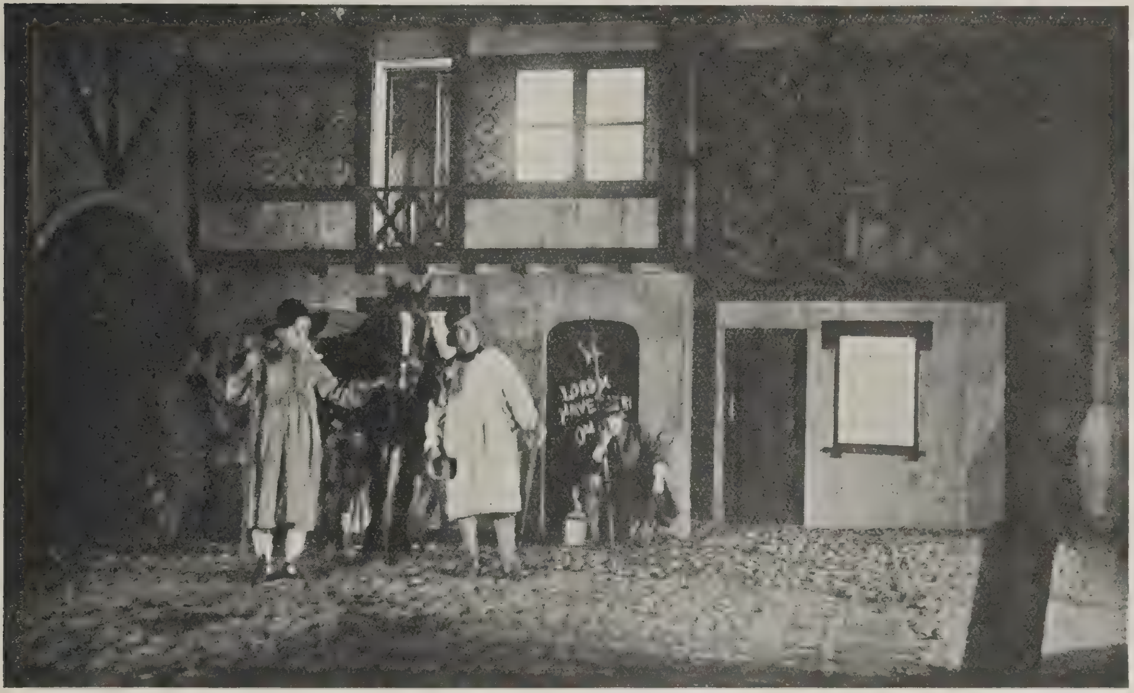
H. JOHNSON.



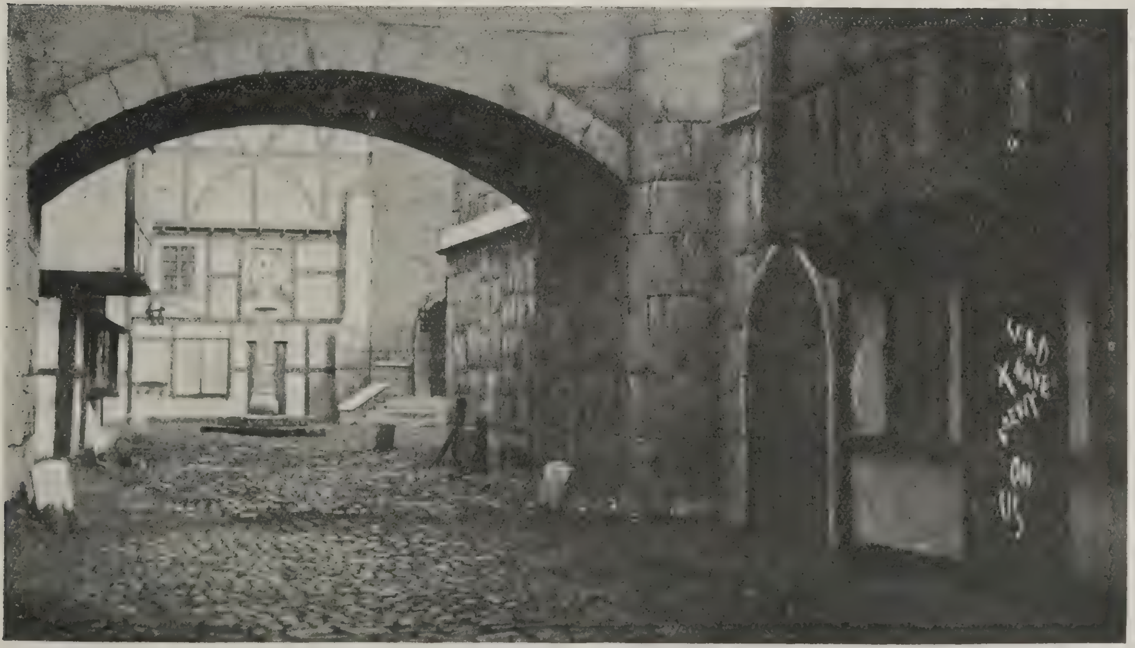
A NIGHT VIEW OF THE STREET IN THE COURSE OF CONSTRUCTION. THIS ILLUSTRATION GIVES SOME IDEA OF THE POWER OF THE CINEMA LIGHTS.



LONDON IN 1665: THE ST. PAUL'S HEAD TAVERN IS ON THE RIGHT.



THE DEAD-CART CARRYING OFF PLAGUE-STRICKEN BODIES.



A NEAR VIEW OF THE COMPLETED STREET.

The Pride of the Mediæval Workman

By G. Ll. MORRIS

"Their land is full of idols; they worship the work of their own hands, that which their own fingers have made."
—ISAIAH, Chap. II, Verse 8.

"Wherefore I perceive that there is nothing better, than that a man should rejoice in his own works; for that is his portion: for who shall bring him to see what shall be after him?"—ECCLESIASTES, Chap. III, Verse 22.

I HAVE put these two verses from the Old Testament at the head of my article as they seem to express towards handicraft a sane and religious attitude, which must be definitely embodied in any social philosophy that includes the reorganization of modern industry. Our attitude to-day towards fine workmanship and the capable craftsman is much the same in spirit as that held by the modern "gentleman" and by the Egyptian poet who sang so prettily :—

> "I have never seen the smith as an ambassador
> Or the goldsmith carry tidings,
> Yet I have seen the smith at his work
> At the mouth of his furnace.
> His fingers were like crocodile hide
> He stank more than the roe of fish."

In this matter, Gibbon, the celebrated historian, appears to have been of the same way of thinking. He refers to soldiers as being degraded by the industry of the "mechanical" trades, and his contempt for academical degrees arose from the fact of their being "borrowed from the mechanical corporations, in which an apprentice after serving his time obtains a testimonial of his skill, and a licence to practise his trade and mistery." The same point of view is held by many to-day.

In the Middle Ages it was exactly the reverse. Pride of occupation played an inspiring part in the emotional equipment of the mediæval craftsman. Pride no less than faith nurtured the beauty which burgeoned and blossomed in those times. It inspired the workman with a sense of his own power, and taught him, as freedom taught the Arabs, "to accost his equals without levity, and his superiors without awe." (*Gibbon.*) It led him to protect his own in the wars with the lords of the soil, and to endow his work with fine craftsmanship. Pride in organization qualified him for respect and hate from those who opposed him, and made him master over the tools of his handicrafts and a power in the government of the mediæval towns.

Proud and haughty, he yet allowed himself to be the object of a most minute surveillance, and whilst obedient to his guild, hated and scorned those above and below him. Every trade made its own regulations, and used every precaution to uphold the dignity of its craft. A careless and fraudulent workman received little consideration if he used bad materials, or was casual in putting them together. The regulations on this score were most stringent. Care was taken to protect the public from fraud, and the guildsmen from a reputation for shoddy materials and inferior craftsmanship. Severe punishment awaited a shirker. He was turned out of his guild and necessity compelled him to leave his native place, the prospect of regaining his lost position being a remote one. Often he was destined to haunt the roads and by-ways, a disreputable member of that large fraternity of the Middle Ages—the "wayfaring folk."

The individual pride of the workman was no less than that of the guild. On his work he would inscribe his name to draw the attention of the buyer to his wonderful handiwork. The potter was much given to this proud playfulness, telling you by means of inscriptions on a piece of pottery his name, the date he made it, and sometimes a proverb he thought worthy of remembrance. In eastern Europe the mediæval Greek stamped his work and arrested the attention in a short and pithy sentence. A Byzantine brick in the British Museum informs you that it was made by the "most excellent Narsis." On another article are the words "Enmion made me" followed by the haughty injunction "Think of it O buyer." The names of workmen frequently occur in turn upon columns, capitals, or simply square blocks of stone, and some of the monograms from the closures under the great west window at St. Sophia are supposed to be the signatures of master-workers. (*Lethaby and Swainson.*) The Cathedral of Rouen possesses a window which bears the name of Clement of Chartres "Master-Glazier," and Professor Lethaby in his book on mediæval art gives many instances of inscriptions in honour of master-masons.

This natural desire of the workman to endow the labour of his hands with speech is as old as the hills. Among the examples of Greek lead work, some of the sling bullets are inscribed, often with jibes and jeers, so that the warrior might know his work. One in the Lewes Museum has "Well done," others have "Hit hard." (*Lethaby.*) Flaubert in his wonderful novel "Salammbo" refers to this simple and child-like method of insult adopted by a besieging force to bring the besieged to their knees. They slung at them insulting messages, inscribed upon their ammunition.

In metal the workman flaunted his pride in another way; the bars of metal twist and interlace in luxuriant fashion, blossoming into flowers and foliage in unexpected places. Armorial bearings, lettering and symbolic figures engaged his skill and ingenuity, nothing seems to have daunted him, so proud and masterful was the command he had over his material.

In wood and stone he dared to hurl the scourge of satire on the monks in consecrated places. Fantastic humour and coarse jokes, which did not disdain the obscene (*Lubke*), find their place on gargoyles, on misericordia, and in any position where he could slyly poke fun at piety and his betters. At times he simply rioted in an exuberant outburst of pride and fancy, and troubled not to hide his artistic wilfulness, but frankly amused himself at the expense of those who employed him. This has been done in a most audacious way in the Cathedral of Berne. In one of the windows the glass-maker has made sport of transubstantiation by representing a pope shovelling four evangelists into a mill from which came forth a number of wafers; these a bishop is receiving into a cup in order to distribute them to a wondering people. (*Lacroix.*) In the choir of the Protestant church of Breda the carver gave free rein to satire on the clergy, representing the monks in various comical attitudes. (*Singleton.*) Only in some of the crafts did the arrogance of the workman show itself in this way, but in his quarrels with the barons, his fellow-workmen, "foreigners," and town authorities, it leapt out at the slightest provocation; it permeated his trade regulations, and was so interwoven with his daily life that it seems easier to account for the vitality of the mediæval arts from the presence of this characteristic than from that of simple pleasure and joy. The remarks of Henry Gow the Armourer to his friend Simon the Glover are instinct with a pride of occupation, equal to, if not surpassing, the pride of birth of the aristocrat.

Simon rebukes Henry for suggesting that the craft of St. Crispin was a more honourable calling than that of the glovers. "You err, son Henry," he says, with much gravity, "the glovers are the more honorable craft of the two, as they provide for the accommodation of the hands, whereas the shoemakers and cordwainers do but work for the feet."

Proudly he upholds the dignity of his craft, saying, "Brave men fight with their hands, cowards employ their feet in flight. A glove is borne aloft, a shoe is trampled in the mire. A man greets his friend with his open hand: he spurns a dog or one whom he holds as mean as a dog with his advanced foot. A glove on the point of a spear is a sign and pledge of faith all the world over, as a gauntlet flung down is a gage of knightly battle; while I know no other emblem belonging to an old shoe, except that some cronies will fling them after a man by way of good luck, in which practice I avow myself to entertain no confidence." (*Scott.*)

It was perhaps with some little malice that Henry Gow chose to compare the glovers with the shoemakers, as originally both these crafts appear to have been incorporated in one guild. This gave rise later to many quarrels, and to the infringement of the rights of one trade by another. Blows were often exchanged, a guild being generally quite ready to identify itself with the quarrels of individual members. (*Beck.*)

Pride compelled a guild to uphold a member, hence the scenes in the streets from time to time. In London at the beginning of the fourteenth century the disputes between the saddlers and joiners and between the saddlers and lorimers and painters arose in the first instance through bad workmanship, and on a second occasion were due to the supposed infringement of the saddlers' liberties by the lorimers. Such a state of things was not to be tolerated for a moment; the saddlers instituted proceedings against the lorimers and ultimately ordered the objectionable ordinance to be burned in Westchepe! (*Beck.*) The consigning of documents, etc., to the flames was a favourite method of executing vengeance.

One of the regulations of the saddlers' guild in Paris, drawn up in the thirteenth century, ordains that a "faked" saddle should be burnt without power of redemption and without delay. The same drastic and effective measures were pursued in England, the saddles sometimes being burned before the maker's door. The guild of glovers in Scotland acted in the same way when workmen attempted to avoid the craft regulations. On the occasion of a quarrel between the saddlers and joiners, when the former were accused of making spurious goods, a committee of six members of the joiners' "mystery" was appointed and empowered to search out all goods belonging to the craft and to stamp them with a hall-mark as a means of guarding against any future attempts to palm off poor work. These quarrels, which so often led to blows in the workmen's quarters of a city, show how carefully each guild protected its privileges; the least infringement caused trouble, an uproar took place, heads were broken and patched up again. Then the Mayor would summon some of the members of each guild to present the case on a certain day. After a discussion the matter would be settled more or less amicably, and the craftsmen would go back to their work, to quarrel again when their pride was hurt or when things became too monotonous.

In England, in Henry II's reign, when the guild of tapestry-workers objected to the special privileges bestowed upon a workshop in Paris by the King, they showed their displeasure by seriously disturbing the public peace on several occasions. (*Lacroix.*) The goldsmiths in France and Belgium were equally jealous of their privileges (*Lacroix*), and so proud and haughty were the artisans in Italy at the end of the thirteenth century that the nobility were either excluded from offices of State or were obliged to become artisans. Labarte tells us that the noble Venetian patricians might marry the daughters of the master glass-makers without derogating in any manner from their dignity, the children born from their marriage retained all their quarterings of nobility; and further, when Henry III went to Venice towards the end of the thirteenth century he conferred nobility upon all the master glass-makers of Murano.

The chronicles of St. Troud record that the weavers of St. Troud and Tongres in 1133 were more forward and proud than other artizans. (*Esther Singleton.*) In France the glass-makers acquired a somewhat similar importance, and if their work did not confer "nobility" upon the craftsman as in Venice it was quite an understood thing that titled individuals incurred no degradation in working at that craft. (*Lacroix.*) In Florence in the middle of the fourteenth century the workers in wood and metal were included as members of a painters' society, a similar body in Venice reckoned amongst its members casket-makers, gilders and varnishers, and at Bologna saddlers and sheath-makers were admitted. (*Labarte.*)

Every fresh privilege gained by the workmen gave an impetus to their power and pride, which the very continuity of a craft in a family helped to foster. In Florence at the end of the thirteenth century every inhabitant was obliged to subscribe his name on the register of one of the guilds, and no person was eligible for a public office unless he was actually or professedly a member of a guild. (*Roscoe.*) There were regulations too which prevented manufacturers from expelling their workmen (*Staley*), and the emigration of skilled artisans and artificers was strictly forbidden. It is interesting to notice that women were not disqualified by their sex from enjoying the rights of membership in the guilds.

On Holy and festival days their pride found expression in the production of mystery plays; every craftsman, however humble the position of his guild, felt a real personal pride in the organization and success of these great annual performances. In the City of York, the celebration of the Corpus Christi festival was accompanied by exhibitions of these plays. (*Mystery Plays of York, Toulmer Smith; Davies' Records of York; Davies' Walks through York.*) As the day for their display drew near, each guild became busy in the long summer evenings preparing for the coming event. Each guild appears to have had its own play book, and its own pageant masters; the duty of the last named being to collect from the members of the guild contributions towards the production of the play, and to look after the movable stages upon which the plays were enacted.

These were days of great activity. Guilders Gate, Coppers Gate, Spurriers Gate, Tanners Row, and in all the neighbourhoods where the crafts were located there would be signs and sounds of preparation. In the narrow streets there would be much coming and going of craftsmen; in one part of the city the wheelwrights would be heard at work making new wheels for the travelling stages, in another part the decorators would be lavishing their skill upon fresh scenes for new plays and re-decorating old ones. At Pageant Green from a long range of buildings there would be drawn out the movable stages, and hard at work on them might be seen the painters and gilders renewing in bright gold and brilliant colours the arms of the City of York, the sign and symbol of municipal recognition of the play. Housewives would be looking over their tapestries, embroidered coverlets, and banners, to hang on the front of their houses, and buying stores of rushes to strew before their doorways, and flowers, too, to decorate their windows.

Money would be provided by the Lord Mayor for the appropriate number of torches to be burnt in the procession; and barriers would be erected in suitable positions for the accommodation of visitors to the city.

On the day of the performance, the city would begin to fill at the early hour of 4.30 a.m., and the streets to resound with the footsteps of the guildsmen on their way to the entrance of the priory of the Holy Trinity in Mickelgate where the first play was held. Blacksmiths and bladesmiths, bakers, coopers, carpenters, glaziers, joiners, innholders, coverlet-makers, and all the rest of the members of the various occupations which formed the life of York in those days, dressed in gay and fantastic costumes, trooped through the streets. Priests, troubadours and minstrels too, the latter with stringed instruments, and crowds of citizens with their wives and children, all out and about at an early hour to witness their great annual festival.

The Drawings of William Walcot

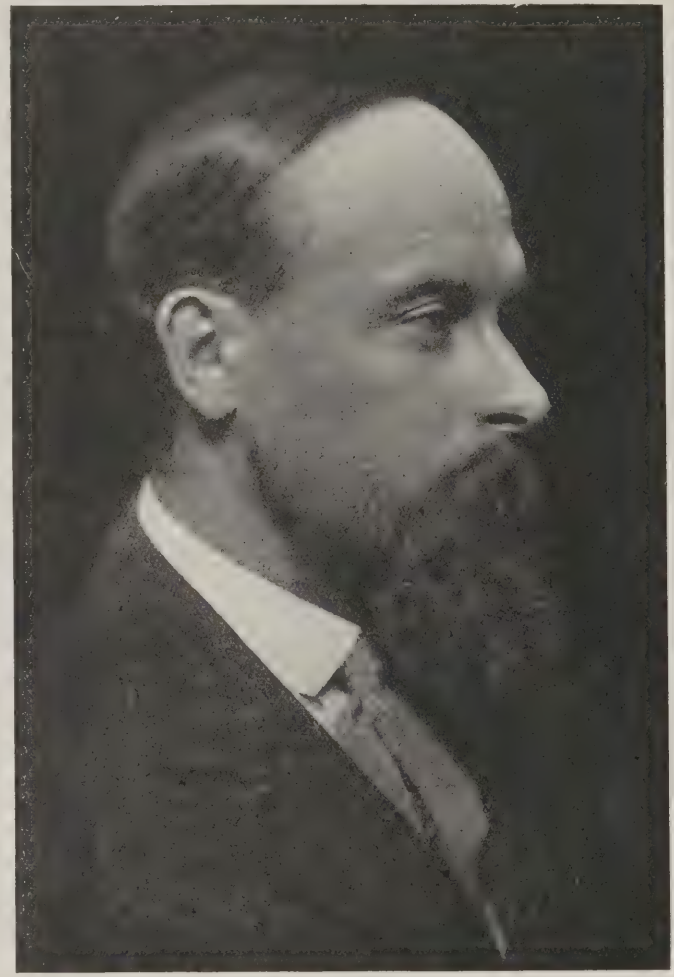
An enthusiastic audience of Walcot-lovers assembled at the Architectural Association last Thursday afternoon and had the pleasure of seeing lantern illustrations of the Roman Compositions, and a series of drawings of some of the most famous of the temples of ancient times.

An illuminating description of the slides was given by Miss Atkins, who has long worked with Mr. Walcot, and has collected a vast store of knowledge concerning his work.

The Roman Compositions, said Miss Atkins, are in the main reconstructions based on actual ruins of monuments, the others being creations of the artist's fertile mind.

You will all help me enormously, the lecturer continued, if you will try to put away from your minds the modern spirit of commercialism and science, your present forms of living, both religious and civil, and let Mr. Walcot lead you right into the heart and spirit of the wonderful days of ancient Rome, Greece, and Babylon: for that is the great beauty of Mr. Walcot's work. It is not only architectural and archæological, but an artistic impression of all these blended with a wonderful insight into the past. In fact I almost believe what many others have said, that Mr. Walcot must be a kind of reincarnation of an ancient Roman.

A critic once said that Mr. Walcot worked with a magic brush, but it is also a very human one, as he brings us so directly in touch with the people themselves and their various modes of life.



WILLIAM WALCOT. A.R.E.. F.R.I.B.A.

Miss Atkins then proceeded to describe the slides, giving a full and deeply interesting account of the social and historical aspects of the cities which Mr. Walcot has literally re-created. The Colosseum, she said, was begun by Vespasian, consecrated by Titus A.D. 80, and finished by Domitian. The first arcade was built with Doric, the second with Ionic, and the third with Corinthian "engaged" columns. Round the theatre ran a high massive wall, with vaults for the animals; on it rested the Podium, where were the seats of honour—those of the Imperial family, the officers of State, and the Vestal Virgins.

Above these again rose the seats of other spectators in concentric rows, and the whole space could be sheltered from sun or rain by an awning supported on masts, which were let into corbels of stone that jutted out of the upper circumference. The arena could also be laid under water for the exhibition of sea fights.

It accommodated 87,000 spectators, and was an example of the prodigal contempt of labour and expense which the Roman Emperors displayed in their great works of architecture.

The exterior is built of fine masonry, in large blocks set without mortar. Next to the Pyramids the Colosseum swallowed more stone than any other structure reared by man.

In the Roman Court of Justice the opening ceremony of a court of law is depicted, a procession of the magistrates, consul, and proctor from the curia, returning from the religious ceremonies attached to the opening of a new session.

The Propylæa, Athens, acted as a vestibule on entrance to the Acropolis of Athens. They were built by the architect Mnesicles between 437 and 432 B.C., and are thought to be one of the most perfect examples of Greek architecture. The artist shows us a procession in the act of passing through the centre portico on its way to the Acropolis.

In the House of a Patrician there is no pretence of reconstruction. The artist shows us a house, such as he might have designed for himself in the days of ancient Rome when housing problems were not what they are to-day. The house, though not of a typical Roman style, is infused with a Roman spirit. An interesting point in this etching is the treatment of materials both from the etching and the building point of view.

Speaking of the two etchings of the Baths of Caracalla, the lecturer gave some account of the Roman public baths, of which there were between the years A.D. 150 to 250, 856 in the city. Here from dawn to midnight the people came in never-ending streams to prepare for the fatigue of the coming day, or to invigorate themselves after the war-like exercises in the campus martius.

The charge made to enter the baths was very small, and the emperors, when they wished to ingratiate themselves with the people, used, at certain times, to throw them open to the public.

Babylon, the Forum, and a Tragedy by Sophocles, were also described, and these were followed by a series of ancient pagan temples, including that of Apollo at Thermos, the Etruscan Temple of Jupiter Capitolinus, and those of Luxor, Ephesus, Baalbec, and others of equal antiquity.

The Temple, it was pointed out, was not necessarily a place of public worship, many being open to the priests only. It had a twofold function in that it was the shrine of the God, and had a place of general assembly adjacent; in this way it became the centre of national life.

Mr. Hamp, in proposing a vote of thanks to the lecturer, paid a glowing tribute of admiration to Mr. Walcot's work, which, he felt sure, would be as much appreciated in America, where the artist is about to make a tour, as it was here. Architects were proud to number Mr. Walcot among them, but he personally could not help regretting that such an artist had been lost to the ranks of practising architects. He wished that they could have seen buildings of Mr. Walcot's design, and felt sure that they would have been a source of inspiration as were his etchings.

Rebuilding Soviet Russia

By HUNTLY CARTER

2.—The Condition of Urban Russia

I THINK the first thing that took my attention on re-entering urban Russia this year was the new owner. The second thing was the condition of his environment.

The new owner of the cities and towns is the worker. In Moscow and Petrograd, with the exception of beggars, refugees, and speculators, I saw nothing but workers. Men in peak caps, house-blouses and top-boots, women in cotton blouses and kerchiefs, and many with bare legs, thronged the main thoroughfares, crowded the green boulevards, looked out from the windows of the great mansions in the fashionable quarters. They surrounded you in the theatre, received you in the public offices, and, in a word, swarmed everywhere. There were no bourgeoisie to speak of. Here and there a shabby down-at-heel specimen of the former ruling class offered the remaining items of his personal property for sale, or hurried through the throng of proletarians as though fearful of attracting too much attention. To me it seemed that Russia was very firmly indeed in the possession of the workers. But I overlooked the fact that Moscow is not Russia, and later, when I visited the rural districts, I came to the conclusion that Russia was shared between the workers and the peasants. It was firmly in their possession, and nothing but an earthquake could dispossess them of their property. This much should be carefully borne in mind, for it is with workers and peasants, or their representatives, that business will have to be transacted in the near future. As M. Tchicherine was careful to point out not so very long ago, when speaking of parliamentary rule, "the working class will keep political power and say to the capitalists, 'Thus far and no farther.'"

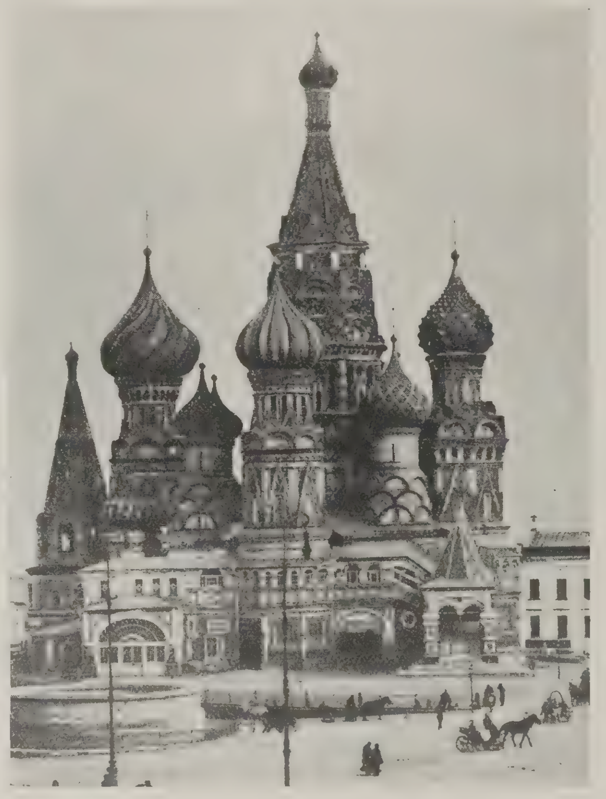
THE KREMLIN, MOSCOW, WHOSE DOME, ONCE GILT, IS NOW PAINTED RED.

If I was impressed by the new worker population, I was no less impressed by the condition of their surroundings. Let me say at once that never in the whole course of my experience have I seen the surroundings of civilized beings in a worse condition, in one that reflected more discredit on those who consented to live among them without stirring a hand—or so it seemed—to improve them. My impression of Moscow and other big cities was that they ought to be pulled down and rebuilt from end to end. I dare say that would be the impression of any practical architect who visited Russia to-day. He would find these places beyond patching-up, and if he had any voice in their renewal he would refuse to give them a new lease of life. If he happens to come from the better preserved parts of Western Europe he could not possibly enter, say, Moscow and Petrograd without a feeling of stupefaction at their appalling architectural and civic condition. And if by chance he visited both cities before the war, and remembers what they were like then, and compares this with what they are like now, his stupefaction will be increased.

He will, of course, recollect that neither city was a model of an up-to-date civilized city. Both were a mixture of the old and new, and both exhibited characteristics that

OLD RUSSIAN ARCHITECTURE IN MOSCOW.

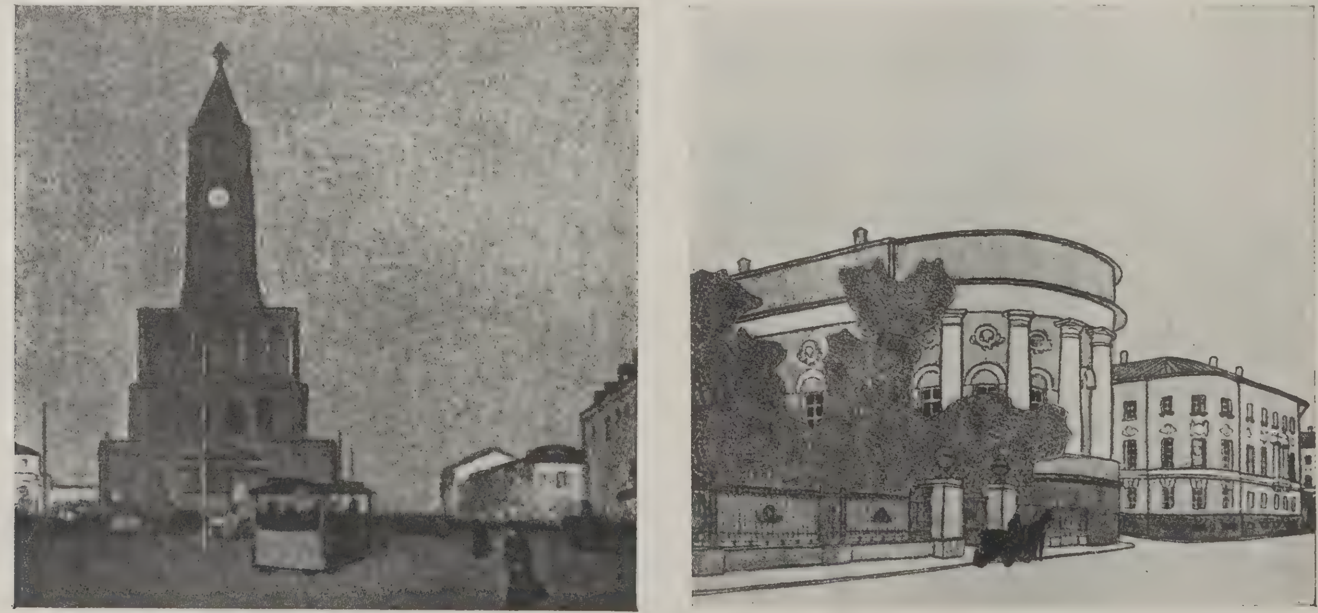
belonged to an earlier period of the world's history than the twentieth century; some of them indeed were born long before modern civic improvements were dreamt of. There were, for instance, the execrable rough cobbled main thoroughfares, the wooden houses sandwiched in between big stone commercial buildings, the bad drainage and sewerage, and many more dangerous features. Perhaps Petrograd had fewer of these characteristics, for, compared with Moscow, it is a fairly modern city dating from the time of Peter the Great. It may be said to be a European city, whereas Moscow is a typical old Russian city dating many hundreds of years before Petrograd.



THE "PINE-APPLE" CATHEDRAL IN THE RED PLACE, MOSCOW.

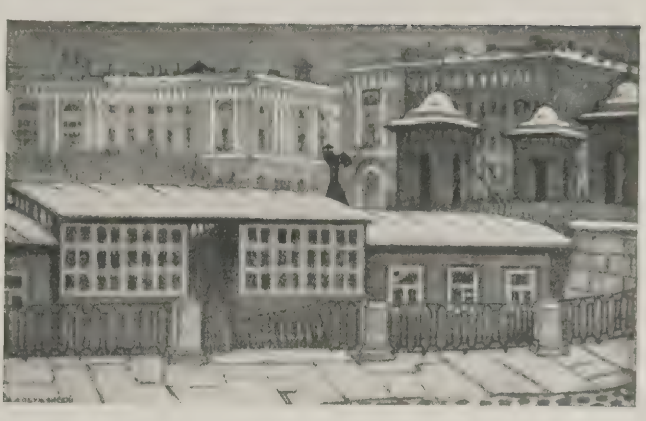
But within recent years Moscow has been touched by financial and commercial advance, with the result that in 1914, like Petrograd, it exhibited a queer mixture of new elements superimposed on the old, which made it look as though someone was trying to build a new city without first of all clearing the old foundations. Architecturally the result was a hotch-potch of old Russian and new European commercial buildings. Moscow contained a great deal of old stuff, of different periods, some of it wonderfully picturesque, including the gorgeously decorated chapels, against which the great blocks of stone and concrete buildings—most of them too ugly for words—stood out as though asking to be criticized by their superiors. The diversity of architectural style was not only amusing, but highly instructive. Side by side were mammoth structures built with a solidity (a characteristic of modern Russian architecture) that seemed to fit them to stand till Doomsday, and ancient one-story log buildings, beautiful in line and proportion, and looking so frail that you wondered why they were not crushed to death by the giants on either side. If one excepts the commercial ugliness of many of the big buildings in the business streets there was nothing very offensive about the extraordinary mixture of architecture. As we know, ugliness is a predominant expression in recent commercial buildings in the more progressive continental cities, notably in Berlin and Cologne, where towering, monumental, and massive banks and Trust buildings look down upon you like financial dreadnoughts and cyclopean forges. Perhaps in pre-war days the old buildings in Moscow had a dirty and neglected appearance, of which Russia was not particularly ashamed, or it would not have tolerated it. But the new structures were different. The luxurious hotels, the blocks of flats, the commercial and civic buildings, had clean exteriors and an imposing, even inviting look of comfort that contrasted strongly with the blackened and worn surfaces of the old buildings. In particular, the hotels, say, the Savoy and the Metropole and the National at Moscow, were very cheerful indeed, with their spacious entrances, palm-decorated foyers, cosily carpeted stairs, corridors and rooms, swift-moving elevators, electric lights, conveniences of all kinds, and efficient service—in a word, their air of soft comfort. They were excellent copies of the best hotels in London, Paris, and Berlin.

In addition to the proud new finished buildings there were great buildings in course of construction which promised on the one hand to carry on the work of converting Moscow's great fashionable business streets, Petrovka, Tberskoi, etc., into Fifth Avenues, and, on the other, to promote the return to a national form of archi-



TWO VIEWS IN MOSCOW: ON THE LEFT, A TYPICAL RUSSIAN CHURCH, AND ON THE RIGHT, THE UNIVERSITY BUILDINGS, SHOWING A RUSSO-CLASSIC TREATMENT.

ONE OF THE MANY RESIDENCES OF THE RICH NOW USED AS SCHOOLS.



THE CHERNIKEV BRIDGE: A MIXTURE OF WOODEN HUTS AND MONUMENTAL PALACES.

tecture. A very good example of the latter tendency was to be seen in the new Ryasansky Station, to which I referred in a previous article on architecture in Soviet Russia. This mammoth station was designed by the Russian architect Tschiekev, who was strongly influenced by old Russian motives. It remains unfinished, and to-day it presents a pathetic spectacle. Traces of a promised magnificence are to be found in a vast uncompleted fresco on the wall of the great hall, while all around are evidences of unparalleled destitution. The floor of this hall and a wide area of the approaches to the station are simply strewn with a dirty grey verminous litter of human beings, refugees from the Famine District, passing on no one knows where. Opposite is the typically Russian Jaroslavsky Station. On the whole, in 1914, there was both in Moscow and Petrograd plenty of evidence to show that, architecturally, Russia was being strongly touched by influences coming from East and West. The East was contributing a spirit of renaissance to promote national forms of a somewhat savage grandeur, while the West was contributing the spirit of Mammon in palaces of modern capitalism, exhibiting overpowering strength and enterprise, but no beauty. Since then there has been a desire to unite these two opposing forms, and thus to create a new one in harmony with communistic ambition. But a union of Tartar and modern industrial forms sounds impossible.

With all its faults and deficiencies Moscow was then an

A SOVIET MASS MEETING TAKING PLACE IN THE RED PLACE, MOSCOW.

interesting city. It was rather emaciated and unclean in parts, but it managed to conceal this under a fairly gay exterior. How different it is to-day. It has suddenly grown very old and dismally grey. It looks like a weary traveller who is worn out, destitute, filthy, and evil smelling. It is hung about with foul and bedraggled masses of humanity, whose condition is almost indescribable. They line the business streets, standing shoulder to shoulder, at all hours of the day and night. They lie in festering grey heaps in front of the stations, in the waiting-rooms, wherever they can, waiting days and days for permits to travel. Many die before they come. Moscow is, indeed, hung, as with pestiferous festoons, with swarms of beggars, swarms of speculating vultures, swarms of refugees, swarms of lice and disease-ridden immoralists, who fill the air with a horrible stench of decayed human flesh.

So both Moscow and Petrograd have lost the air of soft comfort which distinguished a considerable part of them before the war. They have found one of hard and bitter adversity. Adversity has spread a pall of destitution, dirt, disease, dilapidation, and destruction over the urban centres of Russia which has no equal in history. Indeed, the present-day story of urban Russia is a story of great cities and towns turned by war, invasion, and revolution into blood-begrimed barracks and wreckage. There may be better words for describing the condition of public and private buildings—hotels, institutes, residences, and so on—but I think barracks fairly describes the new buildings, and wreckage the old. Perhaps wreckage belongs to both. The conversion of business and residential buildings into barracks is not hard to account for. Immediately after the Revolution all buildings were requisitioned by the Soviet Government for military and civil purposes. The following extract from a Government document suggests the kind of thing that took place: "In large centres we (the Government) expropriated bourgeois flats, and distributed them. We confiscated the most necessary furniture and distributed it among the workmen. There are whole streets recently forming bourgeois quarters that now are the quarters of the proletarian-communist workmen, for workmen-communists have settled here, workers of the factories and so on." This only accounts for a part of the house property. When the workers poured into the palatial residences in the fashionable quarters they were accompanied by the soldiers, and by the vast new bureaucratic staff. Between them they requisitioned all the public institutions, the great hotels, the palaces, and other buildings for residences and offices. And between them they converted practically the whole of the "house" property in Moscow and Petrograd into vast barracks.

Nothing was sacred to the new occupiers. Magnificent interiors were put to the most destructive utilitarian uses. The priceless contents were partly removed, stolen, wilfully destroyed, and partly re-adapted to serve working-class purposes. Likewise rooms of great æsthetic value were carelessly adapted to uses for which they were never intended. When coal ran short, and it became necessary to burn wood, emergency stoves of brick and plaster were erected in magnificent interiors. From these unsightly stove pipes were carried up and across richly decorated ceilings to the walls in which holes large enough to allow them to pass to adjoining rooms or out into the street were literally hacked. Following these pipes are trails of soot, and in many places inside decorations and outside masonry are blackened beyond recognition. To-day one interior is like another. The rooms in the great handsome houses which have been handed over to the various Relief Administrations are mostly bare. All the furniture has disappeared, except one or two precious bits that serve to indicate the taste and wealth of their former owners.

A very great deal could be said about external conditions, but a few words must suffice. Both buildings and

MODERN COMMERCIAL ARCHITECTURE: FORMER BUSINESS PREMISES NOW USED BY THE INTERNATIONAL RELIEF COMMITTEE.

streets present an unequalled picture of dirt and dilapidation. In the best residential streets, for instance, the Krapolkin and Starynar Boulevards of Moscow, are massive blocks of white stone flats looking like decayed tenement buildings in China Town, New York. Their fine fronts are shattered, their windows broken and patched. Their entrances are dark, dirty, and evil-smelling, resembling those of slums rather than the mansions of the wealthy. From many, especially in Petrograd, the window frames, doors, and other woodwork have been removed for firewood. Elsewhere private and public buildings are fast crumbling away. House and shop fronts are falling to pieces. Hospitals and other public institutions are mere shells, shadows of their former splendour. The hospitals in particular are pitiable: cold, insanitary, and without medical equipment — furniture, appliances, and drugs—to meet the overwhelming increase of disease. On all sides are gaunt unfinished structures, shot-riddled and burnt walls, and signs of missing electrical and sanitary fittings. When the Revolution took place everyone must have joined a help-myself society. If there was anything they wanted, individuals simply took it. I do not remember seeing one external rain-water pipe intact. About nine to ten feet of the lower part of each have been stolen. I fancy they all went to make stove pipes.

THE STATUE OF THE EMPEROR ALEXANDER II AT THE KREMLIN, WHICH HAS BEEN REMOVED BY THE BOLSHEVIKS.

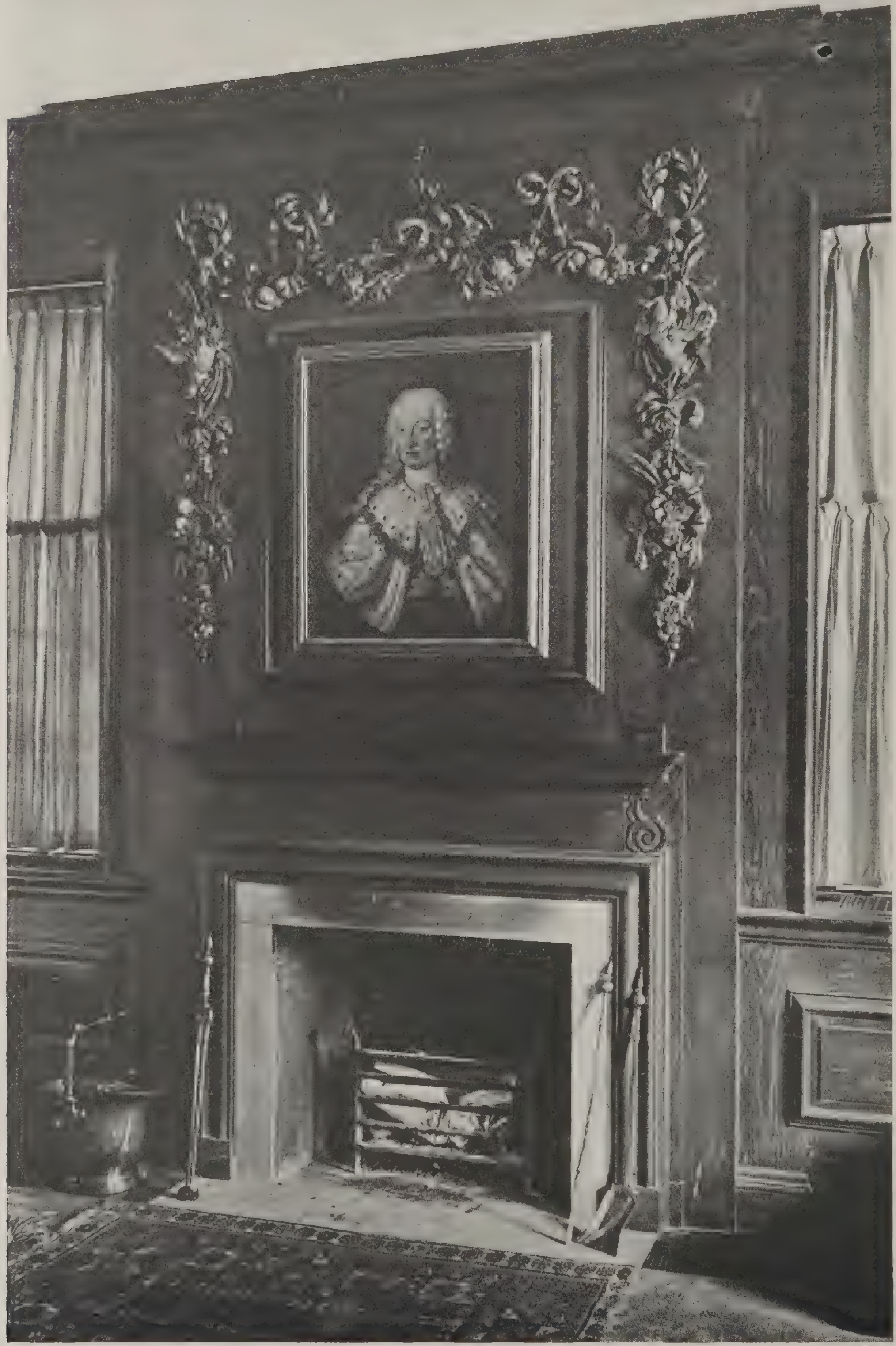
If the house fronts and roofs are battered and shattered, and masonry and fittings generally beyond repair, the roads and pathways are no better. Ten years of hard wear and tear and ill-usage have made wild mountain tracks of them. The rough cobbled roadways resemble switchback railways. In places the tramlines project so much above the surface that they resemble an excellent steeplechase course. The pathways are alternating patches of rough cobbles and asphalt. The asphalt is, in many places, worn through to the brick and earth foundation, leaving holes that might have been made by Jack Johnsons. To add to the extreme danger of getting about on this surface there are iron rain-water gutters which stretch from the house fronts to the gutter and project several inches above the level of the path. In some of the main streets walking after dark is practically impossible. A further source of inconvenience, annoyance, and danger is the sewerage and street drainage. Both of these are obsolete and worn out. The one stinks, the other fails to do its duty. So that when it rains heavily the streets are very quickly turned into roaring torrents, to which the broken gutters and shortened water-pipes add their contributions in cascades that fall from sheer heights and send up dense masses of spray that almost drown unfortunate pedestrians. Trying to walk through Niagara is nothing to trying to walk through Moscow during a cloud burst. Of course, the Russians are fairly seasoned to this form of shower bath. They take shelter in archways at the risk of being washed out by the flood, and as soon as the storm abates the women remove their shoes and stockings, cross the road as though they were crossing a Scotch stream in spate, and paddle home.

Such, briefly, is the condition of cities and towns in Russia. The conclusion is that a great deal, if not all, of urban Russia will have to be rebuilt, and it is not too much to believe that foreign co-operation will be invited for the purpose.

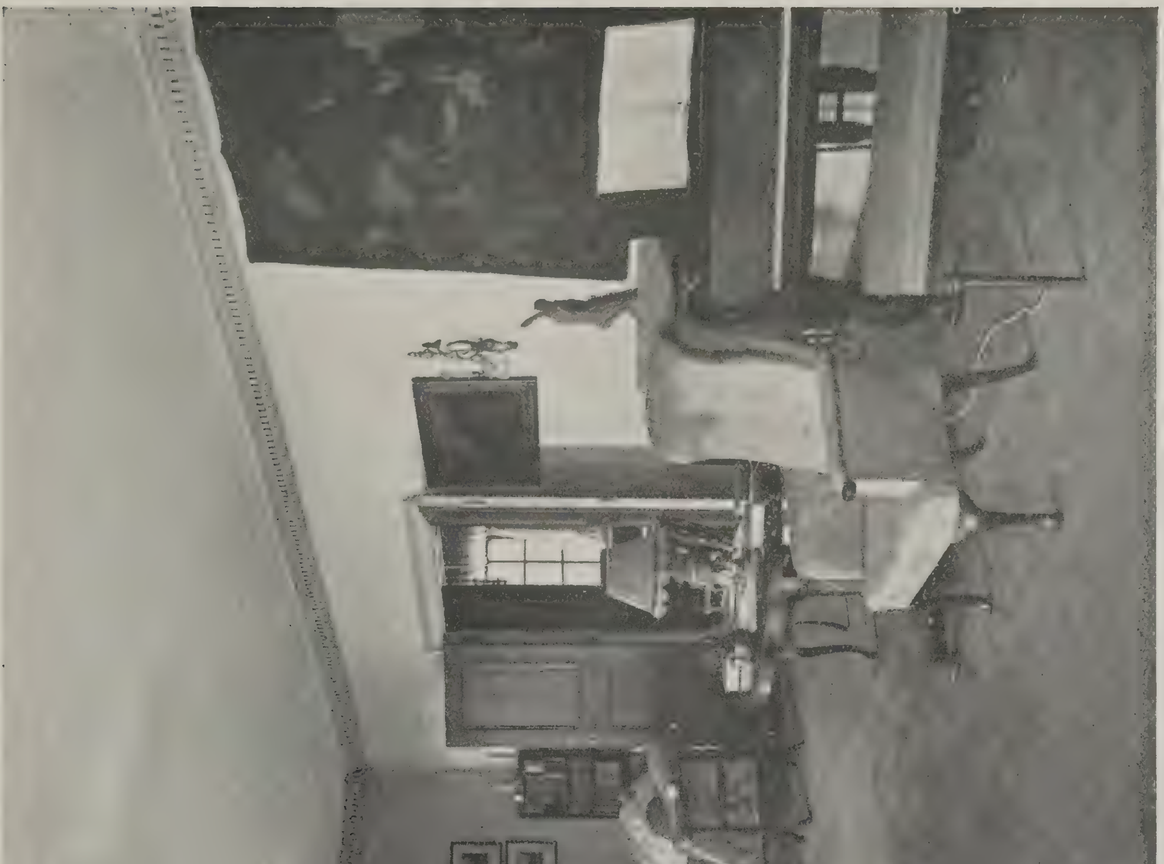
TBERSKOI: THE REGENT STREET OF MOSCOW.

Some Interiors

By Mott B. Schmidt, Sir Banister Fletcher and Sons, and H. O. Tarbolton

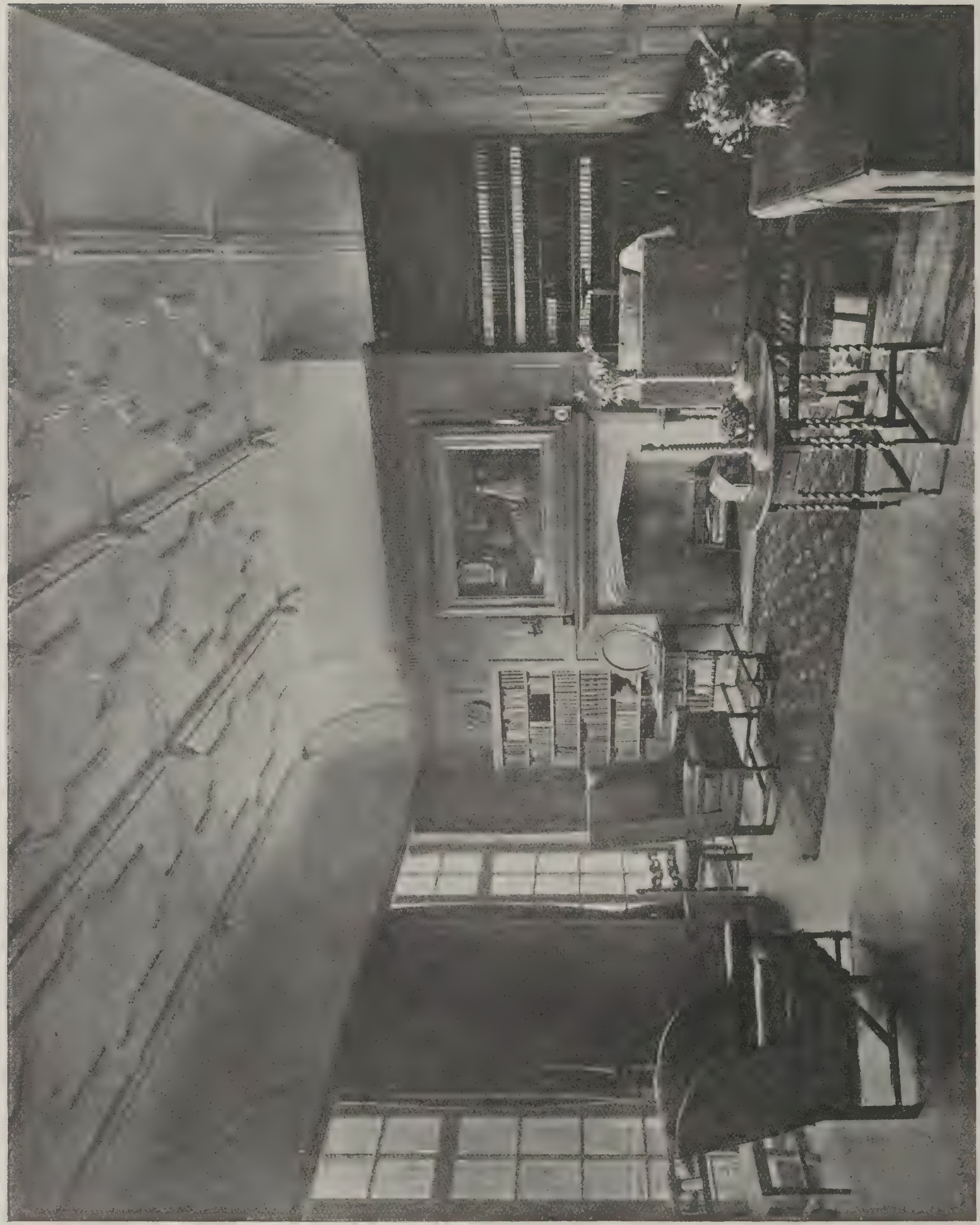


A HOUSE AT RYE, NEW YORK: THE LIBRARY FIREPLACE. MOTT B. SCHMIDT, ARCHITECT.

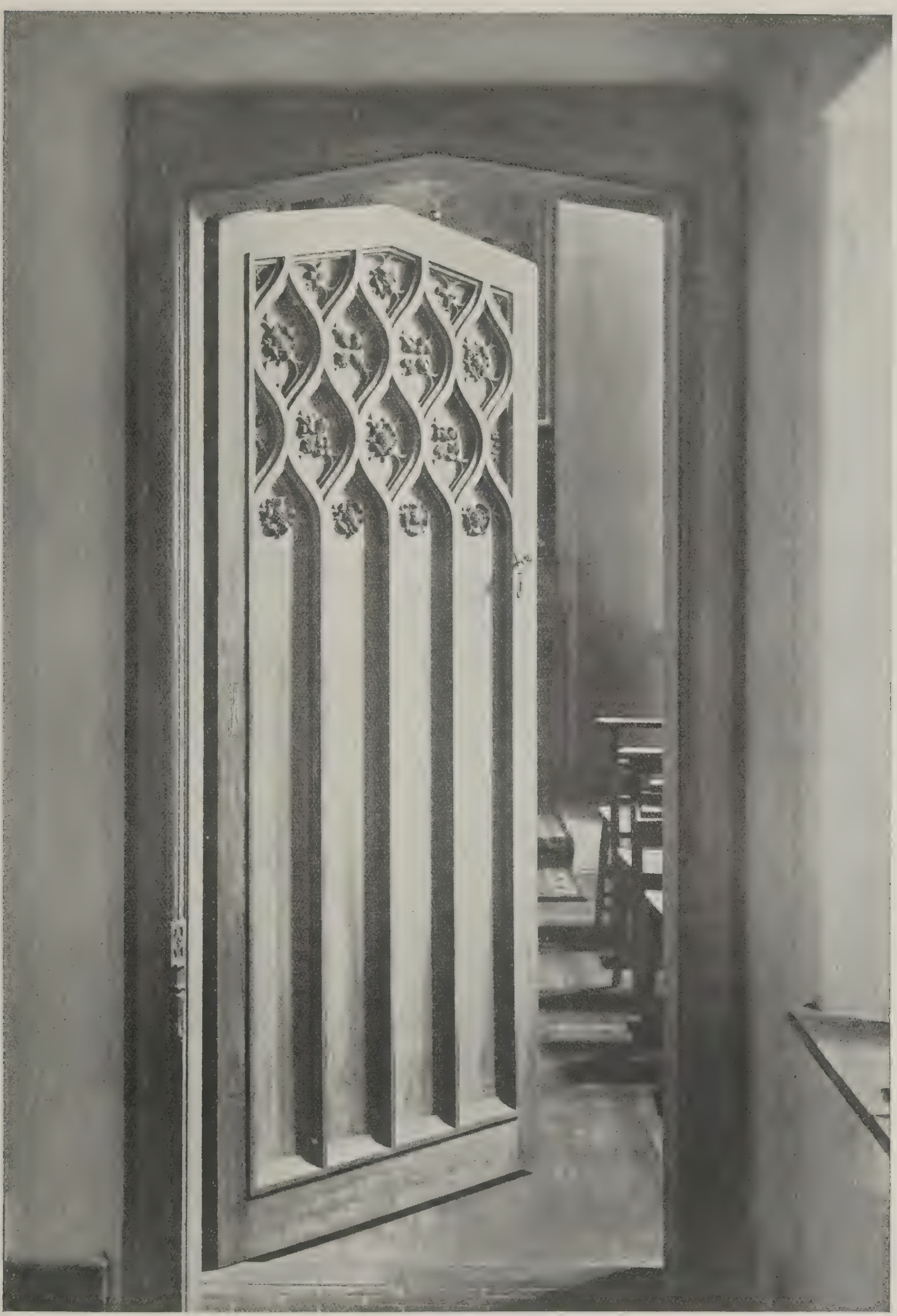


THE CHIMNEY-PIECE IS ORIGINAL ADAM WORK.

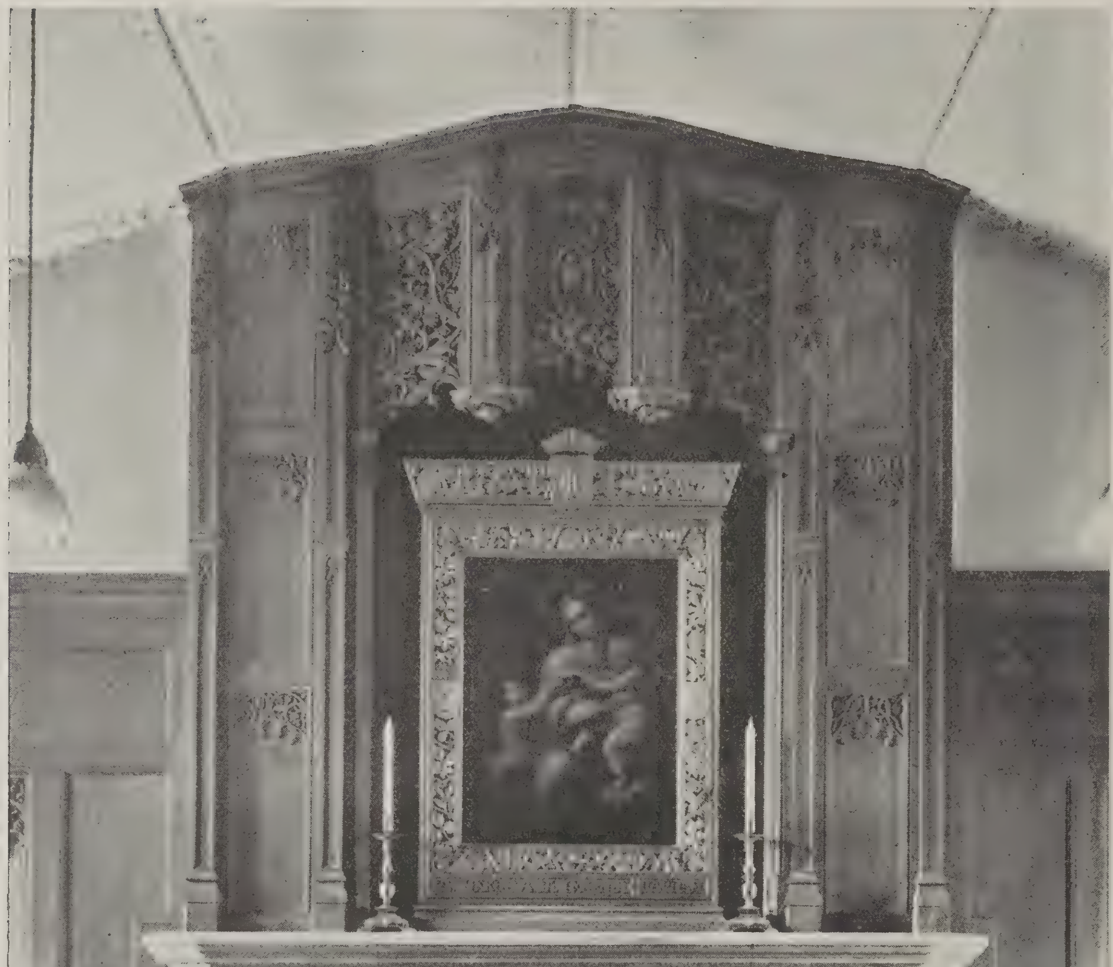
A HOUSE AT RYE, NEW YORK: THE DRAWING-ROOM. MOTT B. SCHMIDT, ARCHITECT.



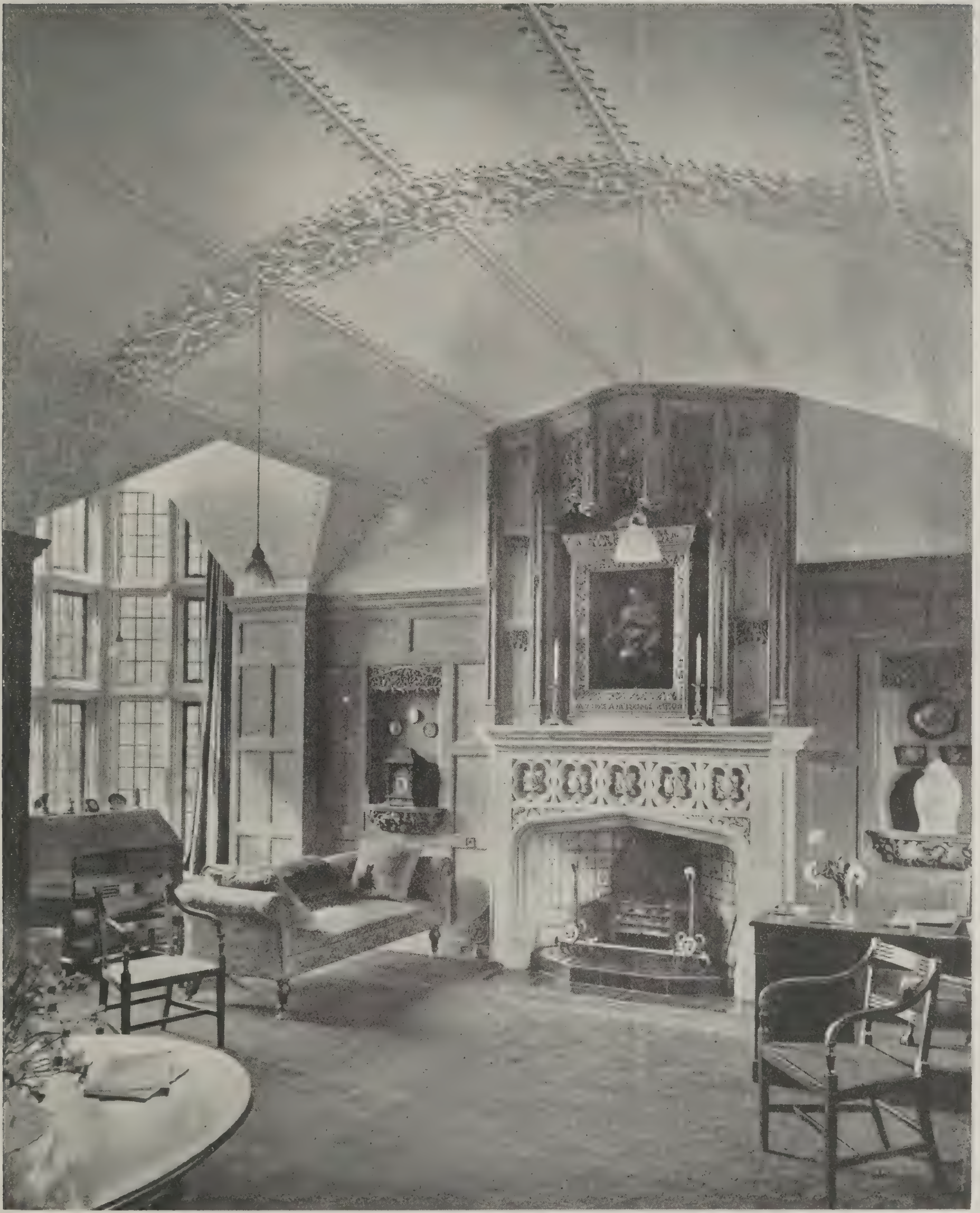
THE DRAWING-ROOM OF NO. 5 MANCHESTER SQUARE, W. SIR BANISTER FLETCHER, F.R.I.B.A., F.S.I., AND SONS, ARCHITECTS.



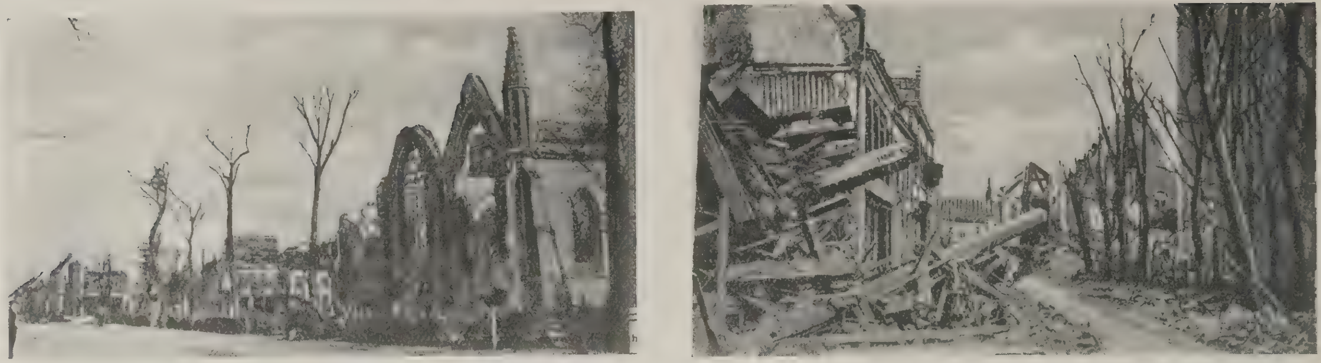
"RAVELSTON," GLASGOW: THE CHAPEL DOOR.
H. O. TARBOLTON, F.R.I.B.A., ARCHITECT.



"RAVELSTON," GLASGOW: THE FIREPLACE IN THE STUDY.
H. O, TARBOLTON, F.R.I.B.A., ARCHITECT



"RAVELSTON," GLASGOW: AN INTERIOR VIEW OF THE STUDY.
H. O. TARBOLTON, F.R.I.B.A., ARCHITECT.



TWO OF THE DEVASTATED STREETS OF NIEUPORT.

The Tenth International Congress of Architects

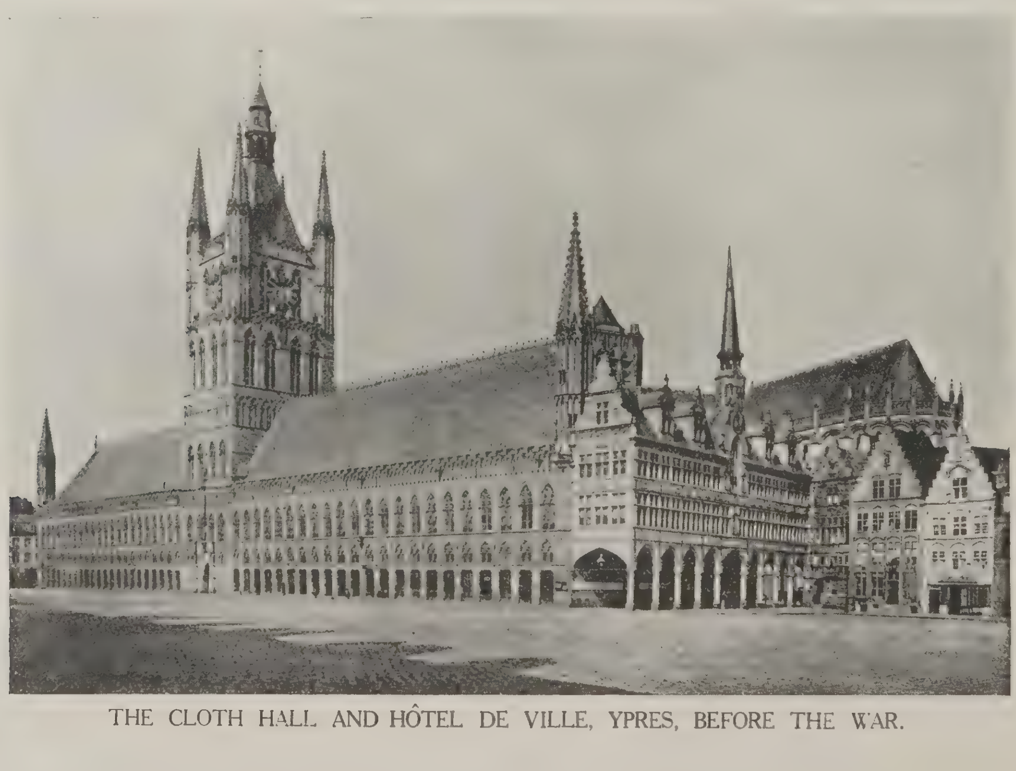
By JOHN SLATER, B.A., F.R.I.B.A.

THE Tenth International Congress of Architects, held at Brussels from September 4 to 11, met under somewhat unusual conditions. In the past the Congress has been organized by the Comité Permanent International. This year, being the fiftieth anniversary of the foundation of the Société Centrale d'Architecture de Belgique, that Society decided to hold the Congress and issued the invitations. No members of the enemy countries—Germany, Austria-Hungary, Bulgaria, and Turkey—were invited, so that the Congress could not be called fully international. It was impossible not to sympathize with the French and Belgian members on this point, but there was great danger that the Comité Permanent would cease to exist. This committee has done an enormous amount of work through its indefatigable honorary secretary, M. T. M. Poupinee, of Paris, in collecting and publishing records of the more important congresses. An informal meeting of members of the old committee was held prior to the opening of the Congress, and this danger was avoided by the constitution of a temporary and provisional committee—to be called the Comité Centrale—to carry on the work of the Comité Permanent. Hopes were expressed by all the members that it would be possible in a year or two, when the animosities created by the war had cooled down, to re-establish the Comité Permanent on its old footing. The constitution of the temporary committee was confirmed at the first meeting of the Congress.

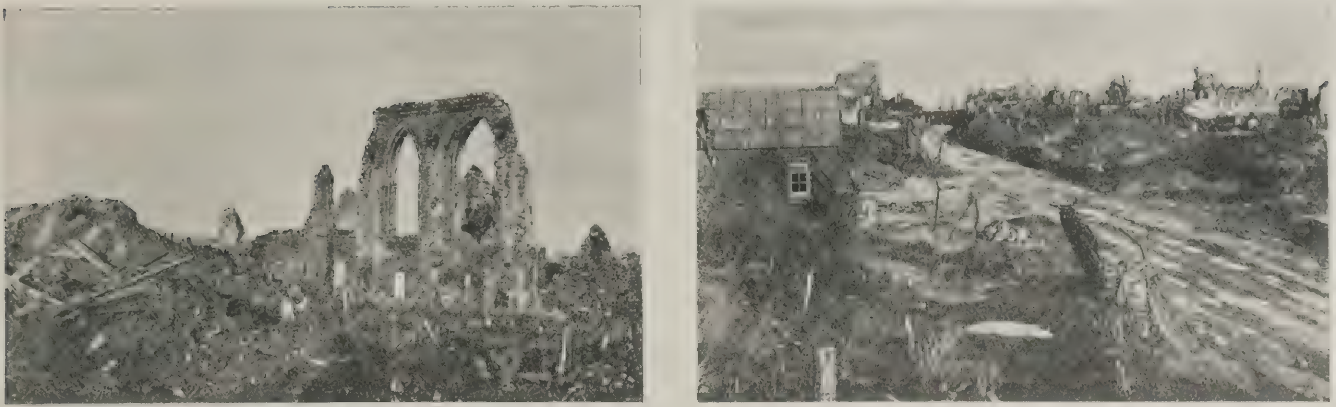
The Congress was a great success. A large number of countries were represented—Uruguay sent a delegate for the first time—and the meetings were fully attended. The matters discussed comprised such subjects as "The Responsibilities of the Architect"; "Women Architects"; and "Architects' Copyright." The long-continued efforts of M. Armand Avocat, of Paris, with regard to architects' copyright have resulted in a recognition in nearly all countries of the right of an architect to protect his works in the same way as an author or a painter. In the course of discussion on "Dwellings for the Working Classes," there was a remarkable concurrence of opinion that it is a mistake to make cheapness the main aim at the cost of the convenience and comfort of the occupants. "Town-planning" and "The Influence of Locality on Architecture" were also subjects of discussion.

An interesting excursion was arranged through the devastated regions of West Flanders. A number of motor cars met the members at the little station of Menin and drove along the Menin Road past Geluvelt, Poelcappelle, and the Houthoulst Forest to Ypres. All along the road were seen derelict tanks, masses of barbed wire, old trenches, gun emplacements, blasted trunks of trees, ruined villages, and numerous cemeteries.

At Ypres, which is practically razed to the ground, the ruins of the Cloth Hall and the Cathedral seemed to rise out of a desert. At this town over 50,000 tons of steel had to be cleared away before any reconstruction could take place, but the energy of the inhabitants in the work of



THE CLOTH HALL AND HÔTEL DE VILLE, YPRES, BEFORE THE WAR.



DIXMUDE AFTER THE LAST BOMBARDMENT.

restoration is remarkable. Picturesque little garden cities are being erected for the working classes on fresh sites, and many houses are now inhabited. A commencement has also been made with the rebuilding of part of the Cathedral.

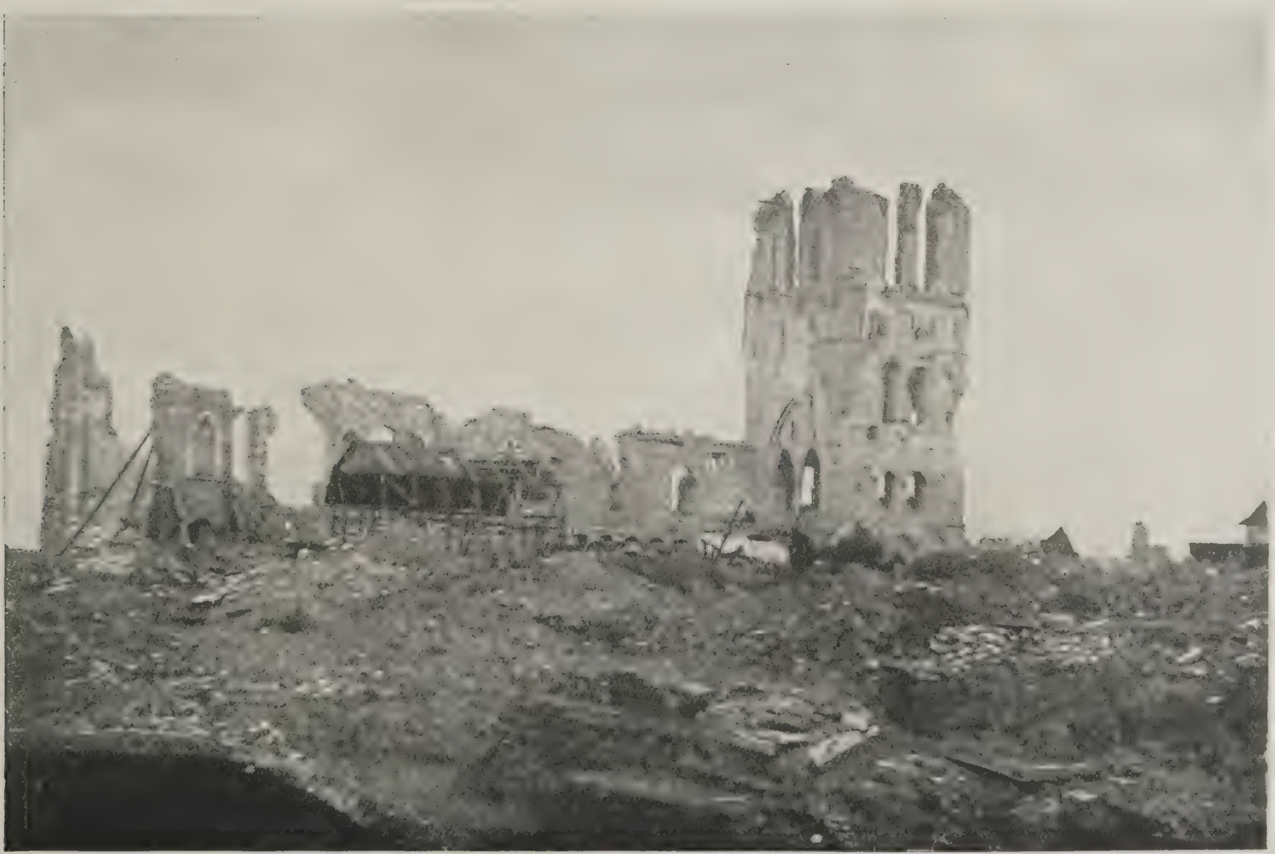
Dixmude was then visited. Here not a house was left standing, but many new ones are near completion. The fine church of St. Nicholas has been rebuilt largely with the old materials, and is now almost ready for the roof trusses, but the beautiful rood screen and loft are irreparably gone. The amount of rebuilding which has been accomplished would have been impossible but for the ready acquiescence of the workmen who are willing in the summer time to work fifteen hours a day.

The route lay through Furnes, where the damage has not been great, to Nieuport, which has been wholly demolished. Here, again, a great deal of rebuilding has been done. The long drive of over 120 miles ended at Bruges. A day was devoted to this town, and one had the opportunity of reviving memories of the lovely mouldings in the Hôpital St. Jean and other works of art.

Saturday, September 9, was devoted to a long excursion to Antwerp, on Sunday there was a banquet at the Hôtel Métropole at Brussels, and the concluding meeting of the Congress was held on Monday morning.

In connection with the Congress a very interesting exhibition of international architectural drawings was arranged in the Palais d'Egmont. Unfortunately, through some postal miscarriage, no notice of this exhibition reached this country in time for any steps to be taken for sending any selection of British works, so that we were not represented here. The United States sent a large proportion of the drawings which were exhibited in the R.I.B.A. Galleries, and they attracted as much notice in Brussels as here. One of the most interesting exhibits was a restoration of some pre-historic buildings in Yucatan, which had been recently measured and sketched by Major Totten, of Washington. These drawings showed a completely novel conception of architectural form and decoration, one of the most striking being a column in the shape of a serpent, the head forming the base, and the body curling upwards and over to form a sort of capital to support the superincumbent masonry. And this building had a very spirited frieze of jaguars. Nothing is as yet known of this early civilization, but the remains seem to indicate a form of snake worship. Major Totten showed some lantern slides of these buildings at an evening meeting at the Hotel Ravenstein.

The hearty thanks of all are due to M. J. B. Dewin, the President of the Belgian Society of Architects, and to M. J. Caluwaers, the President of the Organizing Committee, for their untiring efforts to promote the comfort and entertainment of the members.



THE CLOTH HALL, YPRES, AT THE CONCLUSION OF THE WAR.

The Seventh Holland's Industries Fair, Utrecht

By L. E. WALKER

UTRECHT, if judged according to population, is, with its 140,000 inhabitants, fourth in the order of importance among the towns of Holland. The city occupies a noted place in the history of the Netherlands, and both the Union of Utrecht (1579) and the Treaty of Utrecht (1713) are historical incidents of considerable importance. The choice of Utrecht as a home for the fairs was, no doubt, largely influenced by its exceptionally favourable position, situated, as it is, in the centre of the country and at a junction of rail and waterways; it is consequently easy of access from all sides. The institution of the fairs was, however, in some measure due to the initiative of the citizens.

The first three fairs were held during the war, and were devoted exclusively to the exploitation of Dutch industries. The exhibits were housed in temporary wooden buildings, erected in the several large open squares in the heart of the city. The success of these fairs was so great that it was decided to erect permanent buildings and, as hostilities had now ceased, to make the fair an international one.

The design made by the architect, Mr. J. de Bie Leuveling Tjeenk, B.N.A., includes, in addition to the building in which this month's fair was held, two other blocks of a similar size and character, and the three buildings when completed will be connected by wide corridors.

The illustrations reproduced on the opposite page show that the primary consideration in planning was the provision of as many sample rooms as possible of a like size (about 16 ft. 3 in. by 10 ft. 6 in.), each with external lighting. The principal staircase in the centre of the building provides the greatest possible freedom from congestion. There are four passenger elevators adjacent to the principal staircase, and two of these elevators are express to the top floor.

The planning of the five floors is uniform in all respects except that the top story has only roof light, and is intended for the exhibition of materials for which such lighting is especially suitable.

On those sides of the longitudinal corridors adjacent to the light wells the stalls are without enclosures, which would interfere with the lighting. These open stalls give the corridors a lively aspect which accords with the character of the fair. The building covers an area of over 3,500 sq. yds., and contains 350 sample rooms and 428 sq. yds. of space available for open stalls.

The elevations of the building, with the exception of the window-sills, are built entirely of bricks which approximate in colour and texture to Crowborough stocks. Their design exhibits a facility of expression and inventiveness which seems to be the peculiar attribute of the Dutch architect. The elevations have a strong vertical emphasis, and the wealth of simple detail which is formed by slight rhythmical projections of the bricks at varying angles is satisfying and in complete scale and harmony with the dignity of the whole design.

To the visitor from this country it was disappointing to find Great Britain so sparsely represented. Careful inquiries showed that Dutch buyers of building specialties, and indeed of all goods are strongly in favour of British materials. This without doubt is the result of experience.

Out of a total of 537 exhibitors, the various nations were represented as follows: America, 3; Austria, 3; Belgium, 21; British, 17; Czecho-Slovakia, 2; Finland, 2; France, 9; Germany, 44; Holland, 427; Hungary, 1; Poland, 6; Russia, 1; Switzerland, 1.

Of the 17 exhibits of British material, only five could be classified under the heading of "Building Materials and Equipment." The following is a brief description of these British exhibits:—

Messrs. Aug. Lachappelle, Breda, Holland, were showing "Parafloor" flexible rubber carpeting, rubber mats, and other products of the North British Rubber Co., Ltd., of Castle Mills, Edinburgh. The standholders themselves exhibited samples of parquet flooring made in their factory at Breda, Holland.

Messrs. Kerner-Greenwood & Co., Ltd., King's Lynn, England, were showing their "Pudlo" brand cement waterproofer, and the exhibits were a replica of those which have been the features of their stands at the Building Trades Exhibitions held at Olympia, London. The exhibits included a hydraulic testing machine, by means of which cylinders of waterproofed cement and sand were tested against percolation by water under pressures up to 300 lb. per sq. in., together with models illustrating the waterproofing properties of "Pudlo."

The stand of The Rawlplug Company, London and Delft, bore such a marked resemblance to the firm's exhibit at Olympia that it appeared to have been transported from England, but we were told that all the examples of the uses of Rawlplugs had been prepared in Holland by the firm's Dutch representatives. On this stand was displayed a command from the Queen of the Netherlands for a demonstration of the Rawlplug methods. The demonstration took place and resulted in an order for the supply of Rawlplugs to the Royal Household. We were informed that Rawlplugs are used by the Dutch State Railways and Telephone and Telegraph Departments, and that in the new factory for Messrs. Siemens at The Hague over 14,000 Rawlplugs of varying sizes have been used.

The Amsterdam house of "Ripolin" Enamel Paints exhibited samples of work executed with "Ripolin."

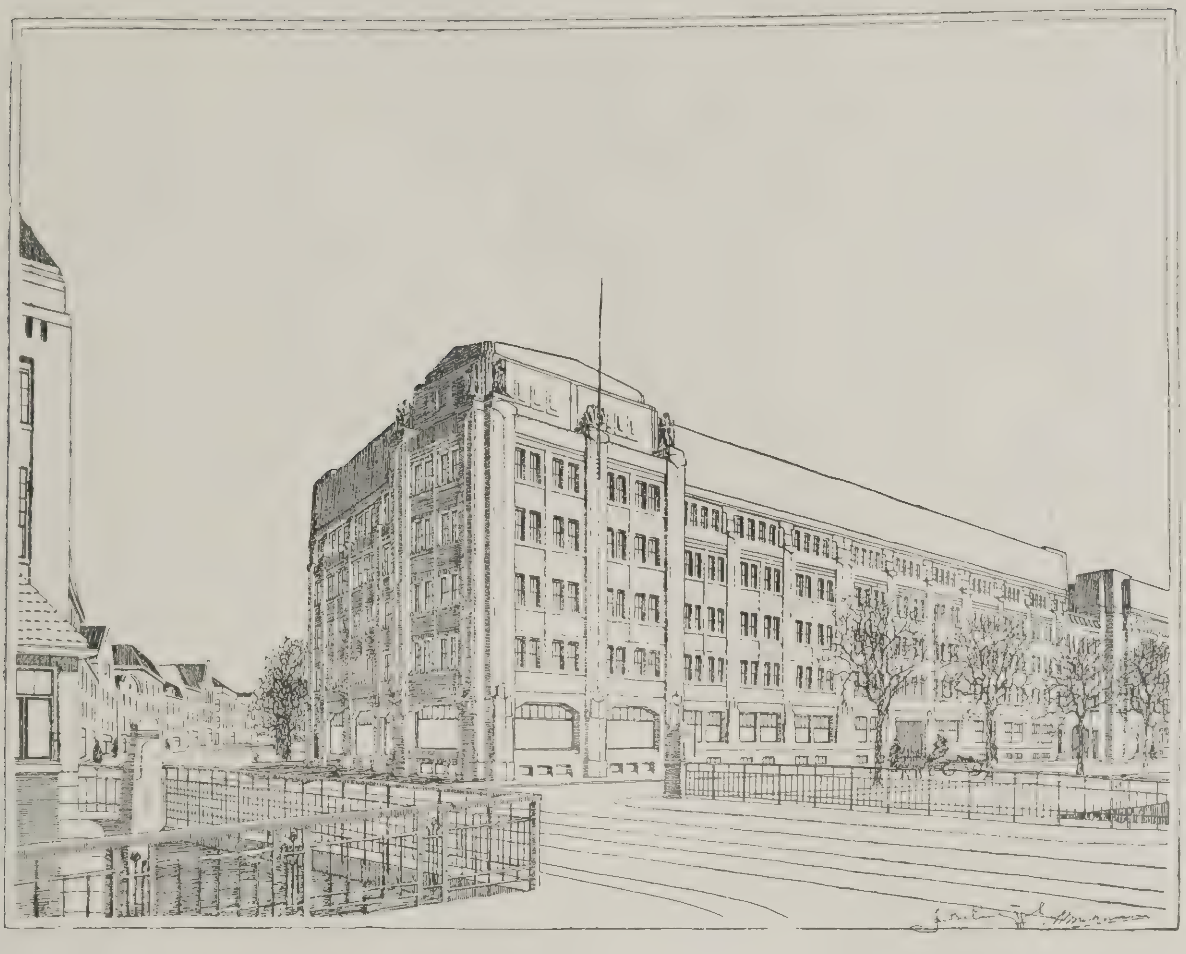
The Amsterdam branch of S.K.F. Ball Bearings displayed a length of steel shafting about 4 ft. long, supported by four S.K.F. plummer block bearings, and deliberately distorted to show how the universal bearings adapt themselves to the irregular movement. The shafting and other overhead pulley blocks and shafts connected to it were driven by the wind current generated by a small electric fan and transmitted to an opposing fan coupled to the shafting. There was no connection whatever between the two fans so that it was evident that the friction was practically nil.

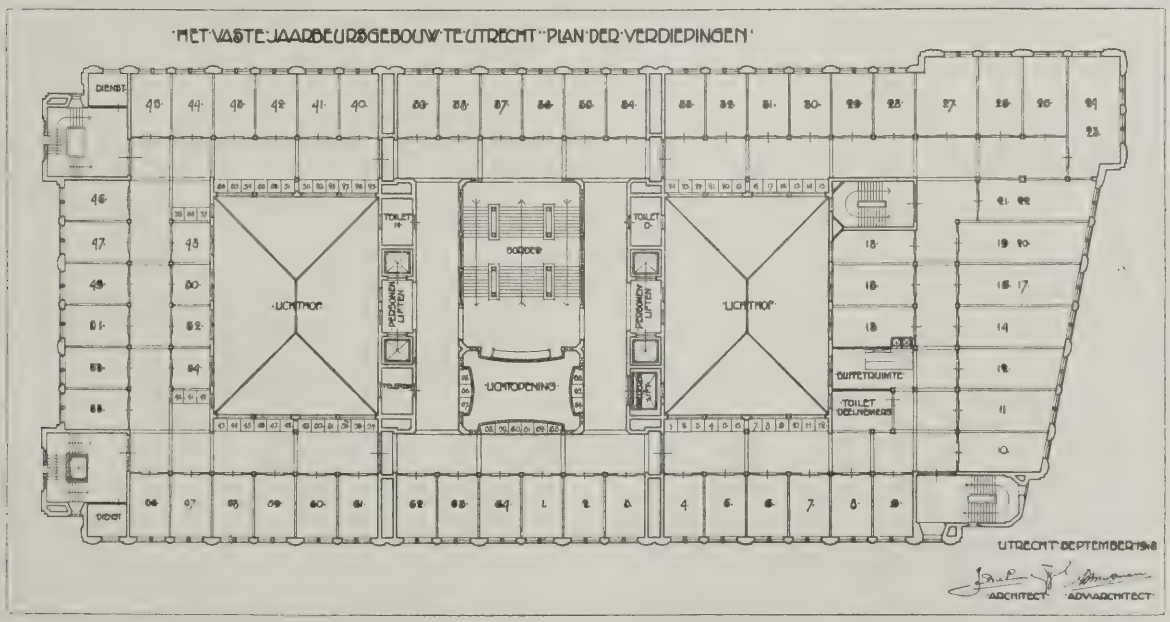
An Exhibition of Contemporary British Architecture

AN exhibition of Contemporary British Architecture will be held in the Galleries of the R.I.B.A., 9 Conduit Street, W.1, from November 1 to December 9.

The following arrangements have been made for the organization of the exhibition:—

1. All architects in the British Empire are invited to submit their work.
2. Work that has already been exhibited elsewhere will not be excluded.
3. Exhibits must be confined to works executed or illustrations of works projected since the beginning of the twentieth century.
4. All exhibits must be framed and may be glazed.
5. There is no limit to the number of works which may be included in one frame.
6. Models will not be accepted for exhibition.
7. Exhibits may consist of photographs, elevations, perspective drawings, and small scale plans. The exhibitor may choose whether he will send any or all of these. Photographs of drawings are admissible.
8. As the available wall-space is very limited it is anticipated that not more than 15 sq. ft. of wall-space (inclusive of frames) can be allotted to any exhibitor.
9. Charges for packing and transport of exhibits to and from the exhibition must be defrayed by the exhibitors.
10. An insurance policy will be taken out for the exhibits while they are in the custody of the R.I.B.A., but the R.I.B.A. will incur no legal liability for loss or damage.
11. The last day for the receipt of drawings and photographs will be October 7, 1922.
12. All exhibits not accepted must be removed by exhibitors not later than October 22, 1922.
13. The exhibition will be open to the general public (free) between the hours of 11 a.m. and 6 p.m.
14. There will be a Press view on October 30, and the private view and opening will take place on November 1, 1922.



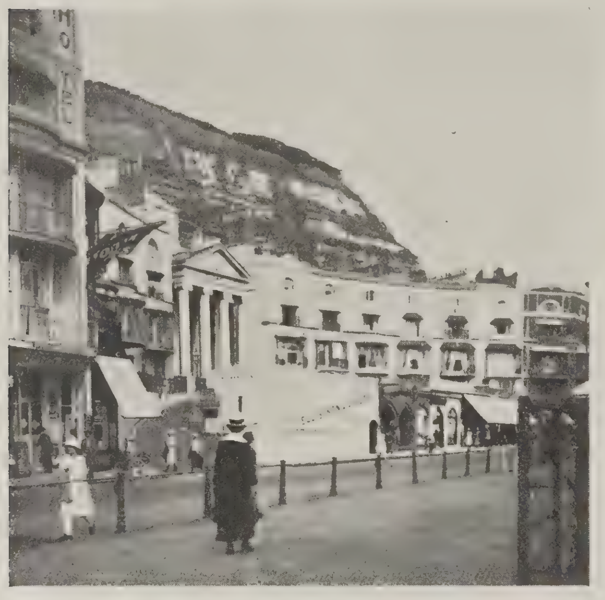


THE FAIR BUILDINGS AT UTRECHT. J. DE BIE LEUVELING TJEENK, B.N.A., ARCHITECT.

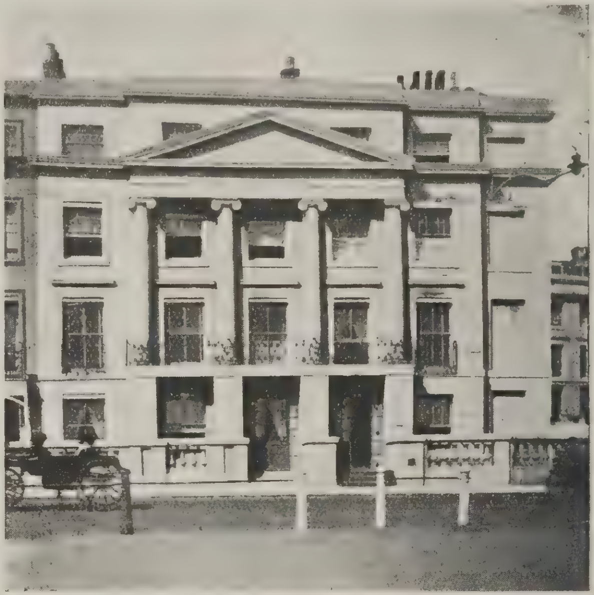
A Pictorial Review

Illustrations of Topical, Practical, or Curious Interest

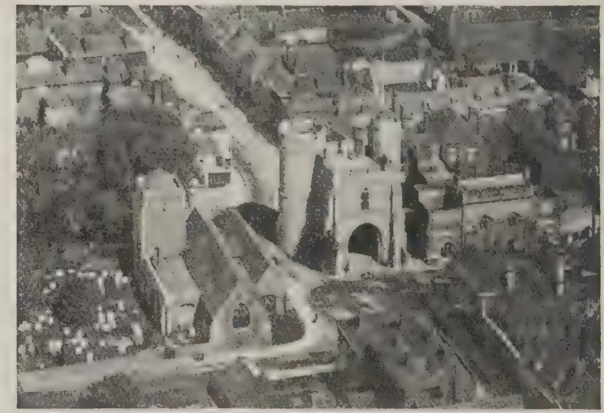
Readers are invited to send in sketches and photographs for publication in these pages. A fee of 2s. 6d. will be paid for each illustration accepted. Contributions should be accompanied by short explanatory notes.



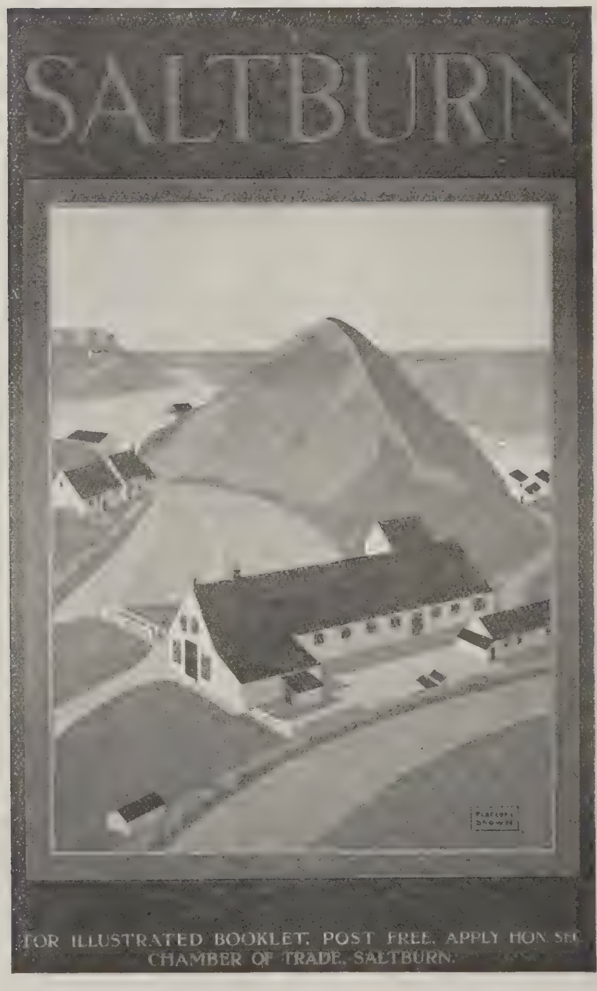
St. Mary-under-the-Castle, Hastings.—This church is surely unique in its position under the tall cliff on which stands the ancient castle. The church is a very respectable example of the pseudo-classicism affected in the eighteen-thirties, and its effectiveness is infinitely enhanced by the sweeping crescent flanking the portico'd entrance.—J. F.



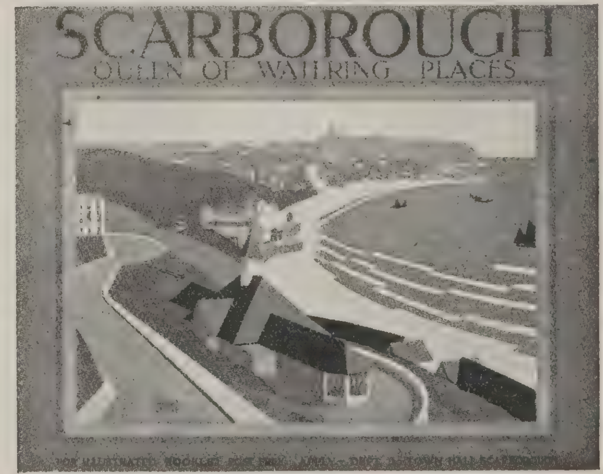
Another view in Hastings, which is full of good nineteenth-century work. This façade is a little dull and over dignified, yet possesses a balance and a reticence which is absent, generally speaking, from even the best modern work.—J. F.



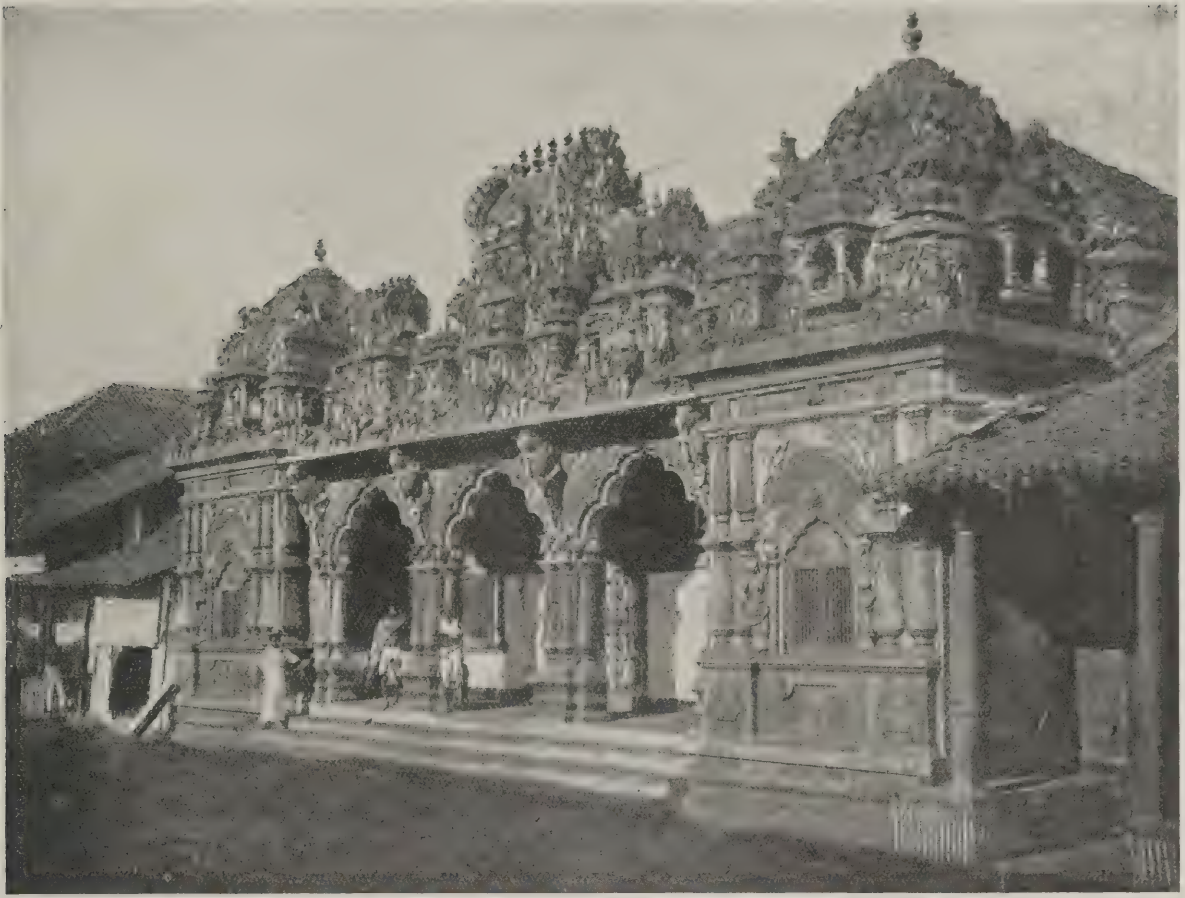
This photograph was taken during the war. It shows in an amusing way the straits to which the town council have been put in circumventing the West Gate at Canterbury. At this spot charabancs cluster at all times of the day, the "Gate" forming a superb obstruction to the free circulation of traffic. R. B. H.



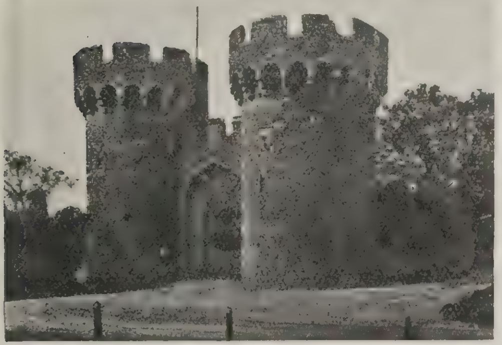
SALTBURN
F. GREGORY BROWN
FOR ILLUSTRATED BOOKLET, POST FREE, APPLY HON. SEC.
CHAMBER OF TRADE, SALTBURN.



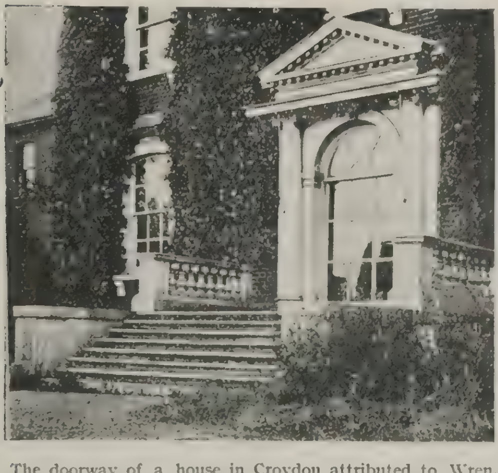
The evolution of the poster is a study of the greatest interest. Above are two posters exhibited on the hoardings by the North Eastern Railway. They show an interesting handling of architectural forms; indeed, their whole treatment may be called architectural. Such posters as these are a decoration to the streets of London, and great credit is due to those who have had the vision and the enterprise to substitute them for the "Sunny Spifton" type of advertisement which repels at a glance. The two posters above were designed by F. Gregory Brown.



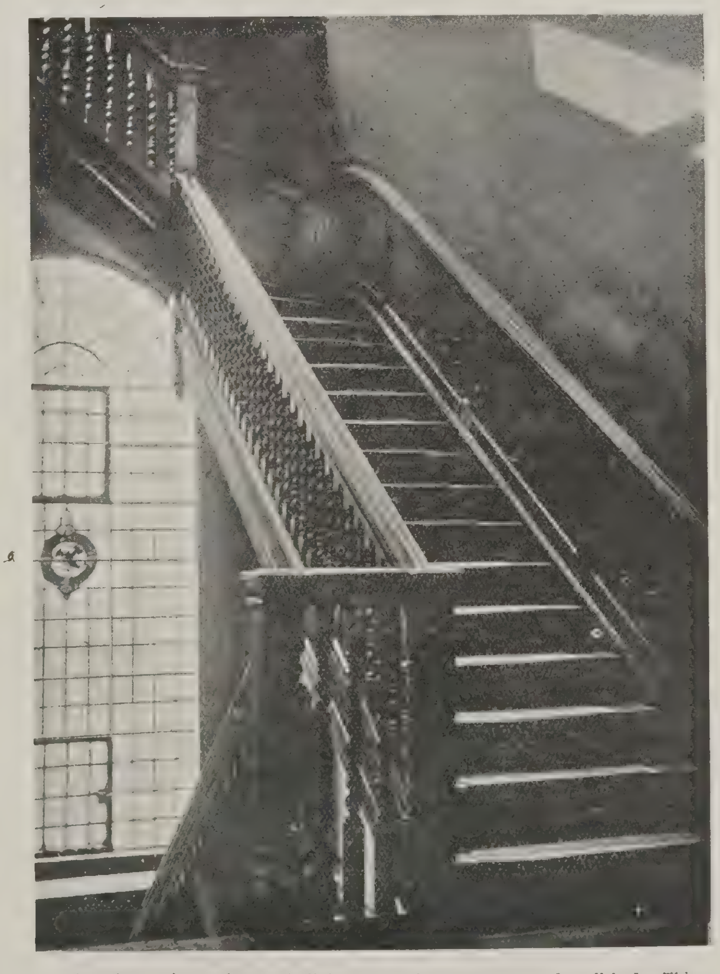
This Hindoo Temple in Colombo, Ceylon, is a good example of the extraordinary craftsmanship which the Eastern races lavished on the detail of their buildings. It is constructed almost exclusively of timber and plaster, and decorated with innumerable plaster models of various gods. The central portico with clustered columns and bold flanking pavilions is a typical Western composition.—F. C.



Cooling Castle in Kent was built to protect the marshes from invasion by the French. The remains of it shown above act now as gateway to a small farm. The early scenes of "Great Expectations" are laid at Cooling.—L. P. PLAYFORD.



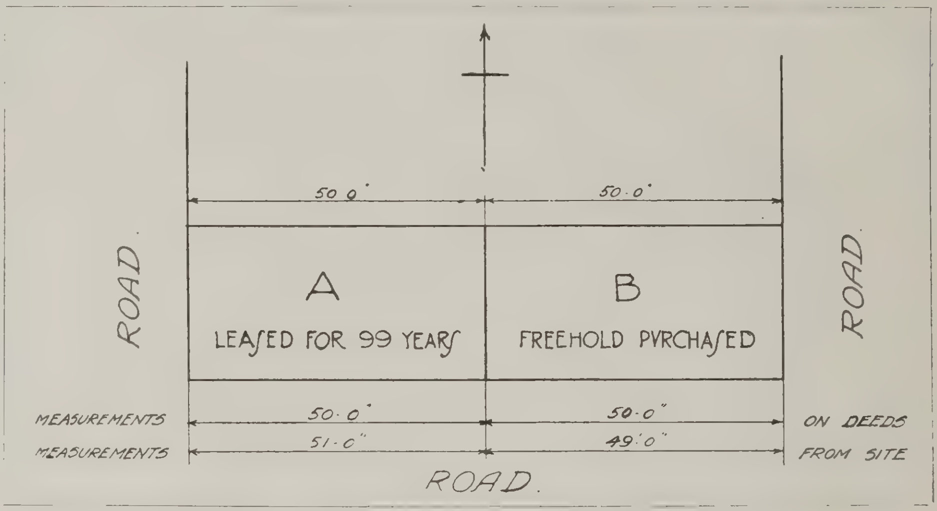
The doorway of a house in Croydon attributed to Wren. The proportions are very fine, especially those of the balustrade. The doorway is of wood, painted white.—P. W. D.



A Georgian staircase from a building near Bishopsgate, now demolished. This staircase possesses the rather unusual feature of a newel drop.—P. W. DAWNEY.

Enquiries Answered

The Editors cordially invite enquiries from readers who require information on architectural, constructional, or legal matters. Answers to enquiries are in all cases the work of experts ; and while every care is taken to make the replies thoroughly reliable, the Editors cannot hold themselves responsible for any inaccuracies that may inadvertently occur. Correspondents whose difficulties involve possible legal proceedings are strongly urged to consult their solicitors before taking action on any advice that may be given. Examination questions cannot be answered. It must be understood that, as a rule, both question and answer will be published in these columns. The name and address of the querist must always be given, not necessarily for publication. Correspondents are requested to be as brief as possible, and to write on one side of the paper only.



LAND ENCROACHMENT. (*See answer to P. L.*)

Land Encroachment.

P. L. writes : "Please give me your advice on the following case : 'A' is the lessee of a piece of land bounded on the west and south by two roads. The length of the south frontage mentioned in the lease is 50 ft. 0 in., and the whole site is covered by a building. Twenty-five to thirty years afterwards 'B' purchases the freehold of the land to the east of 'A' bounded on the east and south by roads, and with a similar frontage of 50 ft. 0 in. to the south. 'B' covers his site with a building and finds on checking the southern frontage that there is only 49 ft. 0 in. instead of 50 ft. 0 in., and on checking 'A's' frontage, he finds that there is 51 ft. 0 in. instead of 50 ft. 0 in. At the time 'A' erected his building it is obvious that he encroached 1 ft. 0 in. on the then vacant land to the east.

"I shall be glad to know the following :

"1. Has 'A' obtained an easement over the land covered by the eastern wall of his building and the overhanging shute attached to same ?

"2. What is 'B's' position in view of the fact that he has bought 50 ft. 0 in. of frontage and finds that there is only 49 ft. 0 in. ?

"3. What is the position of the landlord with regard to 'A's' encroachment, and can he proceed against him for trespass ?

"4. What is the vendor's position with regard to 'A' inasmuch as he cannot deliver the actual amount of land sold to 'B' ?

"NOTE.—The landlord of 'A' and the vendor of 'B' are the same person.

"5. I shall also be glad if you will let me know, in the valuing of a party wall at the present day of a building built before the war, whether the valuation should be based on the cost of the wall as built, say, twelve or fifteen years ago, or on the actual cost of building the same wall at to-day's prices ?"

—A tenant can only acquire land by encroachment, right of his landlord's property, and the tenant personally has no interest in it (save as part of his tenancy). I am of opinion that :—

1. "A" is entitled to continue to hold his premises exactly as they now exist; it is too late to go into the rights and wrongs of his boundaries and privileges.

2. "B" must put up with his bargain, and he must accept the land as being approximately what his contract called for.

3. "A's" landlord certainly has no just right of action against "A" who, if anything, has enhanced the value of his property rather than injured it.

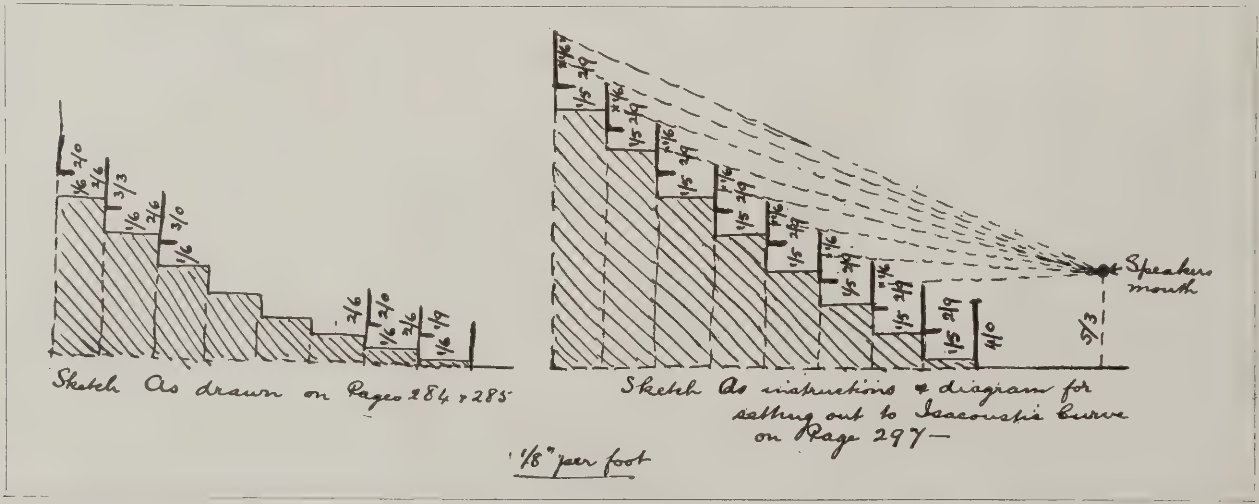
4. The vendor, it is true, is unable to give the full area of the land he proposed to do, but the deficiency is not enough to invalidate the contract even if the words "about" or "be the same more or less" do not occur in the contract.

5. This depends on the wording of the agreement under which the party wall was built, but if there be no agreement I am of opinion that the prices at the time when the wall comes into use as a party wall should govern the payment made by the new user of it.

F. S. I.

Gallery for a Lecture Theatre.

H. F. writes : "I cannot see how the drawings of a 'Gallery for a Lecture Theatre,' by Messrs. A. W. S. Cross, F.R.I.B.A., and Kenneth M. B. Cross, M.A., architects (illustrated on page 284 of your issue for August 30), agree with the instructions and the diagram for setting-out an isacoustic curve on page 297. In those instructions the height of the students' heads above the seats is


Sketch As drawn on Pages 284 & 285
Speakers mouth
Sketch As instructions & diagram for setting out to Isacoustic curve on Page 297—
1/8" per foot

RISING GALLERY FOR A LECTURE THEATRE.
(*See answer to H. F.*)

stated to be taken as 2 ft. 9 in., but on the drawing this dimension seems to vary from 1 ft. 9 in. in the first seat to 3 ft. 3 in. in the seventh seat, and then drops back again to 2 ft. 0 in. in the back seat. I can only account for this setting-out by supposing that the students are arranged according to height so that the shorter ones are put in the front rows and the taller ones are placed in the back seats, graduating them, so to speak, towards the rear. Also I do not see why the heads of the students in the back seat should be only slightly higher than the ones immediately in front of them. I have made two rough sketches [see page 390] comparing the drawings on pages 284 and 285, and what I understand to be the working out of the instructions. I have taken the height of the heads of the students on one row 1 ft. 6 in. above the 'sight-line' from the students' heads on the row in front to the speaker's mouth (measuring the 1 ft. 6 in. on the back of the rear seats). I have taken the maximum difference in height, as given on page 297, but according to this rule it raises the back seat a great height above the floor, and it would be very difficult, if not impossible, to work in the steps to the gangways."

—We are pleased to hear of the question raised by your correspondent, and we appreciate the care with which he has analysed the drawings. Our large scale illustration is intended to show the timber-framed construction of a typical gallery, and was, in fact, compiled from actual working drawings, but in this instance the principles of the isacoustic curve were subject to some modification owing to the special requirements of the case. Our diagram is intended to illustrate Mr. Scott-Russell's theory as to the best way in which seating may be arranged in a large hall, a system which is frequently, but by no means invariably, adopted. A. W. S. CROSS and K. M. B. CROSS.

Building to Measure.

G. N. writes: "What buildings are suitable for sketching or measuring in and round Ilford, Essex?"

—This is not a rich district. Eastbury House, Barking (often measured), is a fine Elizabethan house. Barking Abbey gatehouse, East Ham Church (with Norman east end), and the fine old inn at Chigwell, are the only places which occur to me at all near—but London is within fifteen minutes and teems with suitable material for study. E.

"Rod and Tape" writes: "Are King's Manor House, East Hendred, Berkshire, and Marsh Court, Leominster, Herefordshire, worth measuring or good for detailed study? What buildings are worthy of study in the neighbourhood of Shrivenham, Berkshire?"

—The buildings you mentioned are certainly worth detailed study. The Manor House at East Hendred has been in the possession and occupation of the family of Eyston since about 1450, and contains a chapel of thirteenth-century date. There are other interesting buildings in the village (once a market town), including the church, Champs chapel, and some good timber houses. Almost every village in and around the Vale of White Horse contains something of interest, Sparsholt and Uffington churches being exceptionally fine and well preserved. E.

List of Competitions Open

Date of Delivery.	COMPETITION.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8,000 francs.
Nov. 1	Labour-saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C.4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.

Competition News

Auckland War Memorial Competition.

The Secretary of the R.I.B.A. has received a cable from the promoters of the Auckland War Memorial Competition stating that the plans of the competitors from the United Kingdom have been received, and that the award is expected at the end of September.

"Labour Palace" Competition.

A project has been brought forward to build in the heart of Moscow a huge "Labour Palace," having a central hall capable of holding 8,000 people, with four smaller halls around it, and a tower which shall be one of the highest, if not the highest, in the world. Preliminary plans have been worked out by M. Shchusieff, chairman of the Society of Architects, but the final plans will be the subject of a competition in which the architects of the world will be invited to enter. Valuable prizes will be awarded the winners.

According to the preliminary plans, the whole structure will occupy a surface of 216,000 sq. ft., and to make room for it the unemployed are to begin at once to pull down the Continental Hotel, Testova's Restaurant, and six blocks of houses. The contractors for building the palace must undertake to begin work not later than the spring of 1923.

Publications Received

"Housing in Philadelphia." By Bernard J. Newman, Philadelphia Housing Association, 130 South Fifteenth Street, Philadelphia.

"Empire Forestry," Journal of the Empire Forestry Association, Imperial Institute, London, March, 1922. Price 4s. net. Messrs. Macmillan & Co., Ltd., St. Martin's Street, London.

"Bell's Cathedral Series," Chichester, Durham, Lincoln, Peterborough, Wells, and Winchester. New editions. Price 2s. each net. Messrs. G. Bell and Sons, Ltd., York House, Portugal Street, London, W.C.2.

"The Administration of the Town Planning Duties of Local Authorities." A supplement to "The Case for Town Planning." By Henry R. Aldridge, Secretary National Housing and Town Planning Council. Published by the Council, 41 Russell Square, W.C.1.

"Manual of Reinforced Concrete." By Charles F. Marsh, M.Inst.C.E., M.Am.Soc.C.E., M.I.Mech.E., and William Dunn, F.R.I.B.A., Assoc.M.Inst.C.E. Price 21s. Constable & Co., Ltd., 10 Orange Street, Leicester Square, W.C.

The Concrete Institute

An extraordinary general meeting of the Concrete Institute will be held at Denison House, 296 Vauxhall Bridge Road, London, S.W.1, on Thursday September 28, at six o'clock for the following business:—

1. To consider, and if thought fit to pass, a resolution "That the name of the Company be changed to The Institution of Structural Engineers."

2. To consider, and if thought fit to pass, a resolution "That Article 3 of the Memorandum of Association of the Company be altered by omitting the several objects numbered 1 to 25 both inclusive therein, and by substituting the following objects in lieu thereof, namely:—

"(*a*) To promote the science and art of Structural Engineering in any or all of its branches.

"(*b*) To enable Structural Engineers to meet and correspond and to publish or communicate information relative to Structural Engineering, including the constitution, properties, and use of materials.

"(*c*) Subject to the provisions of Sec. 19 of the Companies (Consolidation) Act 1908, in any lawful manner to acquire hold, and/or dispose of for the purposes of the Institution real and personal property and any rights or privileges necessary or convenient for the said purposes, and subject as aforesaid to exercise in respect of property of any nature, all the rights and powers of an absolute owner of property of that nature.

"(*d*) To do all such other lawful things as are incidental or conducive to the attainment of the above objects."

3. (*a*) To consider, and if thought fit to approve, the draft new Articles of Association which will be submitted to the Meeting and in the event of the approval thereof with or without modifications, then

(*b*) To consider, and if thought fit to pass, a Resolution to the effect "that the new Articles of Association already approved by this Meeting and for the purpose of identification subscribed by the Chairman thereof be and the same are hereby approved, and that such Articles be and they are hereby adopted as the Articles of the Company in substitution for and to the exclusion of all the existing Articles thereof."

Should the above resolutions be passed by the required majority they will be submitted for confirmation as special resolutions to a second extraordinary general meeting which will be subsequently convened for 6 p.m. on Thursday, October 19, 1922.

The Week's News

Disappearing Regent Street.

The Café Royal is to be pulled down and rebuilt.

Finchley War Memorial.

Of the £22,000 needed for the extension of the local hospital, which it is proposed shall form Finchley's war memorial, all but £2,500 has been subscribed.

An Architect Drowned.

Believed to have fallen overboard during a sudden illness while fishing from a boat, Mr. F. W. Goolden, of St. Mawes, near Falmouth, architect, has been drowned.

New Dock Extension.

A contract for the Workington Dock extension has been given to Messrs. Kirk and Randall, contractors, of London. The work will begin at once, and will occupy two and a half years.

Thames Bridge in Danger.

There is a possibility that the Teddington suspension bridge may have to be closed. The cables of the bridge, which are sunk in the banks of the river, are showing serious signs of wear. The bridge has been closed to ordinary traffic.

Peterborough's Bathing Pool.

Peterborough Town Council have decided to apply to the Unemployment Grants Board for a contribution towards a £14,000 scheme—a proposed bathing pool—which is being promoted with the object of finding work for the unemployed.

Bookham Common.

By public subscriptions the manorial rights of Bookham Common have been purchased in order to save the beauty spot from the builders. It is proposed to ask the National Trust to undertake the future care of the common.

New Building for Manchester.

The foundation-stone has been laid of a new block of buildings which is being erected in Oxford Street, Manchester, at the corner of Charles Street. The new structure is being built for Messrs. Cohen, drapers, of Manchester, and the architect is Mr. Charles Swain, of Manchester.

New Barrow Road.

It has been decided to get out plans and estimate of cost for a new coastal road from Rampside, in the borough of Barrow, to Bardsea, along the shore of Morecambe Bay, with a view to providing work for unemployed, in addition to improving the road communication in Furness.

Harlech Hotel to be Rebuilt.

St. David's Hotel, Harlech, which was destroyed by fire last May, is to be rebuilt immediately at a cost of £30,000. The contract has been let to Messrs. Trollope and Colls, of London and Liverpool. The new hotel which will contain over a hundred bedrooms, has been designed by Messrs. O. M. Roberts and Son, architects, Portmadoc, and is to be ready by next July.

New Market Place for Nelson.

Mr. G. Jones, of Hengoed, is the architect for a market place which is being erected at Nelson, South Wales, by the local branch of the National Farmers' Union. Messrs. Enoch Williams and Sons, Dowlais, are the contractors, and the work is being carried out at a cost of over £1,000.

Freemasons and Peterborough Cathedral.

Freemasons have placed £1,000, collected at the recent Masonic service in Peterborough Minster, at the command of the Cathedral Restoration Committee, who, in consequence have instructed the architect to proceed immediately with the foundations of the buttresses to save the chancel wall from falling.

Roman London.

Excavations in Aldersgate Street for a new building have laid bare a large portion of the Roman Wall. At this point the wall turned to the north-east, and, as was expected, the remains of a bastion have been found. The Guildhall authorities have taken photographs and made drawings of the remains.

Astor Office Sold.

The Astor Estate Office, just off Victoria Embankment, has been sold to Sir Ernest Fawke, director of the Central and Western Corporation, Ltd. The cost of the building is stated to have been £250,000. It has been sold for a little over £100,000. It is one of the most ornate buildings in London.

The New Olympia Building.

Work is proceeding on the extension to Olympia, which will double the capacity of the building. Efforts are being made to have the extension completed for the Christmas circus. When it is completed it is claimed Olympia will have the largest floor space of any exhibition building in Europe.

Visit to Westminster Hall.

At the invitation of Sir Frank Baines, of H.M. Office of Works, the Art Standing Committee of the R.I.B.A. have arranged a visit to Westminster Hall to inspect the roof on October 14, at 3 p.m. The work on the roof is now completed, and scaffolding will be removed shortly. An opportunity for examining the work is not likely to occur again for many years. Members and their friends who wish to take part in this visit should apply to the Secretary, R.I.B.A., by whom tickets will be supplied.

£200,000 Scheme for Newcastle.

New baths and a city hall are proposed for Newcastle at an approximate cost of £200,000. The City Council is recommended to approve of a proposal to obtain competitive designs from architects for a general scheme of baths and a public hall on the site of the Northumberland Baths. It is suggested that the premium for the first design should be £750, for the second £250, and for the third £100.

Alterations at the Junior Carlton.

At the Junior Carlton Club premises at the corner of St. James's Square, Pall Mall, one story is being taken off and two stories are being put on. The workmen are operating from the outside of the building in order that the club members may not be unduly disturbed. The existing building is five stories high, and, in order to take the weight of the added floors, the structure will be strengthened by additional steel girders.

The Late Mr. G. D. Stampa.

Mr. George Dominic Stampa, of Battlebarrow House, Appleby, Westmorland, formerly official architect to the Sultan of Turkey, designer of the Sultan's Palace, several mosques in Constantinople, the British Embassy at Therapia, and the Palace of the Khedive of Egypt, who died on July 14, aged eighty-seven years, left estate of the gross value of £3,136, with net personalty £3,047.

Glasgow Building Schemes.

Plans passed for new buildings to be erected in Glasgow include a Roman Catholic school at Govan to cost £13,000. The Glasgow Public Utility Society, Ltd., are to erect eighteen blocks of four- and five-apartment houses in the Cathcart district of the city at an estimated cost of £22,000. The Housing Department of Glasgow have a large scheme planned for houses and shops at Pollokshaws. Private enterprise is building houses in that district also; and a Methodist hall is to be erected at Maryhill Road.

The London Society.

On Friday, September 22, a visit will be paid by the London Society to the Church of St. Bartholomew the Great. Mr. E. A. Webb has consented to conduct a party of fifty members round the church. Members will meet at 3 p.m. inside the church. The nearest station is "Post Office" on the Central London Tube. Tickets may be obtained from the Secretary, the London Society, 27 Abingdon Street, London, S.W.1.

The following new members have been elected: Sir A. E. Bateman, Miss Leigh Browne, J. E. Drower, Captain Sir Douglas Hall, Bart., M.P., Mrs. E. S. Machell-Smith, L. S. Merrifield, Lady Roney, Mrs. Foster Welch, Colonel Sir Robert Williams, M.P., and J. H. Wise.

An Important Road Improvement.

The road from Kingsworthy, through Winchester to Chandler's Ford, is under reconstruction. Mr. W. J. Taylor, the county surveyor of Hampshire, in order that this reconstruction may proceed promptly, and with the minimum of inconvenience and delay to road traffic and danger to the road men, suggests that motorists should whenever possible avoid this road, which runs between Kingsworthy and Winchester on the north, and between Winchester and Chandler's Ford on the south. The work involves putting in new foundations and kerbs. On Otterbourne Hill, near St. Cross, the steepest part of the gradient is being cut down one-half width at a time. For the information and assistance of motorists, copies of the map showing the alternative routes will be sent on application to the secretary, The Automobile Association, 66 Whitcomb Street, London, W.C.2.

Correspondence

Gate of Honour, Gonville and Caius College, Cambridge

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue for September 13 I notice that the statement is made that "This Gate, one of the most pleasing works of the early Renaissance in England, was erected in 1574, traditionally by an architect named Theodore Haveus, a native of Cleves, but more probably by Dr. Caius himself," etc.

The following extract from the "Annals" of the College (trans. Willis and Clark) referring to the Gate of Honour seems to state the facts of the case quite clearly: "It was built of squared, hard stone wrought according to the very form and figure which Dr. Caius in his lifetime had himself traced out for the Architect." Dr. Caius died in 1573.

KENNETH M. B. CROSS.

On Going Forward

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I owe you and your correspondents an apology for the lateness of my reply to their letters on the subject of my article "On Going Forward." My excuse is the vagaries of continental travel.

I have to thank the writers for their kindness to my article in general, and to me in particular, but I confess I would be happier if they had advanced my ideas in the same sense of progression in which I endeavoured to express them.

We have to question ourselves as to the actual processes of education in use to-day to decide as to how far they assist the training of an architect. To take instances. What is the primary use and purpose of examinations? As they exist do they give the greatest assistance to both students and staff, which we might reasonably expect of them? If they do not—and who can maintain that they do?—are we justified in keeping them in their present form? Or again, is the method of lecturing generally in vogue to-day the best we can use for storing the student's mind with certain knowledge? If it cannot be proved that it is—and it cannot—what reason have we for holding to it?

Further, do our present methods of historical study sufficiently explain that all manifestations of architecture have common underlying principles? This question also needs answering.

I must agree with Mr. Robertson that my phrase "to proceed from the indefinite to the definite" may appear "imperfectly expressive." But I see he understands the idea I intended to convey when he says, "I believe to-day all educationists must be agreed that it is essential to teach principles first, and their application afterwards." With this meaning, Mr. Purchon, I hope, will be more convinced that to proceed from the indefinite to the definite is the best way of going forward.

On the subject of the student's education before he enters the architectural school I might write at some length, but I will try to express myself in a few words.

Mr. Purchon is not clear on one of "Professor X's" points: "That a smaller amount of general education is required before starting" at a school of architecture. This surely is explained by the "Professor" himself when he adds that a proper study of architecture contains within itself a liberal and much of a general education. I should be the first to insist that a certain standard of education is necessary to the student before he enters the architectural school.

Education is only good in so far as—

(1) It helps the Art of Living.

(2) Helps the work of Life.

And since a proper study of architecture is itself a liberal education, (1) is as much the business of the architectural schools as of the "general" schools, while (2) is essentially their province.

Life is so short, Art so long, and funds so often hard to come by, that we should concern ourselves only with systems of education which are, at once, the most productive and the most economic.

JAMES BURFORD.

Podmokly, Czecho-Slovakia.

The Public and Architecture

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The indifference of the lay public to architecture is one of the most serious problems with which we, both as professional men and as exponents of a noble Art, are confronted. All of us complain about it, yet none will do anything to tear aside the veil of mystery which conceals the Mistress Art from the people.

With the exception of the architectural societies, all the professional and trade societies, such as those concerned with electricity, gas, steel windows, glass, etc., etc., have a well-organized system of propaganda. The public are educated to appreciate the advantages of all these products by propaganda organized by the respective trade societies, and carried on mainly in the public Press. Yet architecture, the art above all others on which the people require information, has nobody to plead its cause.

The Councils of the R.I.B.A., the Society of Architects, the A.A., and their allied societies have behind them the resources and the support of practically the whole profession. If these societies would undertake well-worded and refined propaganda in the principal newspapers and in leaflets distributed amongst manufacturers, etc., I am convinced that the public would develop an interest in the Mistress Art which would gradually raise the tone of general architecture to a standard equalled only by ancient Greece and Rome.

Let the R.I.B.A. give the idea a few years' trial. They will never regret it.

E. LUCAS.

Professional Prospects

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The leading article published in your issue for September 6 deals with a subject which vitally affects the large number of men in the profession of architecture. Yet the article overlooks the class of men who are assistants and who will remain assistants. It does not take notice that this class is, like the poor, always with us.

It is assumed that the student, having completed his training, gives his services as an assistant merely to gain experience in office work, prior to setting up in practice for himself. Unfortunately, owing to force of circumstances, only a limited number of firms may be in existence at a time. Were it possible for all the assistants to start in practice many present-day practitioners would become assistants.

More than merit is required to become a practitioner. A large amount of work is never open to competition, and this allows a correspondingly large field where influence comes before merit, and to the young man keen to build up a practice influence is as vital a necessity.

To start in practice is the exception, and is far from being the rule. In the majority of cases those who are assistants remain assistants, and their prospects depend not on merit alone, but on the number of those in their ranks seeking employment. They are, therefore, anxious for protection not only for themselves, but for those dependent upon them. Large numbers are members of the professional bodies, and they naturally expect these bodies to make efforts to afford them some measure of protection from unemployment and unfair conditions of employment. Nothing is being done in this direction, relief being expected on the return of better days. Protests are seldom made concerning even notorious cases affecting assistants' conditions. A scale of fees protects the practitioners; I urge that a scale of salaries for the assistants is equally essential.

It devolves upon employers (also members of these professional bodies) to ensure that their fellow-members in such times as the present are not left to the whim or caprice of the individual practitioner, but are protected by a code of rules for inter-professional conduct as rigorously carried out as the rules governing their own payment by the public.

The close relationship which of necessity exists between principal and assistants can stand the strain of a discussion and a finding on these principles, which will give to the assistants some measure of comfort and security and to the employer the satisfaction that in the professions at least there exists that spirit of reasonableness so necessary to good workmanship.

I am, Sir,
Yours, etc.,
JOHN MITCHELL,
General Secretary,
Architects' and Surveyors' Assistants' Professional Union.

The Clerk of Works' Association : A Visit to Brickworks

Members of the Incorporated Clerk of Works' Association of Great Britain, forming a party of over thirty in number, were the guests of Messrs. Eastwoods, Ltd., on a recent Saturday afternoon, the occasion being a visit of the Association to the company's works at Halstow, near Sittingbourne.

Mr. J. F. Wyllie, general manager of Messrs. Eastwoods, received the visitors at Victoria, and at Sittingbourne Mr. F. W. Webb, managing director, joined the party, which was conveyed by motor coach to Halstow, where the works—one of nine owned by the company—are situated.

Here the guests were met by Mr. B. W. Cook, local works manager, and Mr. F. Watson, manager of the Conyer Works, who first of all showed them the pit from which the earth employed in the manufacture of the bricks is obtained.

The deposit averages about 4 ft. in depth and covers a wide area. It was explained that after the earth has been dug out, the land must return to cultivation. This entails the careful removal of the top soil and its preservation in the form of ridges—known as callows—until the supply of brick earth has been exhausted. The callows are then spread evenly over the lowered surface of the land in readiness for the farmer.

Every facility had been afforded by the company for demonstrating each stage in the comparatively new method of manufacturing machine-made kiln-burnt stock bricks, by which they are made, dried, burned, and freighted in eight or nine days.

Such bricks, it may be added, can be manufactured all the year round, whereas by the older process hand-made clamp-burnt stock bricks take from four to eight weeks to burn, and can only be made during six months in the year.

The visitors next inspected the wash-mill, where the revolution of four harrows breaks up and washes the earth and mixes it with a certain proportion of chalk, which is conveyed to the mill by means of a pipe, after being previously washed at the chalk-pit. Chalk is necessary for improving the colour of the bricks.

After passing through a screen, the slurry is pumped from the wash-mill into large open reservoirs or wash-backs, on the beds of which has previously been spread a 10 in. layer of Medway clay. This increases the tenacity and density of the brick earth.

At the Halstow works there are twenty-five of these wash-backs, where the slurry is allowed to mature for periods which vary from ten weeks to six months, according to the time of the year.

When the slurry has been drained of its superfluous moisture and has become plastic, it is sufficiently seasoned to be dug out (together with the 10 in. clay bed), loaded into tip wagons, and hauled up an incline by means of an endless cable to the mill. Sifted ashes are there added to it before it descends through hoppers to the mixing mill.

After the operation of machine-moulding has taken place the green bricks are placed on "dryer" trucks—each containing a batch of 192—and then enter the dryer, in which 30,000 bricks can be dried in twenty-four hours.

The dryer comprises seven long parallel tunnels, and the drying is effected by exhaust steam and hot air. An arrangement of fans graduates the temperature throughout the length of the tunnels from but a little above that registered outside the entrance to 120 deg. C.

It was mentioned by Mr. Cook that approximately twelve ounces of water are extracted during the drying process from each brick, which also had to measure 9⅞ in. in the mould, to allow for subsequent shrinkage down to 9 in. after drying and burning.

What may be termed the climax of the demonstration occurred when an electrically driven ram pushed a truck of dried bricks into the burning-kiln.

This kiln (which holds 140,000 bricks) and another at the Conyer Works are of the latest tunnel type, and are the only ones in the British Isles.

Simultaneously with the entry into the kiln of each truck of dried bricks, one containing burnt bricks, ready for sorting, makes its exit from the other end.

The process of burning is similar to that employed with an ordinary continuous kiln, and occupies about five days. The fuel—fed from the top—consists of "washed nuts," as unwashed coal leaves a large residue and also spoils the colour of the bricks.

Figures quoted by an official of the company show that Messrs. Eastwoods' present output from the whole of their nine works amounts to two million bricks per week all the year round, in other words, enough bricks every half hour to build an average cottage !

The visitors were further informed that an order for the supply of ten million stocks—such as they had seen made—has recently been placed with Messrs. Eastwoods, in connection with the construction of the L.E.R. extension from Golder's Green to Hendon.

At the conclusion of the Association's visit to the works the members were entertained at tea by the company in an orchard behind the village inn, which hospitality, together with the courtesy shown by the firm, was acknowledged on behalf of the guests by the president, Mr. H. W. Page. F. C.

The Polytechnic School of Architecture

The School of Architecture, Building and Surveying (Evening Department), of the Polytechnic reopens on September 25. The lecturers and instructors are as follows : George A. Mitchell, A.R.I.B.A., M.C.I. (Head of Department) ; A. E. Holbrow, A.R.I.B.A., M.S.A., M.C.I., (Senior Lecturer) ; H. A. Douglass, A.R.I.B.A. ; W. A. Ross, A.R.I.B.A. ; W. Harvey, R.A. Schools, Gold Medallist ; D. W. Ayre, A.R.I.B.A. ; F. G. Pearson, P.A.S.I. ; J. A. Ray, Nat. Gold Medallist, Art ; J. Preston Davies, Nat. Silver Medallist, Art ; T. Hobart Pritchard, Maths. ; W. Cox, Hons. Medallist C. and J., Carpentry ; W. Scott, M.R.S.I. ; J. Dunkin, Furniture Design ; H. C. Sands, F.S.I. ; R. H. Pentleton, P.A.S.I. ; A. M. Mitchell, B.Sc. Eng., Hons., A.C.G.I. ; L. H. Flanders, A.M.I.M.E. ; J. R. Southerst, B.Sc., Maths. ; P. Jennings, B.Sc., Maths. ; S. R. Hollingdale, Construction ; V. Helbing, Construction ; T. R. Cox, Carpentry ; L. B. Webb, Hons. Medallist, Cabinet Making ; J. W. Barrett, Carpentry ; R. J. Audrey, Gold Medallist, Inst. Plumbing ; H. Perkins, R.P., Plumbing ; and J. T. Garside, Furniture Design.

At the termination of the session and based upon the school examinations, the Board of Studies will award Silver and Bronze Medals to successful students for class-work, homework, and studio testimonies.

The Polytechnic diploma and the senior group course certificates are also awarded to students reaching the necessary standard of proficiency.

The winter term of the day school commenced on September 19. The curriculum is based on the suggestions and recommendations of the Board of Architectural Education of the R.I.B.A., and the full course will cover a period of three years.

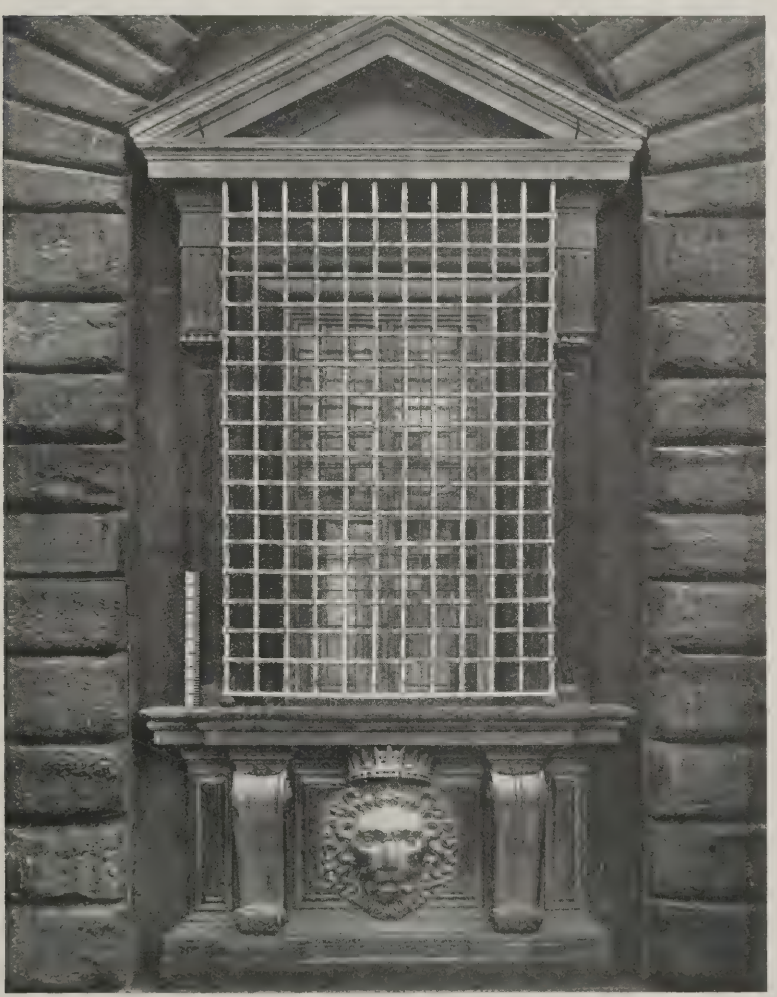
A summary of all the classes held at the Polytechnic may be obtained (5d. post free) from the Director of Education, The Polytechnic, 307–11 Regent Street, W.1.

DRYER TRUCKS CONTAINING BRICKS AT EXIT FROM DRYING CHAMBER.

Wednesday, September 27, 1922 Vol. LVI. No. 1447

THE ARCHITECTS' JOURNAL & Architectural Engineer

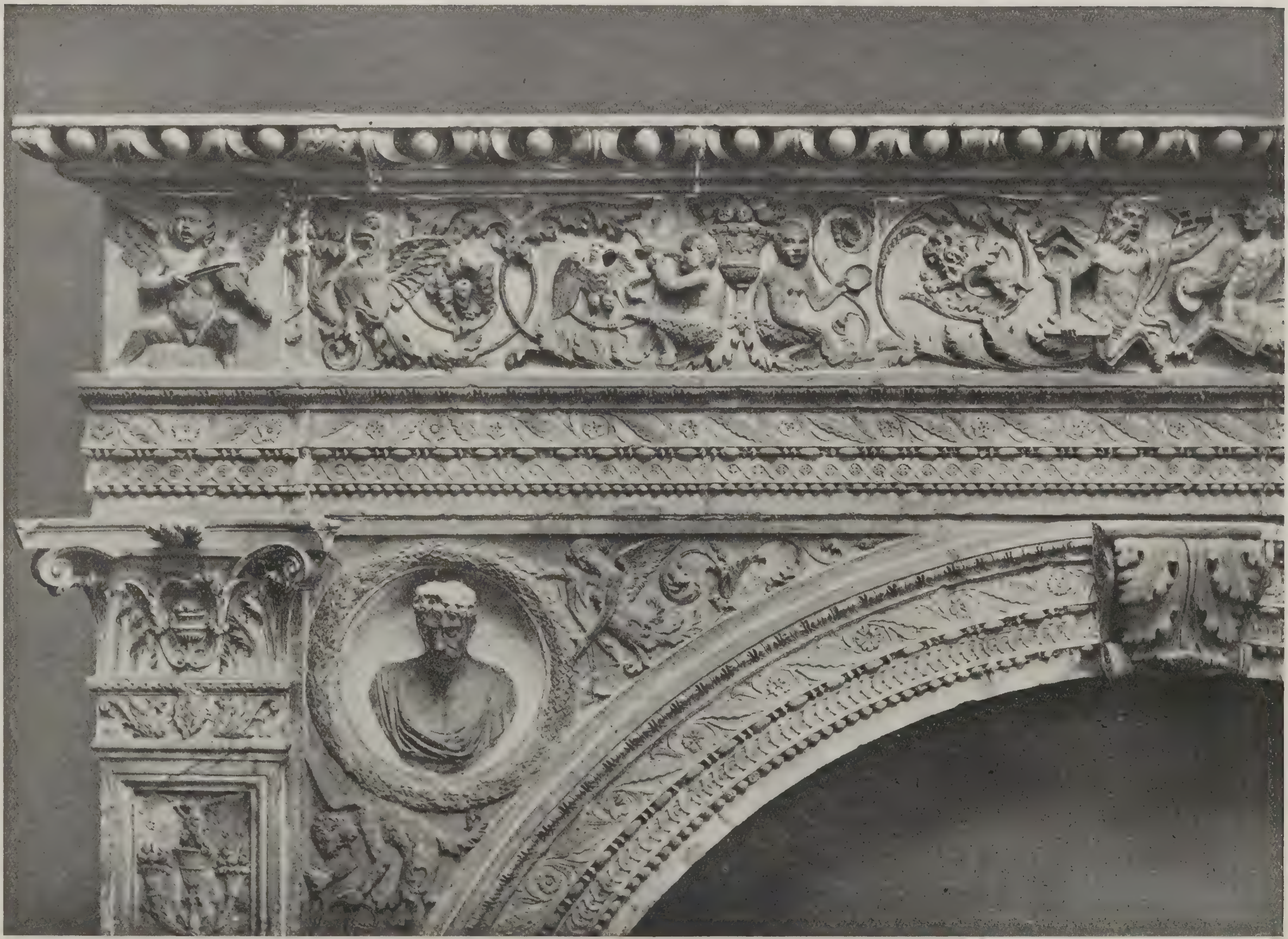
With which is incorporated "The Builders' Journal."



A WINDOW IN THE PITTI PALACE, FLORENCE,
BRUNELLESCHI, ARCHITECT.

27-29 Tothill Street, Westminster, S.W. 1.

Architectural Details. 34.—A Gateway from Ghedi, Brescia



This Gateway belonged originally to the palace of the Counts of Pitigliano, at Ghedi, in the province of Brescia, and is now in the South Kensington Museum. It is constructed of Istrian stone, parts of which have been restored, the busts and medallions being modern work. The detail, however, which is original, is extraordinarily interesting. It is full of vigorous energy, and seems to be animate with that elfish zest which we usually associate with the spirit of the Gothic craftsman.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, September 27, 1922 Volume LVI. No. 1447

Architects and Compulsory Town Planning

WHEN Sir Charles Ruthen made his startling indictment of the architectural profession earlier in the year, which put the whole profession up in arms against him, he was in reality exaggerating out of all proportion the possible truth that the study of the economical provision of working-class houses had not been brought to a highly specialized science. This was not the fault of the architect. The profession as a whole had never before in its history been faced with the problem of building working-class houses, for the simple reason that the people who had formerly considered such schemes were either authorities who were magnificently contemptuous and ignorant of the humble uses of the architect, or speculative builders who were simply trying to exploit the working classes. When, therefore, the Government launched its great housing campaign, the architect was to a certain extent in a foreign element. His difficulties were enormous. Co-operation with a municipal body is often a difficult matter, but when that body is harassed by a regional office which in its turn is acting under a constant flow of contradictory orders from ministerial headquarters, it is indeed a case of big fleas and little fleas, and it is not to be wondered at that the architect found his position far from pleasant, his remuneration far from adequate, and the problems of his work almost impossible of solution. The farcical and impertinent assertion was then put about that he was inefficient, an assertion readily disproved by making a comparison between those housing schemes which are the work of qualified architects and those which are not. In the interests of the nation and the profession it is essential that there be no repetition of these conditions in connection with the compulsory town-planning schemes which many local authorities are obliged to prepare.

Since the International Conference on Town Planning, which was held under the auspices of the R.I.B.A. in 1910, the subject, which hitherto had been in the hands of a few specialists, has received more and more attention until now it figures on the curriculum of every school of architecture. Moreover, many excellent books have been published dealing with it from every aspect, and a flourishing society exists, composed of members who are specially interested in the matter, which has discussions and publishes a town-planning journal. It is to be presumed, therefore, that it is a subject with which every architect is to some extent familiar. Owing to the ever-increasing complexity of modern life specialization is essential. The architectural profession, no less than the medical, has its general practitioners and its specialists, and there may well arise certain complex schemes of regional planning which the ordinary practising architect may not feel competent to undertake. Nevertheless, he should be sufficiently familiar with the subject to carry out the necessary investigations, and draw up a scheme which does not call for very highly specialized knowledge such as might be necessary in any particularly congested industrial area.

Unfortunately, architects rarely take a prominent part in local affairs. We imagine that the number of architects who are members of their parish, rural, urban, or borough councils is exceedingly small. Yet in the council chamber or on committee their experience and knowledge would be invaluable. Much of the popular misconception as to the *use* of the architect is due to his own lack of prominence in public affairs. The day of the well-informed and cultured patron is passing, and the architect has to rely more and more for employment upon commercial concerns and municipal bodies, and the latter particularly are apt to think that anything appertaining to building or land development in any of its multitudinous ramifications should be at once referred to the municipal surveyor, and that the retention of independent outside advice is a waste of public money.

Many of the matters which municipalities are now handling do not come within the province of the district surveyor's duties. Frequently the surveyor himself would infinitely prefer that the matter should be referred to experts, but fear of appearing incompetent or unwilling prevents a frank admittance of inability or a furtherance of a request for the work to be given to a qualified architect. The preparation of a scheme calls for a particular kind of collaboration between the staff of the municipality and the outside architect. The former must collect the necessary data—and for this the co-operation of the surveying and medical branches of the municipality are required—and the latter must collate these facts into a comprehensive scheme. When the time comes for the execution of the work the services of the surveyor are once more required for supervision, ordering materials, connection with, and alterations to, existing drainage and street lighting systems, and similar matters with which he is obviously more able to deal.

For the most part town planning is a matter which the local architect rather than the outside expert should be most competent to handle, for reasons which become apparent if we once more seek an analogy from the medical profession, which shows us that the family doctor, thoroughly familiar with the medical history—to use an army phrase—of his patient, is of more use for the ordinary ailments of the body than the outside specialist. The local architect knows the topography of his town, its historical monuments that must at all costs be preserved, its unhealthy areas, its points of traffic congestion, the comparative rateable values of its various districts, the most suitable positions for development as factory sites, shopping areas and the like. These are all points which an architect assimilates without special effort from his daily surroundings, and combined with this knowledge, his special artistic training enables him to suggest methods of grouping and placing buildings, of designing the curves of his roads on a definite preconceived plan that will yield vistas, climaxes, axial terminal points, instead of indulging in aimless tortuousness.

Unfortunately, however, there are many municipal authorities who fail to realise the importance of æsthetic considerations, and consider that town-planning is merely a matter of creating new road frontages—a matter that can safely be left in the hands of the local surveyor. And this suggests yet a further reason for the desirability of qualified architects securing the work. We have all both heard and read unflattering and detrimental remarks concerning the architect on account of those hundreds and thousands of small late nineteenth century houses, which are bad both in plan and elevation, just because no architect had a hand in them. This ironical situation will arise again in connection with town planning, and a subsequent generation will blame architects for ill-considered work which is none of their doing.

Much of the work in connection with the compulsory town planning will already have been put in hand, and where no start has yet been made it doubtless figures on the agenda of an early meeting in the council's autumn session. It is in the interest of everyone to see that this work is secured by men who are competent to deal with it. In achieving this end the architect himself can do most.

Reform the Water Board !

London should at once set about getting its Water Board reformed. It is abundantly clear that The Metropolitan Water Board has inherited bad old traditions, and is every whit as extortionate and tyrannical as were the old private water companies, which were chartered libertines in these vices, and were suffered to be so in recognition of original enterprise and of the vested interests of shareholders. But the Metropolitan Water Board is now presumably a public institution, and should be conducted in the public interest, and not as if its chief concern were to earn dividends for private investors. Yet, as traders know only too well—builders especially—the charges for water are often exorbitant, and the methods of punishment for default are primitive and barbarous in the extreme. Nor are the incidents of domestic supply less draconic. For instance, a letter to "The Times" relates this example of archaic procedure : The water-rate (£3 14s. 9d.) of a small unoccupied town house having been inadvertently left unpaid, "the roadway has been dug up and the water unceremoniously cut off without the slightest warning, and the old-lady caretaker left without water." The money having then been paid, the Board refused to re-connect until the householder should pay not less than £5 for the operation. Such freaks are too ghastly Gilbertian for a supposedly civilized city, and the Water Board should be made to smart for its crude and cruel jokes. In every instance in which it rushes in exultantly to make a dwelling-house insanitary and uninhabitable, and incidentally damages and disfigures the pathway or roadway by digging it up, the Board should be compelled to make reparation. At present, its powers are a blot on civilization, and Parliament should be called upon to bring them within the bounds of common humanity and common sense. The Board combines the privileges of the New River Company founders with the vindictiveness of the villainous old law that freely sentenced people to death for petty larceny. The ethics of the Water Board are a shocking anachronism —no less, and the Board's arbitrary powers should be brought within the bounds of reason and equity.

Architectural Trickery

A correspondent animadverts against what he calls "the slick tricks of the architectural draughtsman. Looking back over the past twenty years," he writes, "one can recall any number of trivial tricks that, after a brief spell of popularity, dropped out of use, though they still remain in evidence in our streets as examples of the foolish fashions of the near past. Many of them owe their origin to eminent architects, whose mannerisms are quickly copied by the empty-headed. The Norman Shaw 'pediment-and-poker' motif had quite a vogue for a time, but it is never done to-day. Then there was that extraordinary type of column which had circular sections alternating with square ones through the greater part of its height (the 'nut-and-bolt' style somebody aptly called it). Nowadays this is never done, not even in Suburbia. This fashion coincided with the craze for huge keystones bulging out all over the face of a building. This is seldom done to-day, though there is some trace of the fashion in the new County Hall which, of course, was designed when the giant keystone was at the height of its popularity. And then there was the pedimented window era, which, perhaps, has not yet altogether passed away. At one time no window was considered respectable without a pediment supported on small columns. And who does not remember that meaningless piece of trickery, the pendulous drop, which emerged from the face of a building wherever there happened to be room for it ? What unworthy tricks, too, have been played with capitals. It must have been a very depressed architect who first conceived the idea of turning the volutes of the Ionic cap upside down ! One could go on like this endlessly about the past. But are we doing any better to-day ? Looking at many of our recent buildings, I cannot honestly say that we are. The giant order, as used to-day, is merely a passing fashion, and a pretty useless and expensive one at that ! When funds will not run to an order, the almost invariable practice is to substitute a pilaster treatment, which is equally dismal and meaningless. If neither order nor pilaster is employed, then the prevailing fashion is to play absurd tricks with mouldings and panelled surfaces. Never do we seem to solve a simple problem of solid and void in a simple way. There is too much straining after effect and too little reticence. With all of which we find ourselves in complete agreement.

The Lead Paint Question

It is announced in "The Daily Chronicle" that although the prohibition of the use of lead paint on the interior of buildings does not come into force until six years hence, the British Government is already taking preliminary steps to effect the change, which cannot fail to have far-reaching consequences. If the use of lead paint is prohibited, all the lead-producing and lead-using industries will be seriously affected, and some of them will be hardly able to carry on at all. Is there sufficient reason for inflicting all this injury on industry ? In a letter which will be found in our correspondence columns this week, Mr. E. M. Johnson, chairman of the White Lead Makers' Section of the London Chamber of Commerce, contends very ably and temperately that total prohibition of the use of white lead is unnecessary and undesirable. He holds that the case could be quite adequately met by the enforcement of proper regulations and precautions in the use of white lead. It would appear to be the abuse of the material, rather than its use, that causes all the mischief laid to its charge; and the introduction of waterproof sandpaper for "rubbing down" obviates the chief menace to health from the use of lead paint. The chief danger seems to arise from the paint-dust distributed in dry rubbing, a process that may now be abandoned, since the new waterproof sandpaper has been, we understand, tried and found satisfactory by many eminent master painters, Home Office experts, and operative painters. Other precautions are usefully indicated in Mr. Johnson's letter, to which the reader is referred for a very clear statement of the case. House-painters are clearly in favour of the retention of white lead. In a lecture delivered by Sir Thomas Oliver, M.D., in 1914, at the Royal Institute of Public Health, the lecturer stated that, in reply to questions on the relative merits of zinc white and lead carbonate, forty-three out of forty-five master-painters "expressed themselves in favour of white lead for the exterior of buildings; while for inside work seventeen preferred zinc white to lead."

Brightening Burnley

By F. R. JELLEY

EXPONENTS of up-to-date advertising claim to have developed their methods to the level of a fine art, and although their activities may not altogether commend themselves to practitioners of that comparatively obscure and antiquated art of architecture, it is impossible to refrain from admiring the energy and ingenuity with which the modern advertisement contractor pursues his objective.

With Pistol he says, in effect, "the world's mine oyster," and concentrates, in a jovial kind of way, on opening it up as a huge background for the display of trade signs and announcements. He scribbles information concerning custard powder or brass polish on the sky, and jots down bright ideas on the pavements. He drives members of the architectural profession to despair by cheerfully appropriating the façades of their completed buildings, and transforming them into advertisement hoardings. Even amidst the most rural surroundings his memoranda are ever at hand, warning the forgetful wayfarer to beware of imitations of everything from bottled beer to boot polish.

He is, in short, the commercial prototype of the imaginative small boy with a piece of chalk in a street where there are lots of blank walls and no policemen.

Opinion may be divided concerning the maximum dead load that the exterior of any building will take without ceasing entirely to masquerade as a mere façade and blossoming forth as a fully developed hoarding. But it will probably be agreed that, at the present time, what may be termed the offensive method of using buildings as a medium for the display of advertisement is far more in evidence than the legitimate method.

It is offensive, for example, to contemplate a building with a slated roof, if the slates are marked with yellow letters five feet high urging upon passers-by the desirability of eating pickles. It is offensive to contemplate a tithe-barn to whose weather-beaten walls are affixed large enamelled tin plates with superscriptions inviting all and sundry to purchase baking-powder. But it is certainly not offensive to come upon the hanging sign-board of an inn, or the projecting sign of a banker or a gold-beater or a tea-man, or even the traditional trade sign of a barber or a pawnbroker.

The recent announcement that the Burnley Town Council has decided to levy a tax on all projecting signs will therefore come as a distinct surprise. It is possible that there are no advertisement signs in Burnley that do not project, and that the elected representatives of that town are determined to preserve the architecture of the streets in all its virgin purity. It is credible that the outward walls of Burnley are not decorated with gigantic portraits of tooth-brushes or immense representations of tins of deep-sea salmon, and that the main approaches to the town by road and rail are not lined with enormous inscriptions extolling the merits of hygienic underclothing or Sunday newspapers or furniture on the easy payment system. If such is indeed the case, then the inhabitants of Burnley are to be congratulated on their unique situation.

On the other hand, it is possible that the astonishing decision of the Burnley Town Council has been reached with the ulterior motive of replenishing the municipal cash-box, in which case its efforts have obviously been misdirected, and can only be likened to those of a poor but very tender-hearted Government, who might endeavour to discourage big-game hunting, and at the same time increase the revenue, by imposing a heavy tax on nickel-plated peashooters.

Everyone will agree that some sort of control over the exhibition of advertisements in public places is considerably overdue. An admirable but little-known Act of Parliament of 1907 empowers local authorities to sweep away hoardings and advertisements that disfigure the natural beauties of certain rural localities. No such protective measure has apparently been considered necessary with regard to the disfigurement of buildings, and the Burnley Town Council's contribution to the solution of this problem merely penalizes the very method of advertisement that can be regarded as legitimate. If its proposal is carried into effect, it will provide the advertisement contractor with a perfectly reasonable excuse to "brighten up Burnley," in his own inimitable manner, by descending on that town in the rôle of Aladdin up-to-date and offering new signs for old; signs that do not project for signs that do; startling and sensational signs; electric signs that flash red and green and yellow messages through the night at intervals of thirty seconds; signs that will penetrate the darkest blinds and keep the townsmen of Burnley from their sleep by expatiating on the excellence of soup powder or cigarettes or pen nibs.

The decision of the Burnley Town Council has not been widely reported but, as an excellent example of how not to do it, the proposal is worthy of the greatest publicity.

It is true that by an Act of Charles II swinging signboards were forbidden, for the simple reason that they decreased the lighting of very narrow streets, and were a source of great danger to the public during gusty weather; but no one suggests either that the streets of Burnley are unusually narrow, or that the Council is prepared to tolerate dangerous signboards only on condition that they are taxed.

Instead of driving them into oblivion by the imposition of ill-considered restrictions and petty penalties, the few traditional trade signs still in use in this country should be carefully preserved and respected. None of them detract from the dignity of the buildings from which they depend; many of them are fine examples of craftsmanship; and all of them afford ample proof to those trades that are of more recent development that the most blatant advertisement is not necessarily the most enduring one.

No one will deny that the signs projecting from the banking houses in Lombard Street give a touch of interest and colour to that somewhat grim and gloomy thoroughfare. No one who knows the high roads of this country will support any movement that is likely to jeopardize the retention of an object so picturesque as the average old English inn sign. And no one will advocate any proposal to penalize a watchmaker for hanging a clock outside his shop, although everybody knows that large numbers of tradesmen who are not watchmakers also hang clocks outside their premises for advertising purposes.

The proper place for traditional trade signs is not behind the walls of museums, where nobody troubles to look at them, but on the walls of the streets where everybody can see them.

A commercial street without projecting trade signs would be as lifeless as a commercial street without people, and it is as illogical to tax all such signs because one or two of them happen to be of an objectionable nature, as it would be to fine all the people in the street because one or two of them happened to be intoxicated.

The most effective and lucrative method of maintaining the dignity of the architecture of the streets is fairly obvious.

Under existing conditions anyone who desires to do so may allow, say, a lurid representation of a bottle of sauce fifteen feet high to be painted on the walls of his premises, and the unfortunate occupants of the surrounding habitations have no redress. A luxury tax of so much per foot super per advertisement per annum on people who decorate their property in this manner may appear somewhat drastic, but a mere by-law calling upon them to abate the nuisance will hardly meet the case. The nation is undoubtedly entitled to some compensation for the increased wear and tear on its nervous system.

THE LIVING-ROOM.

Bentley Cottage, Great Missenden

By A. PERCIVAL STARKEY

THIS cottage stands in an attractive garden at Great Missenden, Buckinghamshire. Mr. Percival Starkey was the architect.

Externally the building is built of 2 in. multicoloured facing bricks, and the roof is covered with handmade roofing tiles. Special bricks have been made for the main entrance doorway, and both the main entrance door and that to the garden room are of oak fitted with wrought iron furniture, made locally. Casement windows with leaded lights have been used.

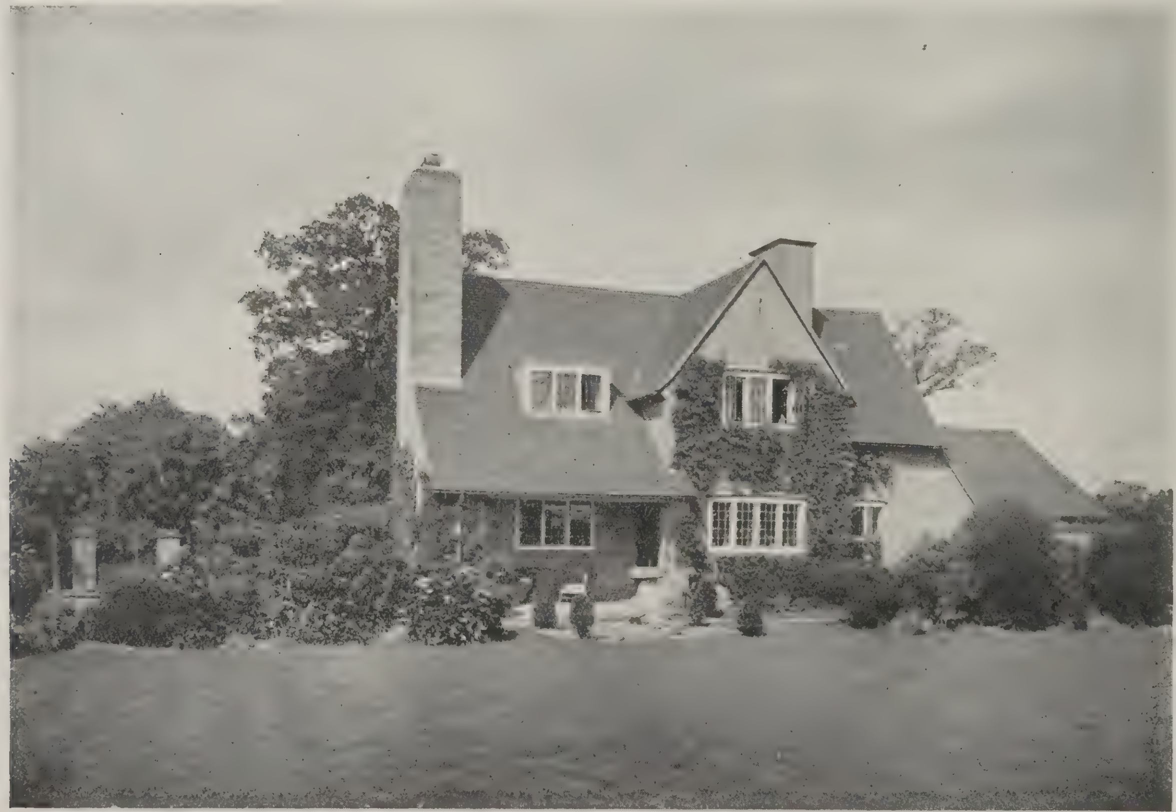
The exterior of the building is constructed of ordinary materials used in a simple manner. No ornamentation is embodied in the design, and the architect has relied for his architectural effect on the grouping and arrangement of the various parts, the use of gables, and the creation of an interesting roof shape. Due prominence has been given to the main entrance by projecting it forward, carrying it to the first floor, and providing it with a gable finish. The main entrance is approached through a gateway, with brick piers, and up a crazy pathway. The simplicity of the chimneys is particularly pleasing. On the elevation to the garden a garden room has been secured by carrying down the main roof to the first story.

Practically the whole of the ground floor is occupied by the living-room and the kitchen-scullery. The living-room is approximately 24 ft. long by 15 ft. wide. The kitchen-scullery is well supplied with cupboards, and in the recessed portion of this scullery a table has been fitted.

From the kitchen access is gained by means of a covered way to the tradesmen's entrance, fuel, tools, etc., and to a fruit loft over the outbuildings.

On the first floor there are three bedrooms, a bathroom, and boxroom.

Messrs. Geo. Biggs and Sons, of Great Kingshill, High Wycombe, were the builders, and the leaded lights were supplied by Messrs. Henry Hope and Sons.



Photos : Architects' Journal.

A VIEW OF THE HOUSE FROM THE LAWN.

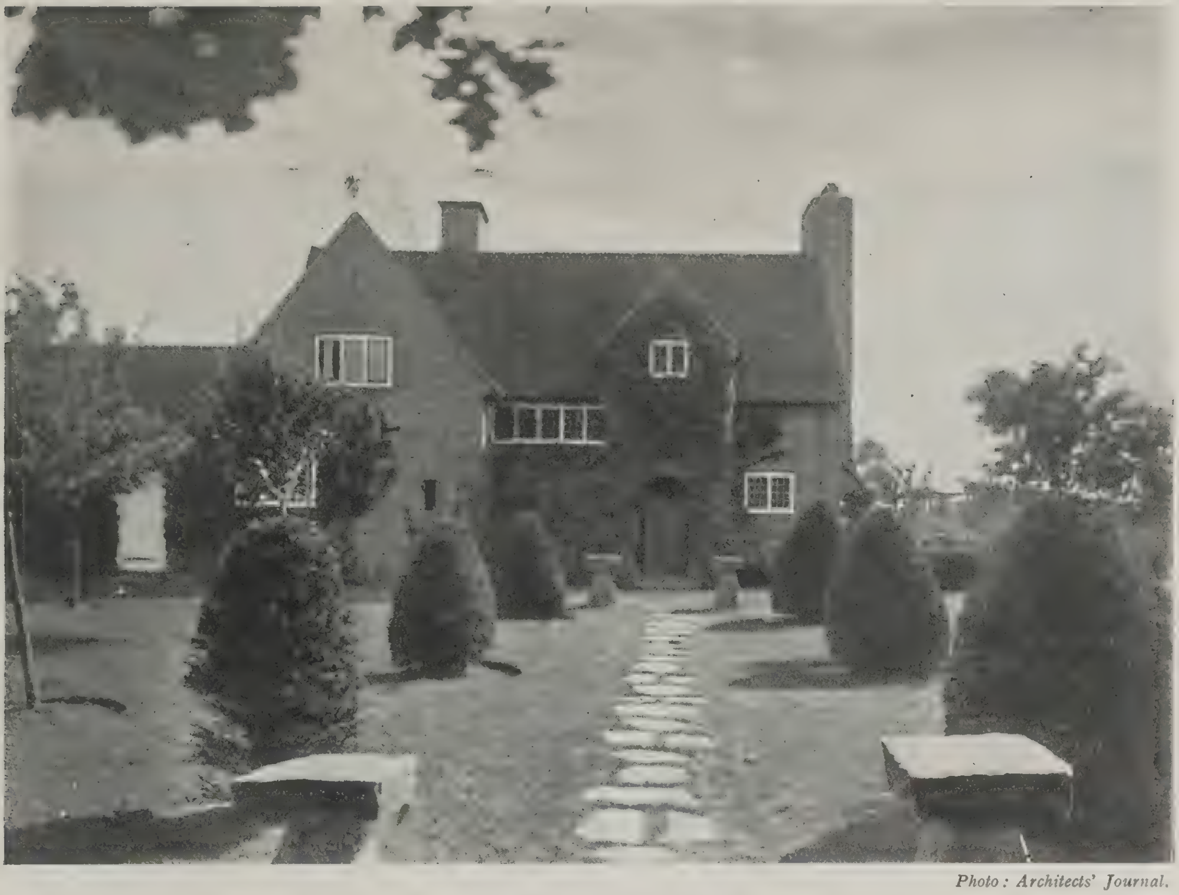
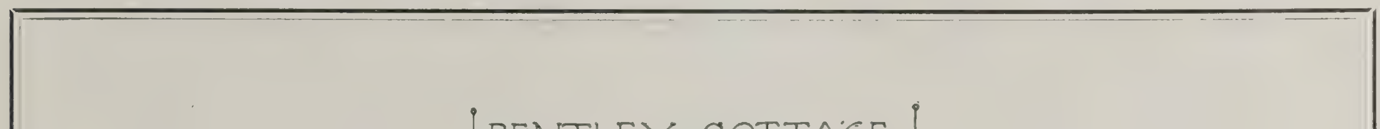


Photo: Architects' Journal.

THE FRONT ELEVATION.



BENTLEY COTTAGE, GREAT MISSENDEN, BUCKINGHAMSHIRE.
A. P. STARKEY, ARCHITECT.

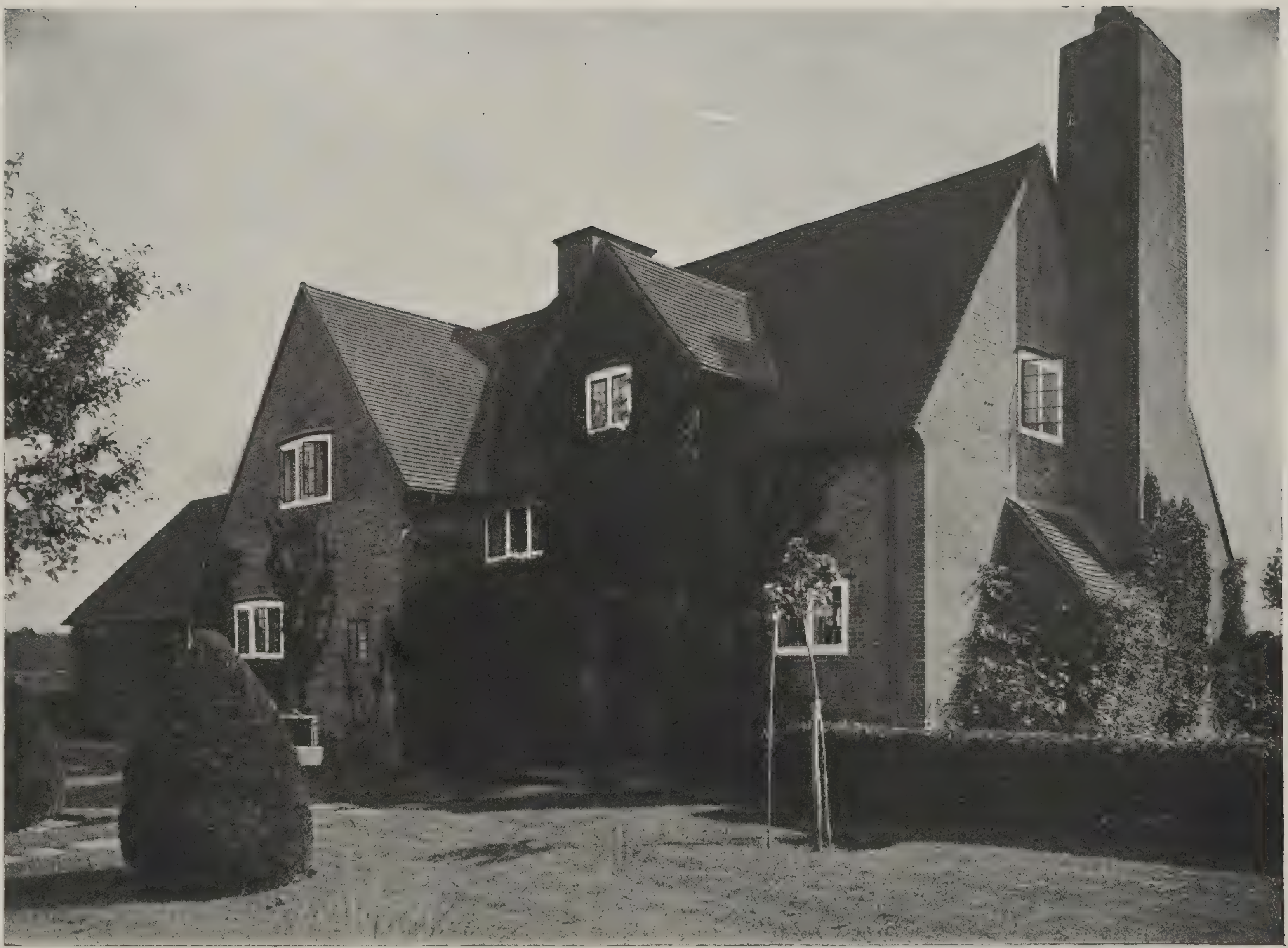
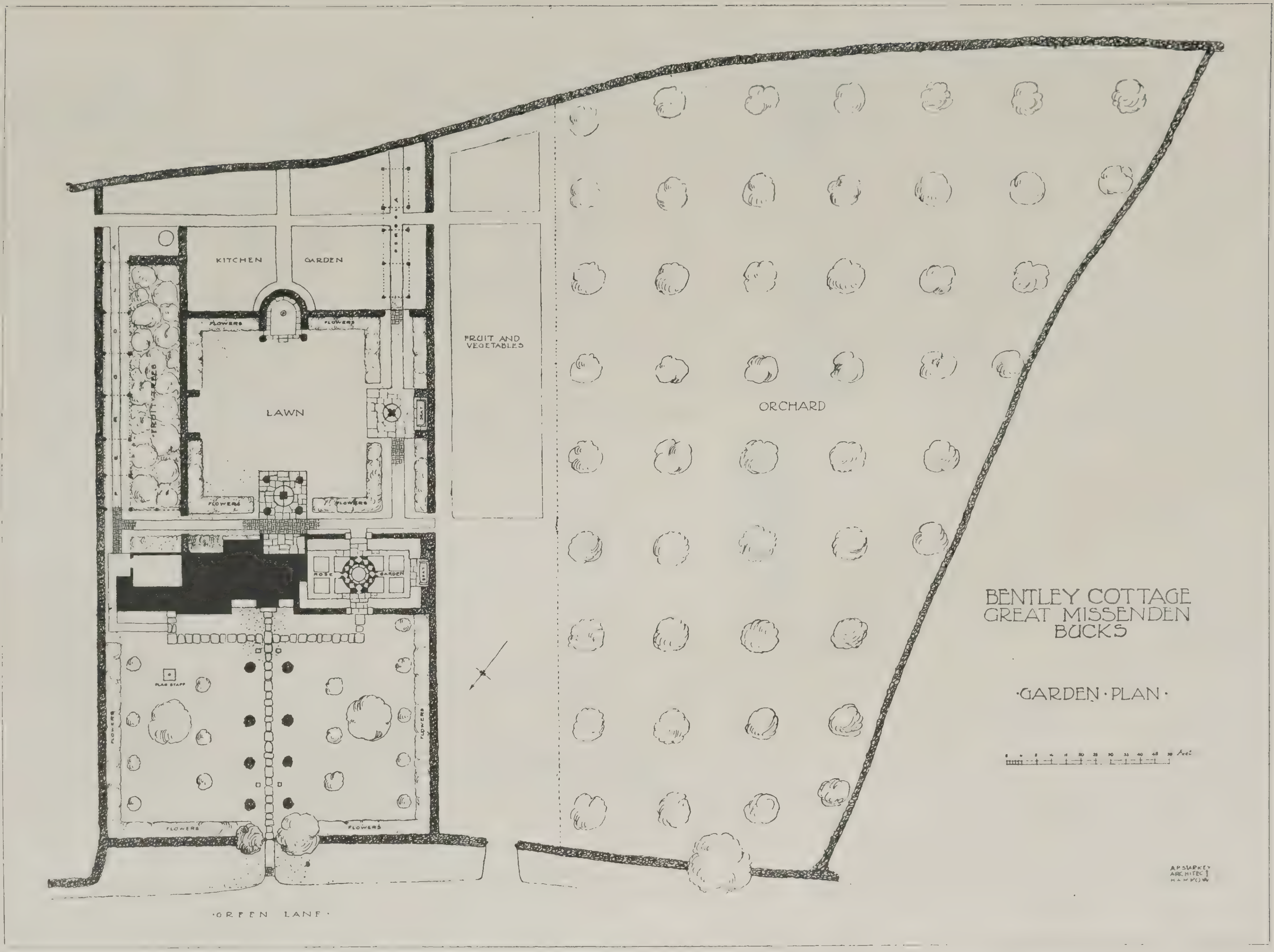


Photo: Architects' Journal.

THE ENTRANCE FRONT.

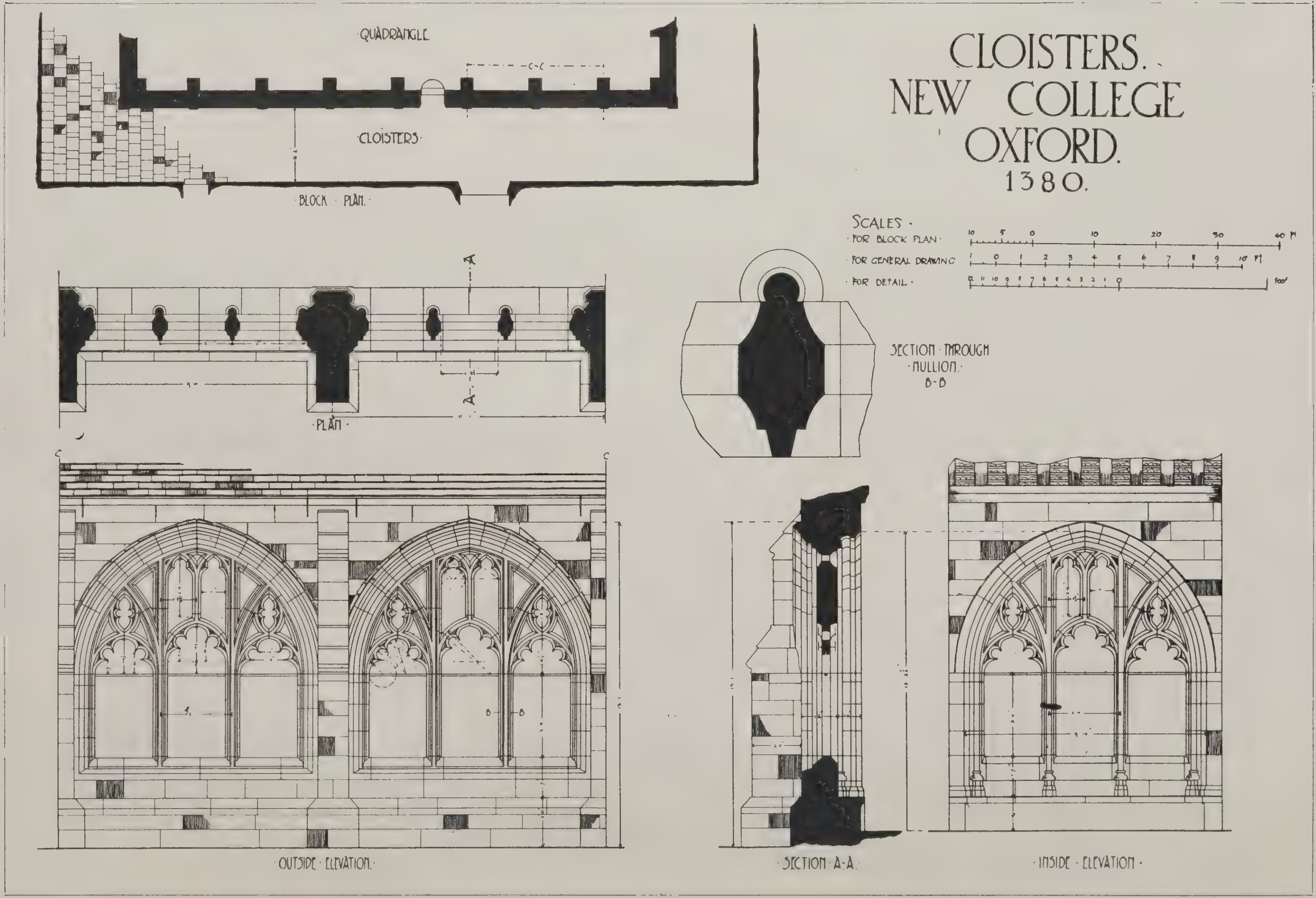
BENTLEY COTTAGE, GREAT MISSENDEN, BUCKINGHAMSHIRE. A. P. STARKEY, ARCHITECT.



BENTLEY COTTAGE, GREAT MISSENDEN, BUCKINGHAMSHIRE: THE GARDEN LAY-OUT. A. P. STARKEY, ARCHITECT.

Measured Drawings. 15.—The Cloisters, New College, Oxford

Measured and Drawn by E. Leslie Gunston



The Science of Architectural Acoustics

The Present Position

It is strange that a subject of so much practical importance as architectural acoustics should hitherto have received so little scientific attention in this country. Much useful information on it, however, is now available and we give it below together with a brief resumé of the remarkable investigations by the late W. C. Sabine, of Harvard, the great pioneer in architectural acoustics.

ARCHITECTS are often accused of defective knowledge of the science of acoustics in so far as it relates to audibility of the human voice in buildings.

To blame the architect is quite in accordance with old-established precedent. For any fault that can be found "on, in, or about" an important new building the architect is always blamed liberally, but by no means generously. Blame for "poor acoustic properties" has been laid at the door of all the most eminent architects of yesterday and to-day—Wren and Street (for St. Paul's Cathedral and the Law Courts are undoubtedly extreme cases) are notorious instances; the Houses of Parliament are by no means ideal speaking chambers; and eminent American architects have been occasionally subjected to the same ordeal by sound in respect to certain buildings of their design. Indeed it was largely owing to the initiative of American architects that scientific investigations were first set afoot.

Until now, the architect has had little or no assistance from the English man of science in the matter of applied acoustics. English science could not tell him quite definitely why in some rooms voices were clearly audible, while in others speaking could not be distinctly heard; and foreign literature on the subject has not received the attention it merits. Empiricists had made a few hesitating assertions as to the acoustic effects common to certain shapes, surfaces, dimensions, proportions, but in this country the data thus put forward were not ascertained with anything like scientific precision; and up till now the first and last manual on the subject that has been published in England is Mr. T. Roger Smith's "Acoustics in Relation to Architecture in Building." It was published in 1876, and a second edition was published in 1895. And Mr. Roger Smith was an architect, not a professed man of science.

It was in 1895 that Mr. Wallace C. Sabine, A.M., then, or subsequently, Professor of Physics and Lecturer on Architectural Acoustics in Harvard University, began to make his famous scientific experiments and ascertainments. In

THE CLOISTERS, NEW COLLEGE, OXFORD.

(See the Measured Drawing on the opposite page.)

1900 he wrote in the technical Press an important series of articles dealing with his studies of the phenomena of reverberation and cognate subjects. During the next five years he extended his inquiries into the phenomena of the musical scale, and in June, 1906, he published the results in the Proceedings of the American Academy of Arts and Sciences. Other contributions of his relating to the science of acoustics as applied to buildings are to be found in the "Engineering Record" of 1900 and 1910; the "American Architect" of 1900 and 1913; and "The Brickbuilder" of 1914 and 1915, while he contributed to the "Architectural Quarterly" of the University of Harvard an article on the correction of defective acoustics in completed buildings.

Professor Sabine gave much attention to the acoustical effects of peculiarities of form in buildings, and to the causes of variation in audibility in various parts of an auditorium. His general advice on completed buildings was that the treatment should be "medicinal rather than surgical"—that is, there need be no radical change in form, dimensions, positions of wall-surfaces, nor changes in the heights of ceilings.

In the above-mentioned English manual—a gallant, but not altogether successful attempt to fill a yawning chasm in technical literature—Professor Roger Smith had discredited the familiar device of stretched wires "to break the echoes," and Professor Sabine denounced that old-time expedient as being utterly valueless, having no scientific justification and showing no record of successful use. Nor did he put much faith in the use of the sounding-board, the value of which, however, he did not absolutely deny, while declaring it to be much overrated; the remedial effect being apparently proportionate to the size—the bigger the board the greater the effect—within certain limits, of course.

Some of Professor Sabine's methods of dealing with defective buildings may be here briefly recapitulated as being quite interesting, and no doubt of some practical utility also. At the Congregational Church at Naugatuck, a smooth cylindrical ceiling was corrected by breaking up its smooth surface into a series of coffers of sufficient depth to prevent the sound from travelling along a focal line.

In the House of Representatives in Rhode Island State Capitol, the walls of the room were of stone to about half their height; above that they were of stone and plaster, and there was a coffered ceiling. Professor Sabine's diagnosis of the case was that sound striking a side wall was reflected across the room to the opposite wall, and then back again, and thus to and fro, mounting gradually until it reached the ceiling, whence it was reflected directly down upon the audience. Sound meeting only feebly absorbent surfaces came back rather slowly, confusing the ear. The remedy applied was that of diminishing the reflecting power of the side walls by placing suitable felt on the plaster walls between the engaged columns, and covering the felt with decorative tapestry. The remedy was effective, and the decoration was pleasing.

The lecture-room of the Metropolitan Museum of Art, New York, had become notorious as "the Hall of the Seven Echoes." The hall was semicircular, the platform being nearly, but not wholly, within a broad but shallow recess. The auditorium was surmounted by a spherical ceiling with short cylindrical extensions following the straight side walls, while in the centre of the ceiling there was a flat glass skylight. Reverberation of sound was excessive, resolving itself by focusing into a multiple or sevenfold echo. Remedy: Ceiling coffered, and the semicircular wall at the rear of the auditorium fitted with panels, which were filled with felt over which burlap was stretched.

These cases are seen to have been comparatively simple. Complexity arises where various shapes set up diverse reverberations, each space "pouring sound into and receiving sound from others," as Professor Sabine expressed it. Cathedrals, he observed, commonly present in varying degree the geometrical complications which lead to excessive echoes. The cathedral at Detroit offered an interesting problem in acoustics. The nave, broad at one end and moderately narrow at the other, represented in effect two simply connected spaces, an upper and a lower; the lower space, when filled with people, being abundantly absorbent of sound, while the clerestory part was non-absorbent. Highly satisfactory results were obtained by placing felt in the panels of the ceiling, and the felt, treated decoratively, produced highly pleasing artistic results, while the acoustic effects were entirely satisfactory; equal success attending similar treatment in other parts of the building.

In the New Theatre, New York, seating 2,300, the acoustics were greatly improved by changing the position of the twenty-three boxes, and, in effect, reducing the height of the ceiling of the main auditorium by 20 ft., an oval canopy, 70 ft. by 20 ft., being provided to obtain this result.

In generalizing on these and other cases, Professor Sabine remarked, not altogether superfluously, that sound on reaching walls in a confined auditorium spreads spherically, and is in part absorbed and in part reflected. "The part which is reflected re-traverses the room until it meets another surface, where it is again in part absorbed and in part reflected, and this process continues until, after a greater or less number of reflections, the sound becomes of negligible intensity"—dies away, as it were. The phenomenon had been until then inadequately discussed, Professor Sabine held, "owing to failure to take into consideration the phenomenon of diffraction in the propagation of a sound nearly parallel to an absorbing audience, the phenomenon of diffraction in reflection for an irregular surface, and, above all, the phenomenon of interference." The first of these three considerations is of primary importance in calculating the intensity of the sound which has come directly from the source; in calculating the effect of distance on the audience; and in calculating the relative loudness on the floor, in the gallery, and at the front and back of the gallery. The second consideration enters into the calculation of the path of the sound after reflection from any broken or irregular surfaces; and the third factor is of the utmost importance when the sounds which are crossing at any point in the auditorium are of comparable intensity and have travelled along paths of so nearly equal length that they have originated from the same element.

All honour to the late Professor Wallace C. Sabine for his admirable pioneer work in what in his time was an unexplored field. The importance of his researches is warmly acknowledged by Mr. G. A. Sutherland, M.A., of University College, London, in his article in "Science Progress" (published quarterly, price 6s. net, by Mr. John Murray, Albemarle Street, W.), for July, 1922, in which he gives the most complete and most useful account that has yet appeared in this country of the present position of what may now fairly be called the science of architectural acoustics.

By courteous permission of the publisher we are enabled to give some of the conclusions reached by the author of this important article, which architects are recommended to read in its entirety and file for reference. This is the simple explanation of the case on which Mr. Sutherland bases his thesis:—

"When a speaker delivers an address," he observes, "the sound proceeds from him in spherical waves to the boundaries of the room, unless it is absorbed on the way. At the walls it may be reflected, or transmitted, or absorbed. In general it will suffer all three kinds of treatment in relative proportions, which depend on the character of the walls. Hard and smooth walls will reflect the major part of the sound, while porous and yielding walls will reflect very little. Eventually, after successive impact on different surfaces the whole of the sound will be absorbed. The effect of reflection is twofold. If the room is not too large the first effect will be to produce the same average loudness at different parts of the room. In the case of a room 40 ft. square, reflections will occur at least twenty-seven times a second. On the other hand, if the walls are hard, little energy is absorbed at each impact, and very many reflections will occur before the sound dies out. This produces slow decay or reverberation, which is the most common defect in audience halls." In a general sense these facts are well enough known to architects; but this clear restatement and explication of them will not be the less welcome on that account.

A fact that is less familiar is that if a hall is to be used both for speaking and for music "a middle course must be steered. The reverberation must be made somewhat too long for speech, somewhat too short for music, yet fairly satisfactory for both." The building owner, therefore, should have a very definite notion to impart to his architect as to the use to which the hall is to be put—music, oratory, or either by turns. But the practical point that arises is this : "We have seen that a succession of reflections produces reverberation; in some circumstances a single reflection produces an echo, and echoes are the next most common defects in audience halls. The conditions necessary for the production of an echo are that the wall from which reflection takes place should be at such a distance from the hearer that the impressions formed by the direct and reflected sounds are quite distinct. The minimum interval that must elapse between the two effects for this to be the case is about one-fifteenth of a second, though, of course, it varies for different observers. As the velocity of sound at 15° C. is 1,120 ft. per second, this gives the minimum distance of the reflecting wall as $\frac{1120}{2\times 15} = 37$ ft. The farther off the wall, the more distinct is the echo." A curved wall "exercises a focusing action, and produces regions of undue intensification and of comparative silence; it is almost inevitably a menace to good acoustics." This matter of curved walls is the subject of a paragraph in the summary of conclusions to which we refer at the end of this article.

Mr. Sutherland throws out several useful cautions. One is : "It is assumed that perfect acoustics are to be expected when a new auditorium is modelled on an old one whose acoustics are unobjectionable. This is apparently not borne out by experience, largely because the importance of detailed conformity to the model is not realized. . . . Unless the new hall is constructed of similar materials, and accurately to the same scale, its acoustics will not follow those of the model. . . . And even though the proportions be the same, any great difference in size will alter the acoustics markedly in certain respects." It therefore follows that acoustics have been often either better or worse for the rebuilding of a hall. Mostly the change is for the worse, because, while the main characteristics of a hall that originally was acoustically satisfactory have been faithfully followed, there has been, in the rebuilding, some alteration of a detail that was not suspected of the vital importance actually inherent in it. Any great difference in size and the tendency is almost invariably to build larger—"extension of premises" being the familiar phrase—or any change in the character of the materials of construction, or even some rearrangement of the fittings or hangings, or alteration in the nature of their substance or surface or texture—any altered conditions such as these may considerably affect the acoustics of the hall.

A passage in which Mr. Sutherland gives a clear and terse exposition of the general principles underlying the cure of reverberation must be quoted for the light it sheds on the whole question : "The general principle underlying the cure of reverberation is the introduction of material which will absorb the sound. The reverberation in an empty house is notorious, and the improvement effected by hanging heavy curtains is also a matter of common knowledge.

"The reason is clear when one considers the nature of sound. Sound is a form of energy. It cannot be destroyed, it can only be converted into some other form. Some will escape through open windows, some will be used in imparting mechanical energy to the walls, some will pass directly by friction into heat. A hiss is very soon killed by air friction, and the frictional effects are increased by the presence of porous walls and hangings. It is only by true dissipative forces such as viscosity that sound can be so converted. No mere modifications by the introduction of irregularities are of any avail in this connexion. The breaking up of smooth surfaces by relief work may eliminate echoes, but it does not cure reverberation unless the total absorbing surface is increased by the breaking up. The sound is still present, and must be converted into energy of another form before it can cease to be heard."

Mr. Sutherland cites W. C. Sabine's famous experiments (too little known in this country, however) with the organ-pipe and cushions. Professor Sabine ascertained with a chronograph the time that elapsed under varied conditions before the sound from the organ-pipe became inaudible in the Fogg Art Museum in the University of Harvard. Cushions were gradually introduced into the hall, and their effect on the "decay" of the sound was carefully observed and tabulated. With no cushions in the room, the time of decay was 5·61 seconds, and the time was affected by the gradual addition of cushions until, with the presence of 213 metres of cushions, it was reduced to 2·33 seconds. The absorbing powers of various materials with the same pitch of note were then determined in terms of these "cushion-metres," with the results here shown :—

SQUARE METRE OF—	CUSHION METRES.
Oil paintings	·28
Carpet	·20
Oriental rugs	·29
Linoleum	·12

Sabine's experiments, quoted by Mr. Sutherland, give for the time of reverberation—

$$t = \frac{\cdot 164\ V}{a}$$

where *a* is the total absorbing power of the room and contents.

(If there are in the room surfaces S_1, S_2, S_3, etc., having respective absorption co-efficients a_1, a_2, a_3, etc., then $a = a_1 S_1 + a_2 S_2, + a_3 S_3 + \text{etc.}$) "This formula," Mr. Sutherland remarks, "together with the numerous values of absorption co-efficients for various substances given in Sabine's tables ["The Brickbuilder," vol. xxiii, pp. 1–6, 1914], enables calculation to be made in advance of construction, and was responsible for clearing up much of the fog that had surrounded the subject before the investigation."

Mr. Sutherland's brilliant paper in "Science Progress" concludes with a summary of his review of the existing data relating to the acoustics of buildings, and this summary is preceded by the reassuring observation that "sufficient information is available to enable satisfactory acoustics to be ensured in advance of construction." Briefly summarized, his conclusions are :—

1. Size of room must not be excessive.
2. Curved walls almost always bad, but any doubt on the point should be settled by experimenting scientifically with a small model of the room.
3. Size and shape, and materials of construction must be carefully adapted to Sabine's formula, taking into account the prevailing conditions in the auditorium.

Excessive reverberation can be reduced by introducing suitable absorbent material and surface treatment.

A necessarily short but still valuable bibliography of the subject is appended to the paper. As this list of what has been published on the hitherto obscure subject must necessarily have cost the author considerable labour to compile, it would be unfair to reproduce it here, and for intensive study of the whole subject the reader must be referred to "Science Progress" for July, 1922, in which Mr. Sutherland's important article, with its many elucidatory diagrams and formulæ, appears.

A RAILWAY TRUCK USED AS A PEASANTS' HOME.

A DENSE MASS OF REFUGEES WAITING FOR RELIEF.

Rebuilding Soviet Russia

By HUNTLY CARTER

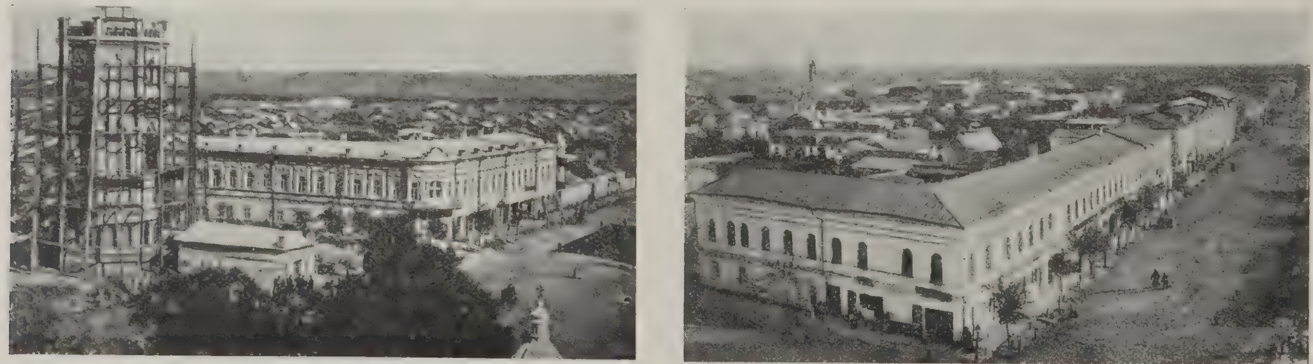
3. Rural Russia and the Famine District

I SUPPOSE a visit to the Russian Famine District to-day does not at first sight hold out much promise of a very fruitful discussion of architectural possibilities. Probably no one would dream of going to Samara, Buzuluk, Andrievka, Orenburg, and other districts marked in black on the Russian map, to ascertain whether these places require rebuilding or extending, and if so who will be required to do the work, and when, and how much pay and profit there is hanging to the job, any more than young and enterprising modern architects would dream of going to Central Africa to find out what experience and money are to be gained by building bungalows for blacks. Yet there is much that is architecturally important in a visit to the down-and-out parts of rural Russia to-day. It ought not to be overlooked that rural Russia has a population of over 130,000,000, and that this population must, if the electrification scheme of the Soviet Government is carried out, be re-housed within the next ten years, this being the period fixed for applying the scheme. And it is not fantastic to believe that a great many foreign experts—architects, engineers, and others—are preparing their plans and materials in expectation of doing business with this vast country—a country that covers a sixth of the world's land-mass. Therefore authentic information on the condition of areas to be rebuilt should be welcome

THE QUAKERS' WAREHOUSE, BUZULUK.

There is no need to say that the Famine District is not a pleasant land to visit, not one, like Canaan, overflowing with silk and money. It is more like No Man's Land during the war. But it possesses luxuries of its own. They are far too numerous to enumerate. The chief are typhus, cholera, malaria, dysentery, influenza, and plague, and a variety of disease-bearing germs and insects all capable of inoculating individuals with one or more of these diseases. Perhaps the most active of the insects is the louse. At any rate, the first thing I had to do after literally fighting my way through the horrible mass of creatures that packed every corner of the vast Moscow station was to engage in de-lousing that portion of the rolling stock which was to carry me to the black district. The second was to learn how to keep clear of the swarms of refugees, beggars, loafers, and other verminous carriers of disease who besieged the car at every step.

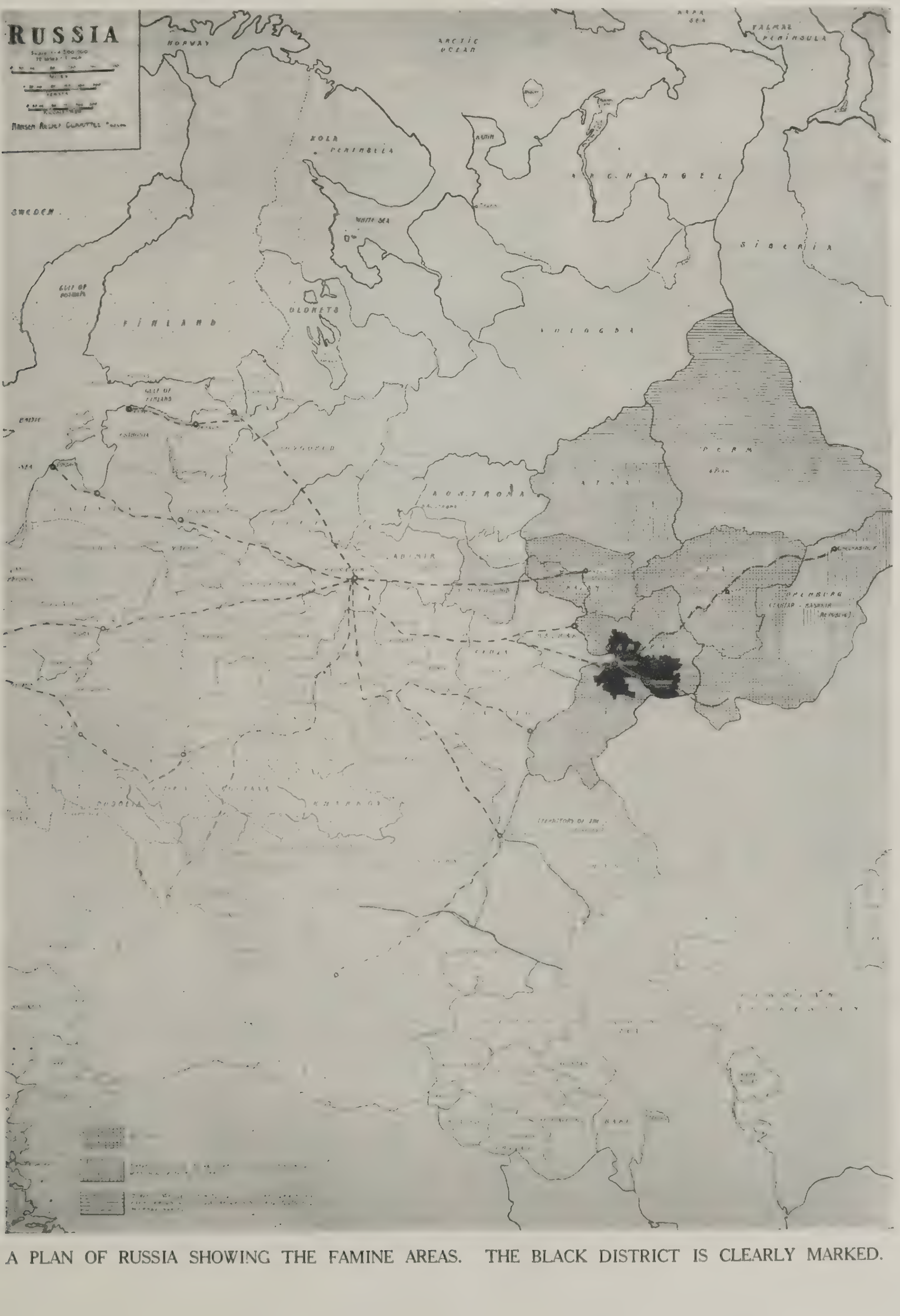
After covering the seat of my compartment with a louse-proof cloth, and squirting insect powder over everything and myself, I was at liberty to take stock of my surroundings. In the course of doing so I made some curious architectural discoveries. One was that to-day the Russian rolling stock fulfils more architectural purposes than is imagined by people outside Russia. Indeed, the Russian cars form portable architecture capable of three or four



TWO VIEWS IN BUZULUK, THE CENTRE OF THE BLACK DISTRICT ITS POPULATION HAS BEEN REDUCED BY MORE THAN HALF.

distinct divisions. There is the Relief Administration architecture, the Refugee architecture, the Bungalow-car architecture, and so on. These architectural structures consist of sleeping cars, wagons, better-class passenger coaches, and private cars, all of which have been put to purposes which neither man nor heaven intended.

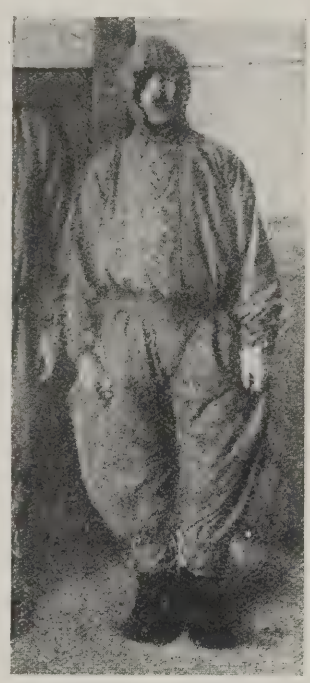
The first is the international sleeping car which has been allotted to the use of the relief workers. This car is not the luxurious affair with which the Continental Express routes have made us familiar. It has no down-like seats, snow-white bed linen, costly upholstery, pleasing decorative effects, clear bevelled windows that open and shut at a touch, tassels, soft springy carpets, shaded lights, regulated temperature, and all the modern conveniences and elegances that add so much to the pleasure of present-day travel. It is really a car-de-luxe that looks as if it has been standing in a house-breaker's yard, in all weathers, for twenty or more years. It is little better than a battered and dirty freight car divided into compartments, and containing the remains of the equipment of a passenger sleeping car. Its windows are broken, patched, and fixed, its floors bare and filthy, its upholstery old and torn away in places, its lamps broken and useless. The lavatories in the sleeping compartments are used by the profiteering guards to store fruit and potatoes grown by themselves or collected in country places. And the lavatories at each



A PLAN OF RUSSIA SHOWING THE FAMINE AREAS. THE BLACK DISTRICT IS CLEARLY MARKED.

end of the car are in such a condition that one approaches them only with shuddering dread. Their stench is over everything. In cars of this description the relief worker travels for days at a stretch. It may be said that he lives in them. For he is always travelling from place to place, and wherever he goes he is accompanied by portable bundles of bedclothing, candles, soap, and large baskets of food, also cooking and other kitchen stuff. As there is nothing on the car except bad smells and live-stock he must be prepared to do for himself. If the chance traveller happens to be without his own blanket and pillow, and has not laid in a stock of edibles and portables he is likely to be in a bad way. It may be that he is a newcomer from some of the soft countries out West, and is travelling with a trunk or two full of fancy wear. In which case he will soon find himself reduced to feeding on fancy trousers and socks, or bartering these sometime useful goods for something more digestible.

This means that there is no restaurant car on the alleged express train in Russia. There is one international sleeping car, which is attached to a long string of passenger cars, consisting of box-cars, as they are called. These are simply the well-known cattle-trucks with small portholes near the roof for ventilation, also for sightseeing if the passenger has a neck like a giraffe. In such infernos a mixed collection of human beings—peasants, refugees, soldiers, etc.—are densely packed, and men, women, and children stand, sit, and lie for days, even weeks, together. Many of these cars have been converted into portable dwellings by being fitted with stoves and other domestic appliances. These cars travel from place to place and remain stationary on sidings for long periods. Railway workers live in them and succeed in giving them a garden-suburb look by surrounding them with flower and vegetable-strewn verandas. Relief workers sometimes live in the small box-cars which they travel in. These are fitted with sheet-iron stoves with stove pipes running through the roofs, army furniture, and places for food supplies. It should be said that the wagon-dweller is common to Europe to-day. In Hungary a very great number of people live in wagons just outside the principal stations.



LICE-PROOF CLOTHES WORN BY RELIEF WORKERS IN THE FAMINE DISTRICT.

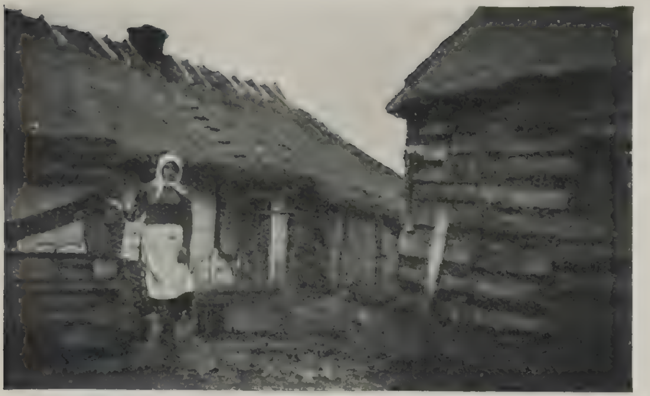
Another form of railway residence that I noticed consists of the better variety of passenger coach, which seems to have weathered the storms of war and revolution and remains in a fairly good state of preservation. This also has architectural additions of a domestic character, including improvements to the entrance and fixed steps leading to it. It is used by Communist officials.

Anyone who visited Russia before the war and saw the excellent state of the railroads and the great number of comparatively luxurious cars in use cannot avoid being amazed at the deplorable condition of the one and the almost total disappearance of the other. With the exception of the said international sleeping cars and the cattle trucks there seem to be no adequate conveyances, though it is true there is a service of tolerable trains between Petrograd and Helsingfors, in which the passenger may indulge in the use of such pre-war luxuries as soap and towels and clean attendants.

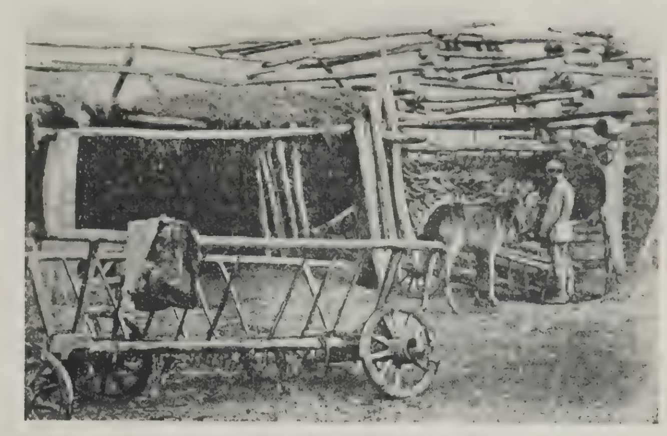
From the travelling residences one's attention passes to the railroads, the stations, and the passing peasant village architecture. Before the war and revolution the mileage of railroad was exceedingly great. I have not the exact figures before me, but, of course, it ran into many thousands. Much of this was of recent construction on the broad-gauge principle. Much was destroyed by invasion and counter-revolution after counter-revolution, and the rest was worn out by constant use in seven or eight years, during which time it was not possible to renew the deteriorated sleepers. The Soviet Government state that a good deal of railroad repair has been carried out and transport improved accordingly. One would not think so when one travels over the railroad system in Russia. The journey from Moscow to Samara, a distance of between seven and eight hundred miles, takes from three to four days. The slowness may be due to the engines, and it may not. My own impression is that it is partly due to the dangerous condition of the lines and partly to the engine. The engines, like the railroads, have suffered very badly. At one time there were 20,000 or more serviceable engines. To-day many are "dead," a great many more are "sick," and, comparatively, a few, perhaps 1,000, are in active service. The latter are wood-fed and play all sorts of tricks in the course of a journey. One of them is suddenly to desert the train in the open country and go off somewhere for two or three hours' recreation or rest. This occurs so often that finally you begin to wonder whether you are really going to Samara, or are merely out on a land inspection. In addition to these stoppages there is an interminable wait at every station, at some while the deboshed engine takes in a fresh stock of rapidly consumed wood. At each wait you are besieged by throngs of pitiable creatures—old and young—beggars, refugees, parasites, all clamouring for bread. They follow you about, tug at your clothes, beat the car windows with their fists, fall on their knees, kiss your feet, cross themselves, whine, whimper, beg, beseech, pray. "Kleb! Kleb! Kleb! Give us bread!" they cry. And you can do nothing but seek to avoid them, for you know there is death in contact with them.

I have said so much about travelling architecture that I have not much space for a consideration of station and peasant village architecture. Still, it is possible in a short space to show that both stations and villages need rebuilding. The stations are simply wooden shacks, with here and there an imposing cement structure at some important railroad centre. For instance, the stations at Samara and Buzuluk are very large and have the appearance of having been fairly handsome before dirt and dilapidation took possession of them. Moreover, they have concrete and granite platforms, a luxury which is denied to the great number of primitive-looking halts. Most of these halts are memorials, as it were, of stations that have been swept away by invasion, civil war, and revolution. Each is provided with a disgusting lavatory that stinks to heaven and far beyond. And each is hidden beneath grey, festering heaps of human forms.

The peasant villages are all of a pattern. Seen at a distance each looks like a heap of dried leaves clustering round a tall silver church. At close quarters each is seen to be the limit of dull destitution. I visited several typical villages in the Urals. They were scattered far apart and approached by roads that were simply back-breaking tracks through ploughed fields baked solid by the blistering sun. The most interesting thing about them was that they foretold vast road-making enterprises. The villages are of two degrees of importance, those with a church coming first, and those without second. The houses are usually strung on to a long, wide, curving, turf-grown main street. They are built of mud, cement, or wood, and are of two sizes. The majority are simply low-thatched, one-roomed huts, with dark, unwholesome interiors. Each interior is almost entirely taken up by a large brick stove, with a flat top that serves as a sleeping place for the family. Most of these huts are without chimneys, and it is a mystery how the people huddle together in them without being suffo-



TYPICAL RUSSIAN VILLAGE ARCHITECTURE:
1.—A COTTAGE BEFORE THE FAMINE.



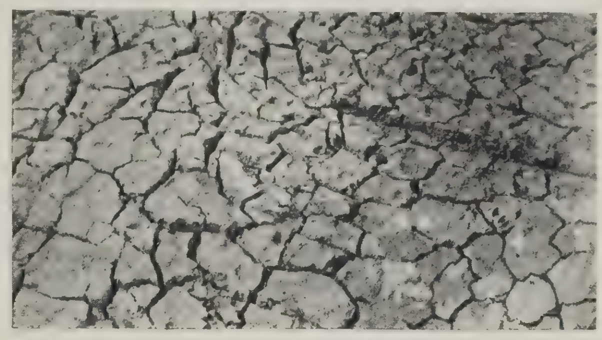
2.—THE SAME COTTAGE, WITH ITS THATCH EATEN OFF BY STARVING PEASANTS.

cated. They all have wicker lean-to sheds for cattle, farming implements, etc. The better-class houses are of pine logs, and rarely of more than one story. They are usually very elaborately ornamented with carved woodwork, the scrolls on the roofs and the screens on the windows and above the doors, and the decorative balustraded balconies giving them quite an Oriental look. In the centre of the important village, occupying a square green space, is the church, usually a very picturesque and colourful structure. The church, of course, has a religious function, and besides this it exerts a very strong æsthetic influence on the peasant.

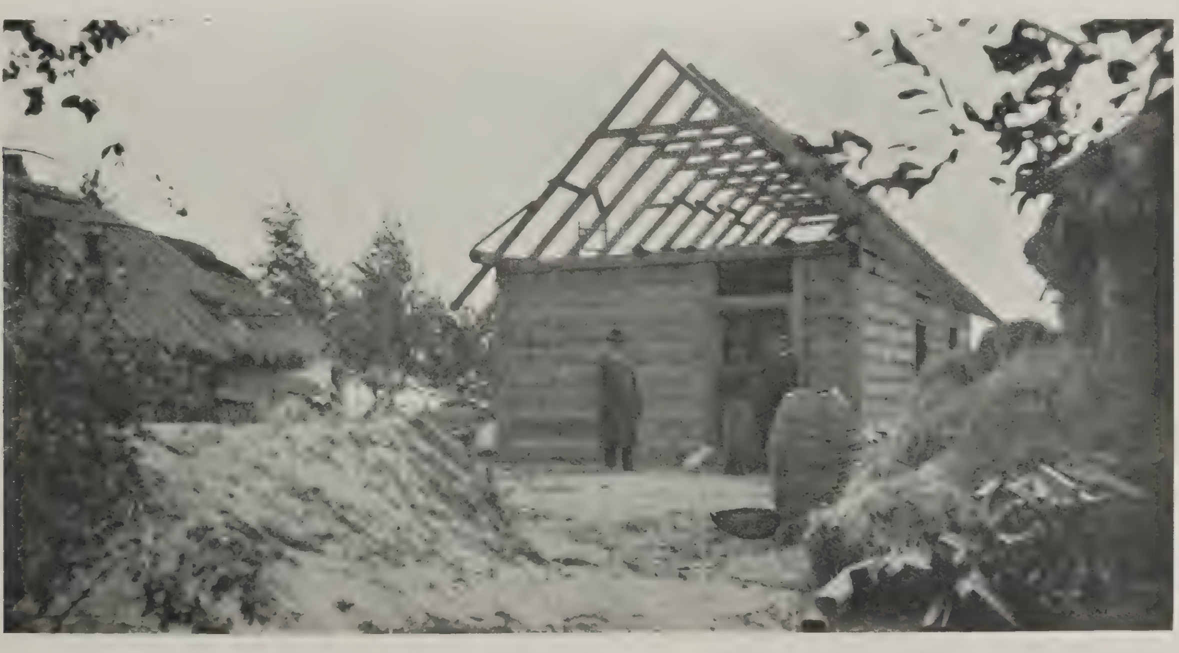
The rest is a story of the Stone Age. There is no gas, no electric light. The water is pumped from fœtid wells, and the insanitary condition of the huts would shock a Hottentot. There is no railroad communication. There is a postal delivery at long intervals, and news from the outside world comes very slowly indeed. In short, in none of these villages are there any signs of modern technical and scientific advance. But, as already pointed out, elaborate plans exist in the municipal offices at Moscow and Petrograd for converting the rural districts into garden cities, and thus carrying out reforms which were partly projected before the war, while Russia was strongly touched by the European Town Planning and Garden Suburb Movement, and partly since in harmony with the big plan of electrification.

But all these reforms, excellent as they are, must wait their turn for realization. Within the last twelve months many things have happened to put a stop to reconstruction schemes. Government resources have grown so short that theatres, factories, and places of business have been denationalized in the hope of letting them profitably to private tenants. Then the famine has played havoc with the new conception and organization of Russia.

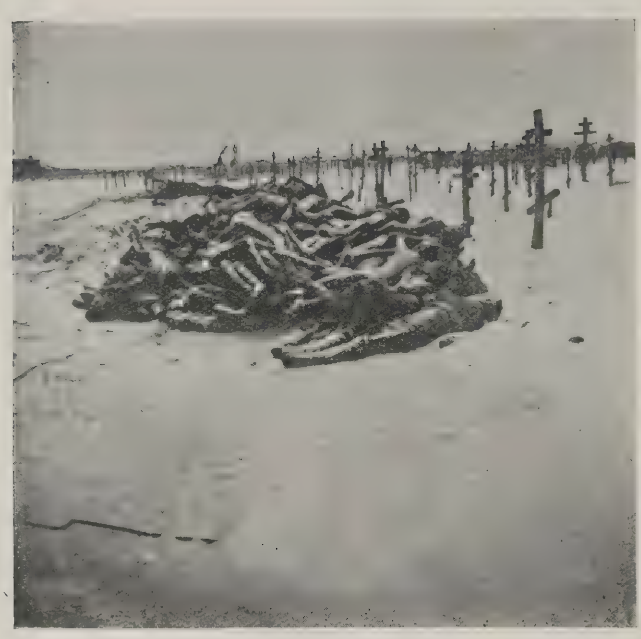
A very great deal could be written about the famine, perhaps, on the whole, the worst Russia has ever experienced, and so full of terrible features that only a man of stone could withhold his pity from the sufferers. At the same time there is much that is indescribable. I wandered for days and days in the black area—Samara, Buzuluk, Orenburg—noting the facts of the ravages of famine, typhus, cholera, and their accompaniments. I visited the far-



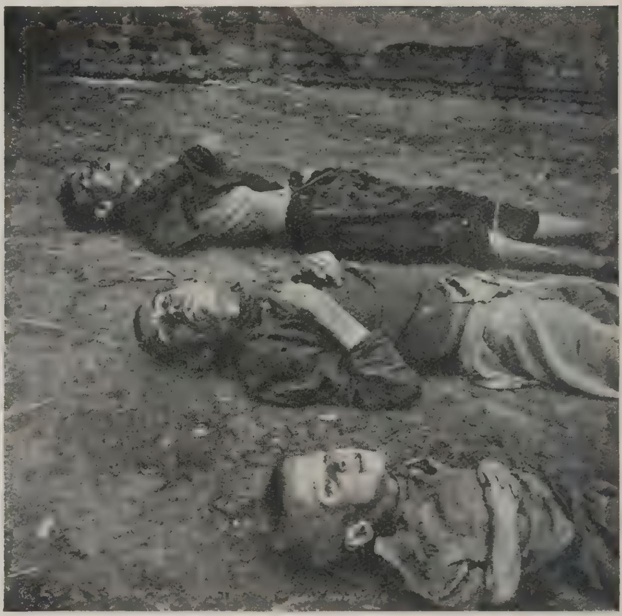
THE CONDITION OF THE FIELDS IN THE FAMINE AREA.



3.—A THIRD VIEW OF THE SAME COTTAGE RECONSTRUCTED BY THE QUAKER RELIEF MISSION.



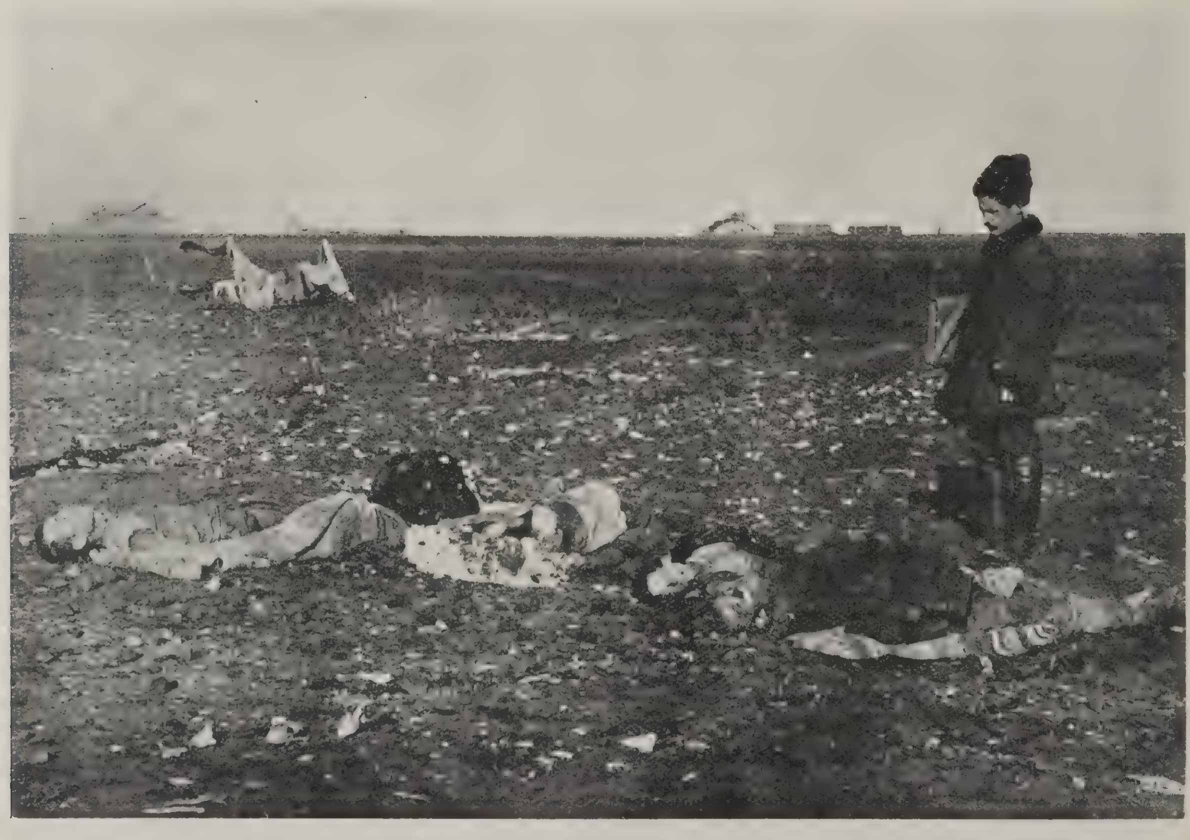
A HEAP OF BODIES NEAR THE CEMETERY AT BUZULUK, WHERE THEY HAVE LAIN FOR SOME DAYS.



DEAD BODIES OF REFUGEES IN A STREET AT BUZULUK.

flung and distant-lying villages (or remains of them) and wrote down what I saw, or as much as my stomach, so to speak, would permit. When one sees ravenous dogs fighting over the festering corpse of a girl who has died of starvation one rapidly notes the fact—perhaps notes, too, the behaviour of the dogs disturbed at their ghastly banquet; but beyond this human observance can seldom go. The details of universal hunger which drives men and women to eat each other, parents to eat their children, domestic animals to play the part of carrion crows, and carrion crows to look as though they were floating masses of human entrails, all this no doubt fixes itself on the mind vividly enough. But the healthy mind, sickened by the sudden inrush of unaccustomed horrors, simply refuses to play its part of retaining them. One is conscious of severe mental vomiting.

It is therefore doubtful whether the most terrible facts of what I and others witnessed will ever be recorded. I have met seasoned relief workers coming out of emergency marquees and feeding centres clasping their heads and looking as though they were about to drop dead. Their faces had terrible and unforgetable expressions. Ask them what they had seen and they could not tell you. It might have been a room some 30 ft. by 40 ft., with the



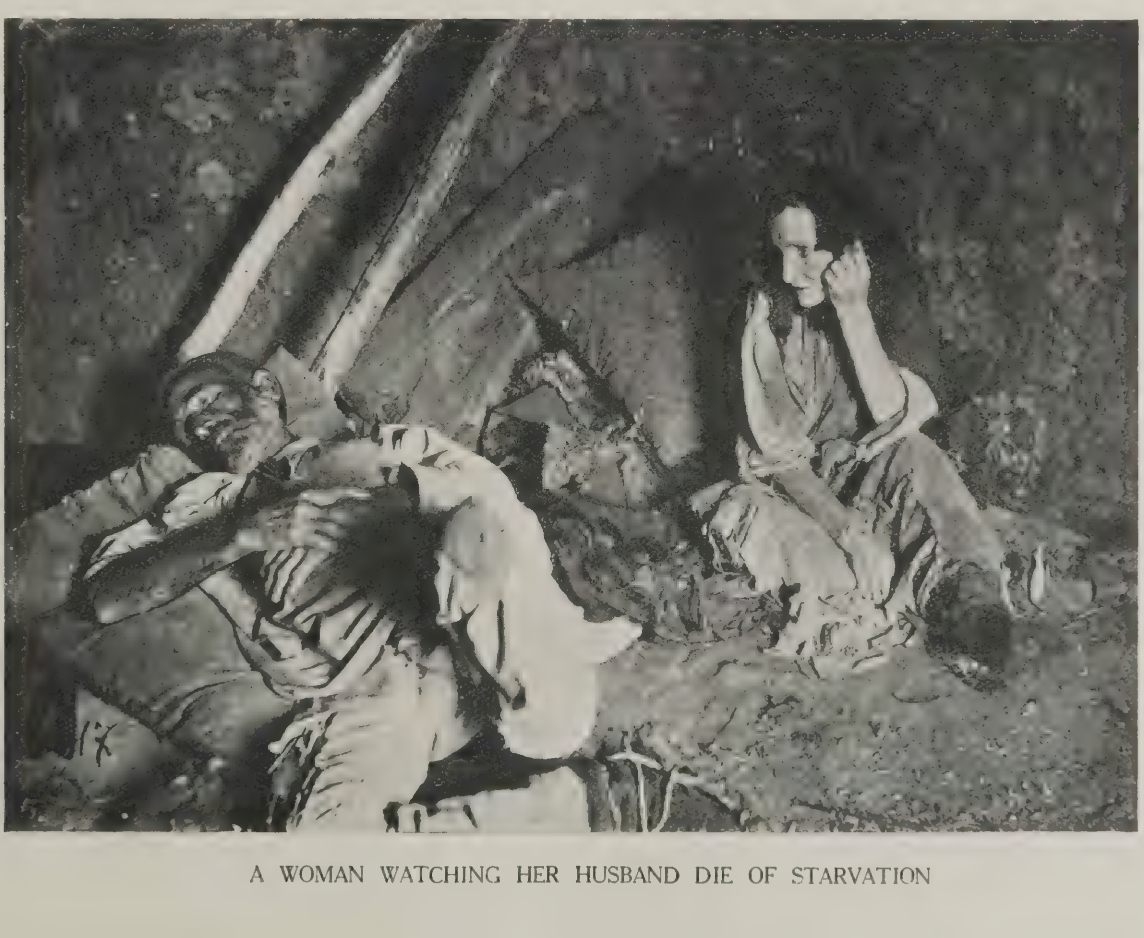
DEAD PEASANTS IN THE FIELDS. IN THE BACKGROUND CAN BE SEEN A CART, THE HORSES OF WHICH HAVE LONG SINCE BEEN EATEN.

appearance of having been of great importance once. The floor is bare and sloshy with mud and other filth. The walls are bare and reeking with water. There is no furniture. There is nothing except a shapeless mass of human beings resembling a filthy thick layer of grey rags. What one sees is really a hundred or more human beings in the last stages of starvation and disease. The low hoarse murmur of sounds, coughing, choking, sobbing, groaning, retching, even death-rattle, the air dense with the stench of rotting human flesh, the cold, clammy beads of perspiration dripping from the ceiling, and the glassy stare of dead here and there standing out from the moist grey mass—all these things are present. You do not see them, you feel them, and stagger away mentally blinded, sick to death.

A GROUP OF DEAD CHILDREN IN THE STREET.

One turns with relief from this living tomb to the morgue, formed by a shed, containing, it may be, fifty or sixty bodies piled one above the other, stark naked (for the clothes are removed from the dead and burned instantly), sprawling in every attitude, and so emaciated that they reminded me of the bags of bones of unidentified soldiers that one used to pick up at Vimy Ridge and other battlefields on the Western Front.

I fancy it was with even more relief that I turned to the cut-and-dried facts of cannibalism. The cannibals themselves treated their ghastly business with so much indifference that it put me in quite a cheerful mood. I was as cheerful, in fact, as I was after dissecting bodies for six months at a London hospital. Many of these people have been photographed with the implements they used to dismember the bodies and the uneaten parts of the dismembered bodies. To look at them one would never imagine that they were cannibals. As one of them said, "We must eat something to live. We have eaten the thatch off our roofs, the skins off the deer, and our animals. We have stewed manure, wood, leaves, everything there was, and as a last resort we have come to this. Human flesh," he continued, "is palatable, but it is very salt." He did not say how much nourishing food is to be obtained from a body that has died of starvation. All this is unequalled for horror. For the moment Russia has slipped down into the pit of famine. How long it will remain there is uncertain. Latest reports from the Famine District are not hopeful. We may take it as proved that the whole acreage of Russia requires rebuilding, but nothing can be done till the present economic situation has improved. Economically Russia does not exist; so much the worse for Europe.



A WOMAN WATCHING HER HUSBAND DIE OF STARVATION

Brookfield Estate, Highgate, London

A Housing Scheme for the St. Pancras Borough Council

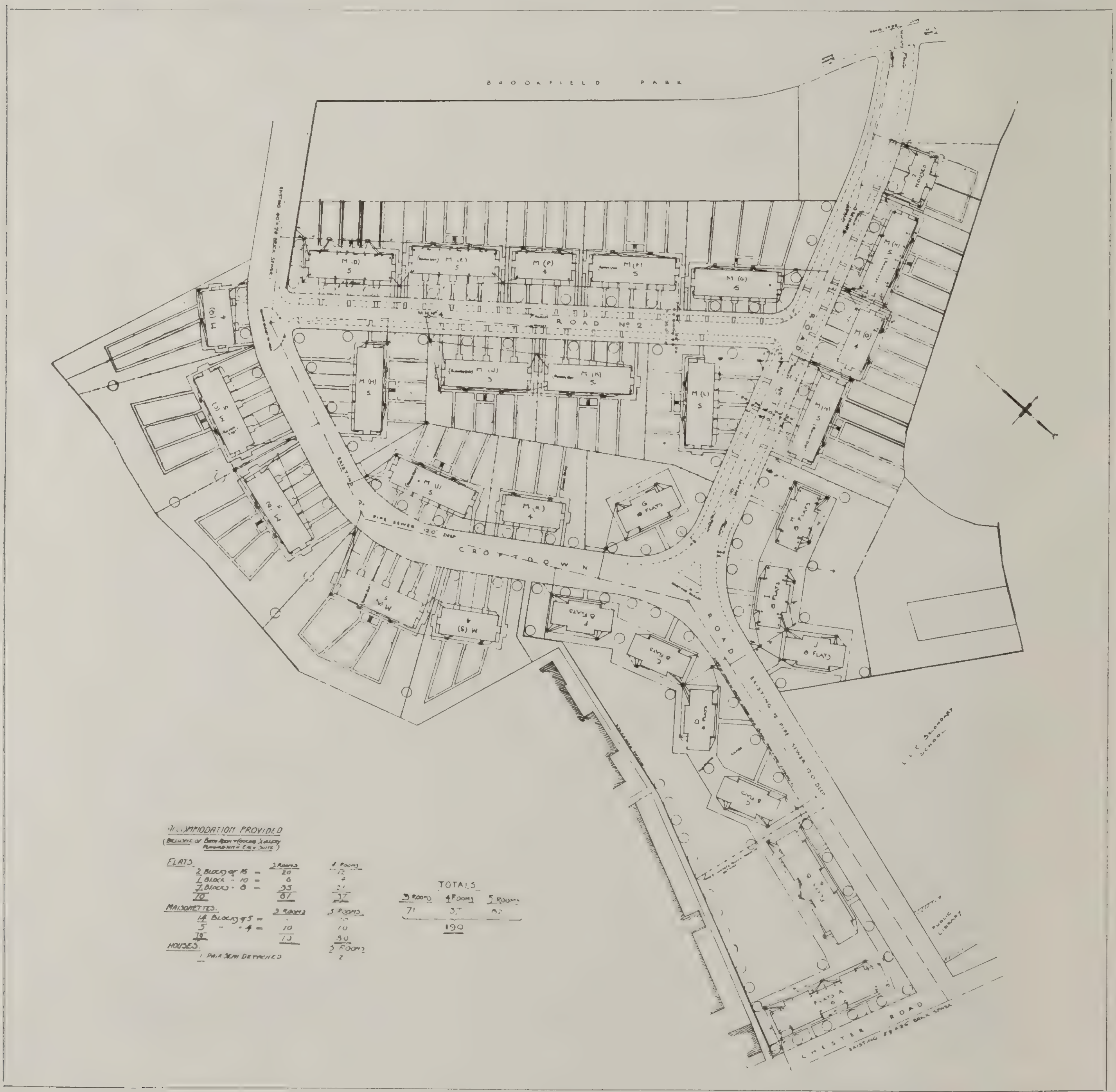
BROOKFIELD HOUSING SCHEME is now in process of completion. It has been designed by Mr. Albert J. Thomas, M.S.A., Lic.R.I.B.A. The scheme consists of three types of buildings—cottages, maisonettes, and tenements; but whereas there are only two pairs of cottages, there are ten blocks of tenements, and eighteen blocks of maisonettes.

There are seven blocks of eight tenements, two of sixteen, and one of ten, the block of ten being five stories in height—that is one story higher than any other block. The two blocks of sixteen tenements contain ten three-room and six four-room flats; the blocks of eight tenements contain five three-room and three four-room flats, and the block of ten tenements, six three-room and four four-room flats, exclusive of cooking sculleries and bathrooms. They are designed with the utmost simplicity, and line Croftdown Road from Chester Road as far as the centre square of the housing scheme.

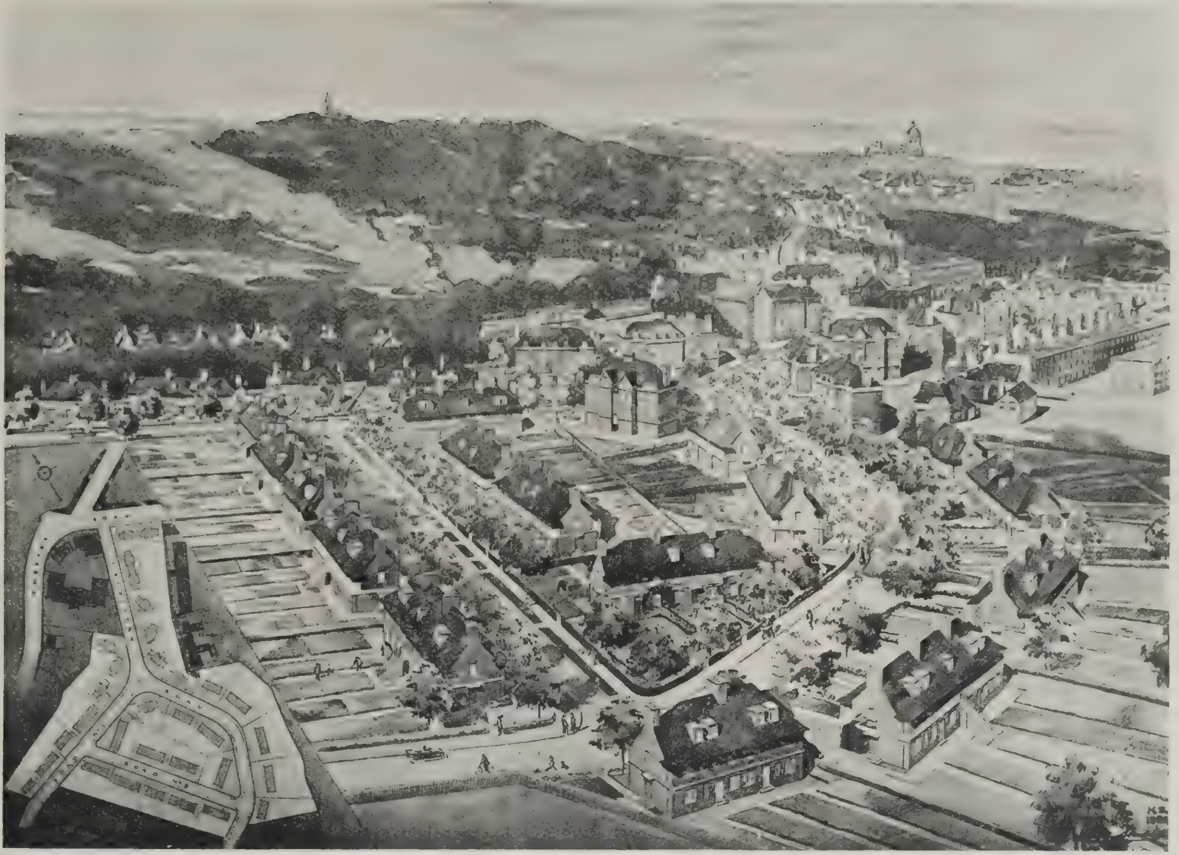
From this square two new roads branch off at equal angles. These are lined by maisonettes planned in such a way that no two directly overlook each other.

Of these maisonettes there are two types. There is a larger block consisting of five maisonettes, two on the ground floor and three on the upper floors, each maisonette having five rooms; and there is a smaller block consisting of four maisonettes, two of four rooms on the ground floor, and two of six rooms on the upper floors; all these are also fitted with a cooking scullery and bathroom.

The planning of each block is much the same. The larger block illustrated on pages 416 and 417, has three doors in



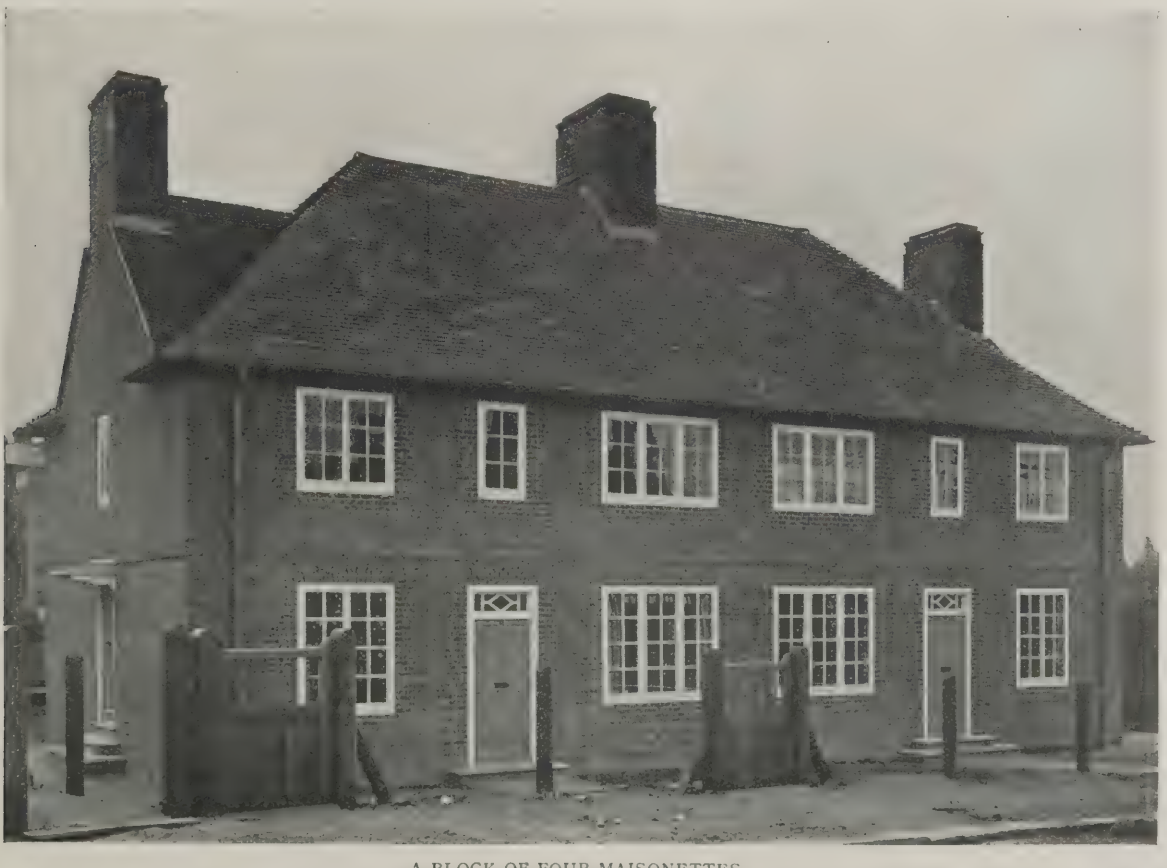
THE LAY-OUT OF THE HOUSING SCHEME.



A BIRD'S-EYE PERSPECTIVE OF THE SCHEME.

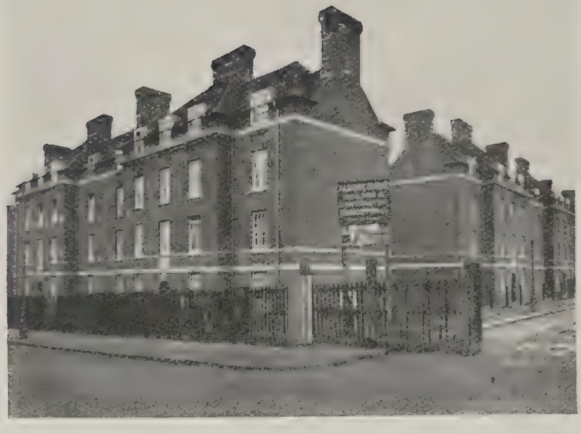
front, one at each end, and three at the back. Of the doors in front, those on each side lead into the ground floor maisonettes, their duplicates at the back acting as garden doors for the same maisonettes. The centre door in the front, however, leads straight up to the centre maisonette on the first floor, which has bedrooms in the roof, the dormers of which can be seen in the illustration. This maisonette has a back door at first floor level, its coal cellar being situated under the exterior staircase that leads down to the garden.

The two end maisonettes on the upper floors have one door only—that at the end of the building. The dormers of their bedrooms face towards the back. The smaller

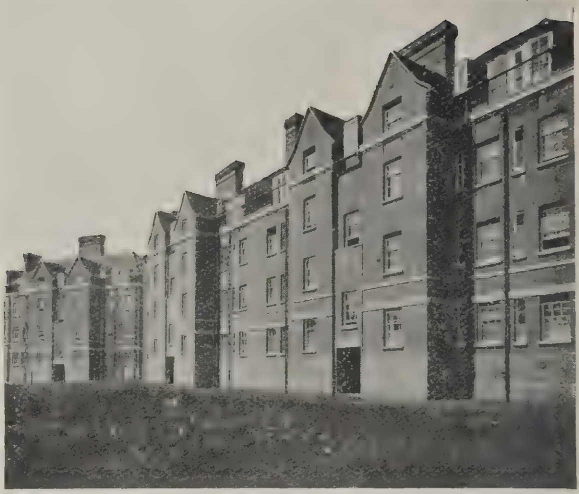


A BLOCK OF FOUR MAISONETTES

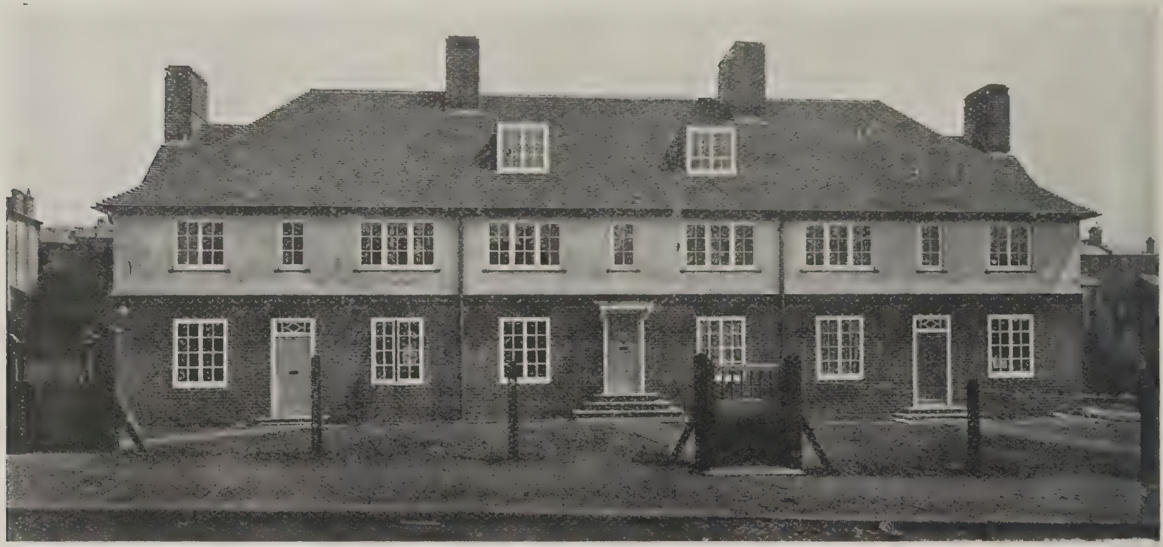
THE BROOKFIELD HOUSING SCHEME, HIGHGATE, LONDON



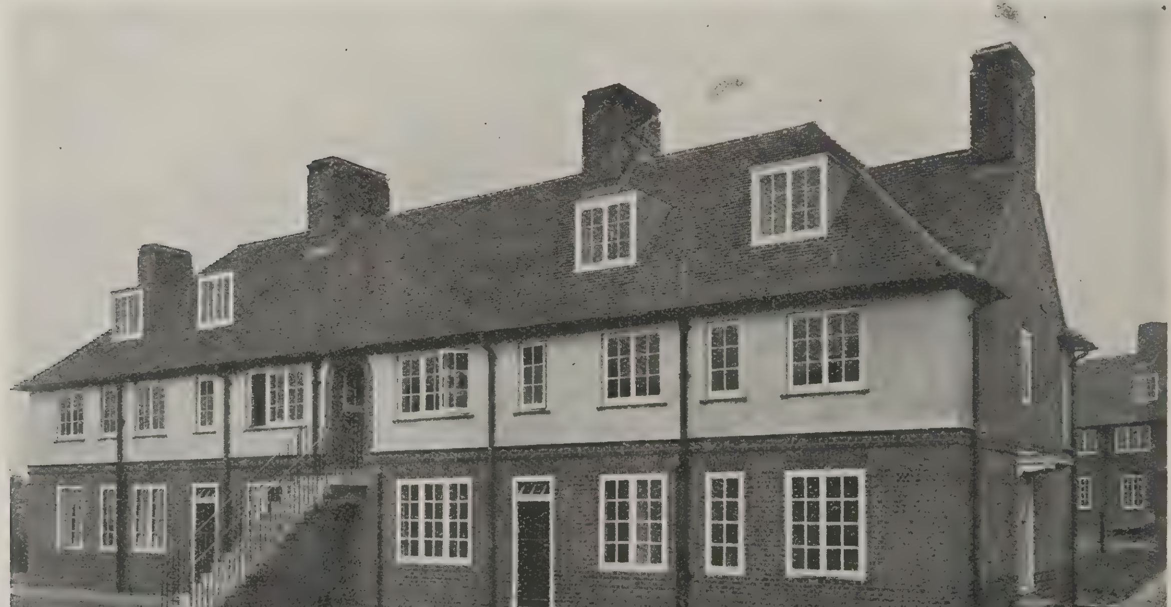
TENEMENTS FACING CHESTER ROAD



A BACK VIEW OF TENEMENTS FROM CROFTDOWN ROAD

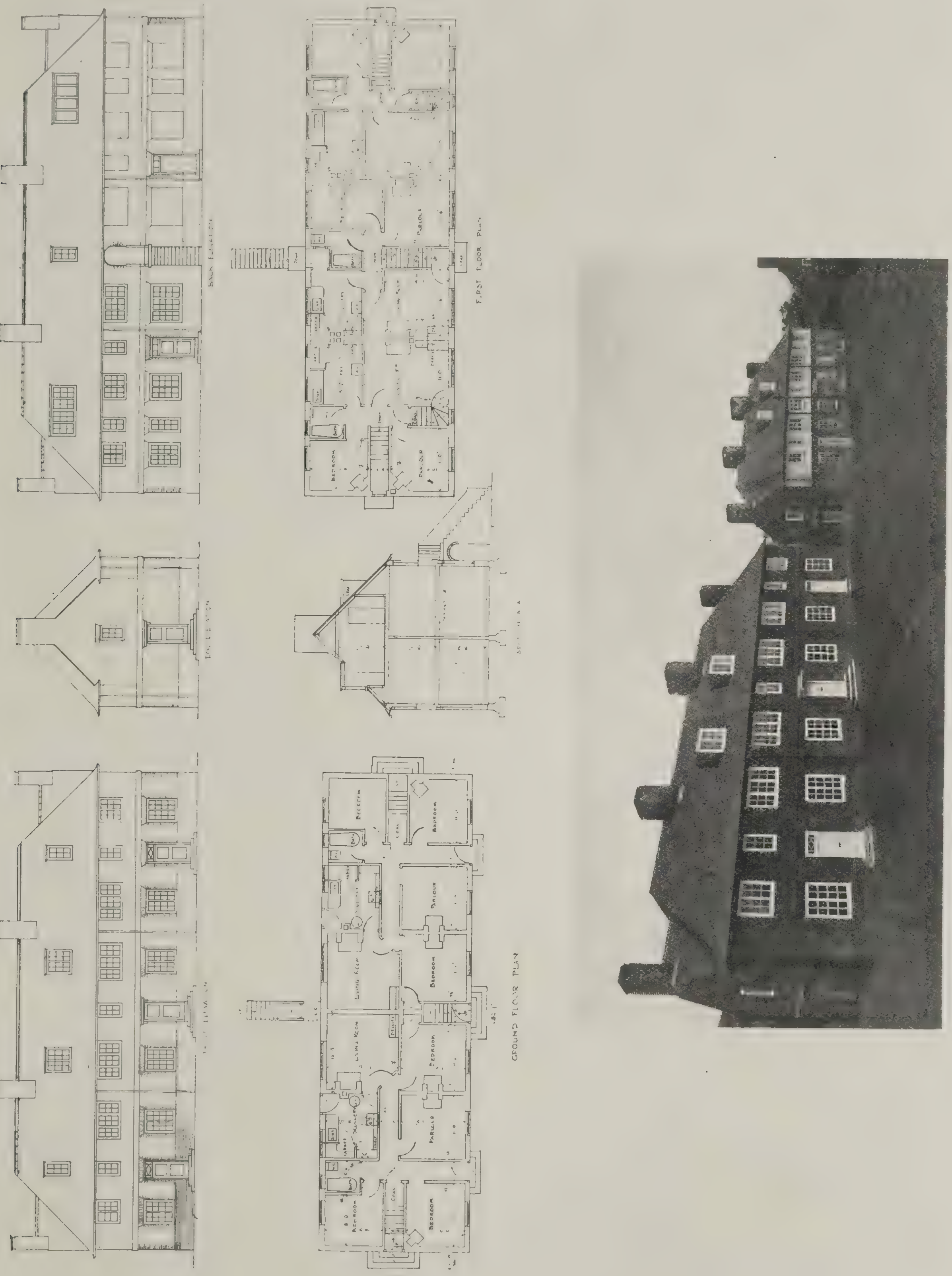


A BLOCK OF FIVE MAISONETTES.

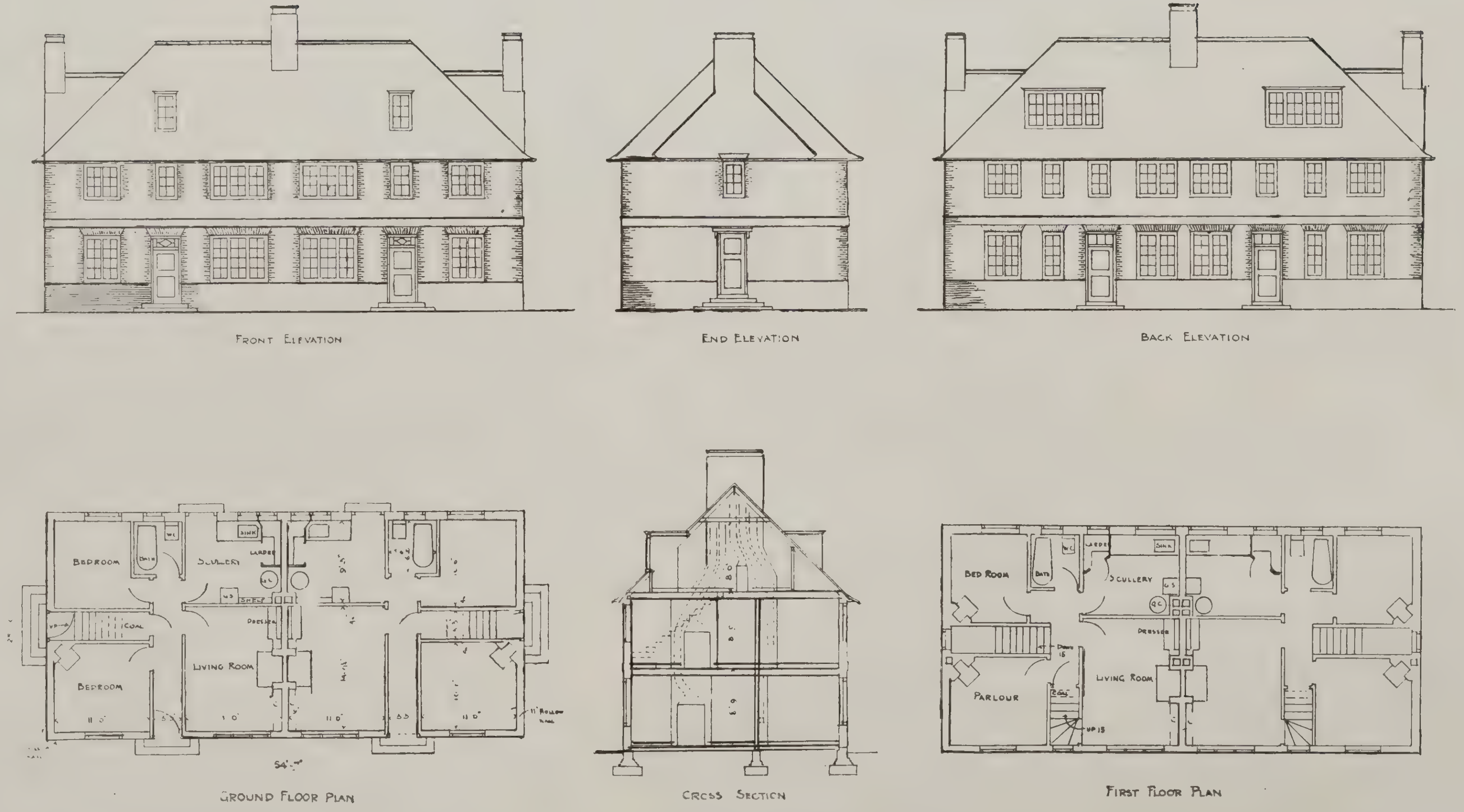


A BACK VIEW OF THE SAME BLOCK OF FIVE MAISONETTES.

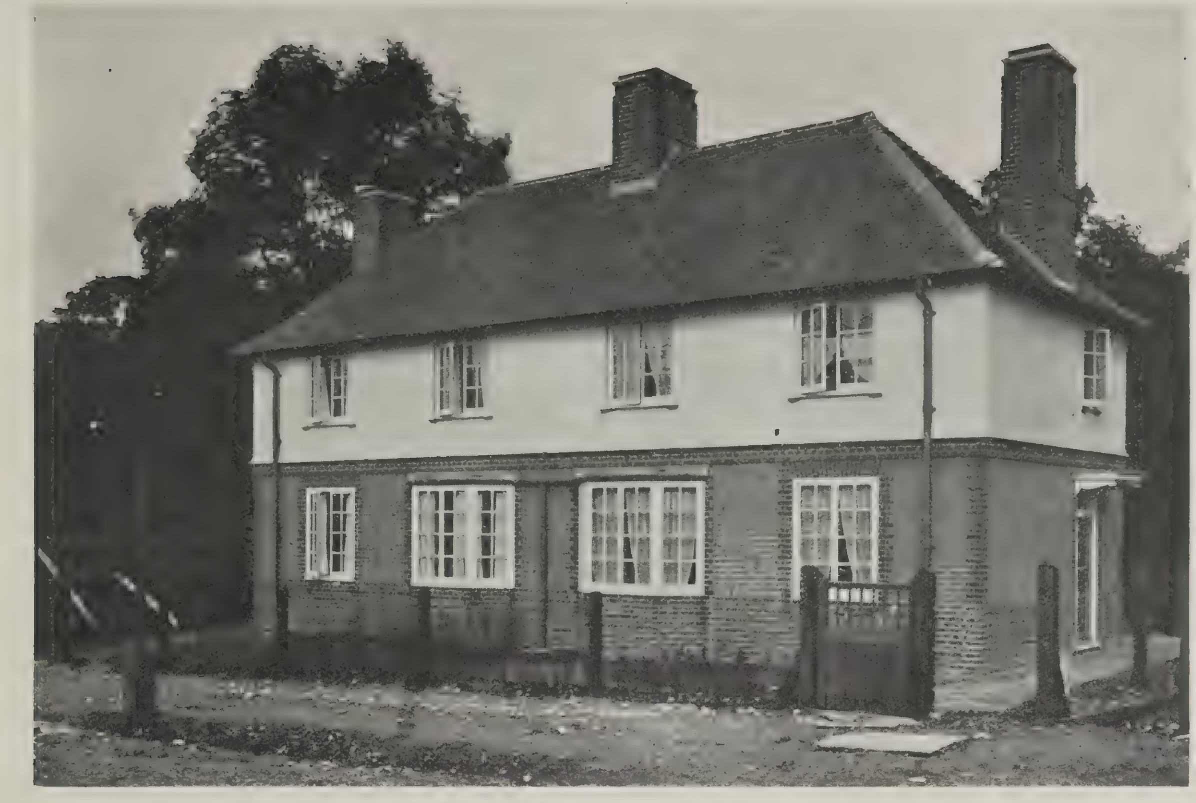
THE BROOKFIELD HOUSING SCHEME, HIGHGATE, LONDON.

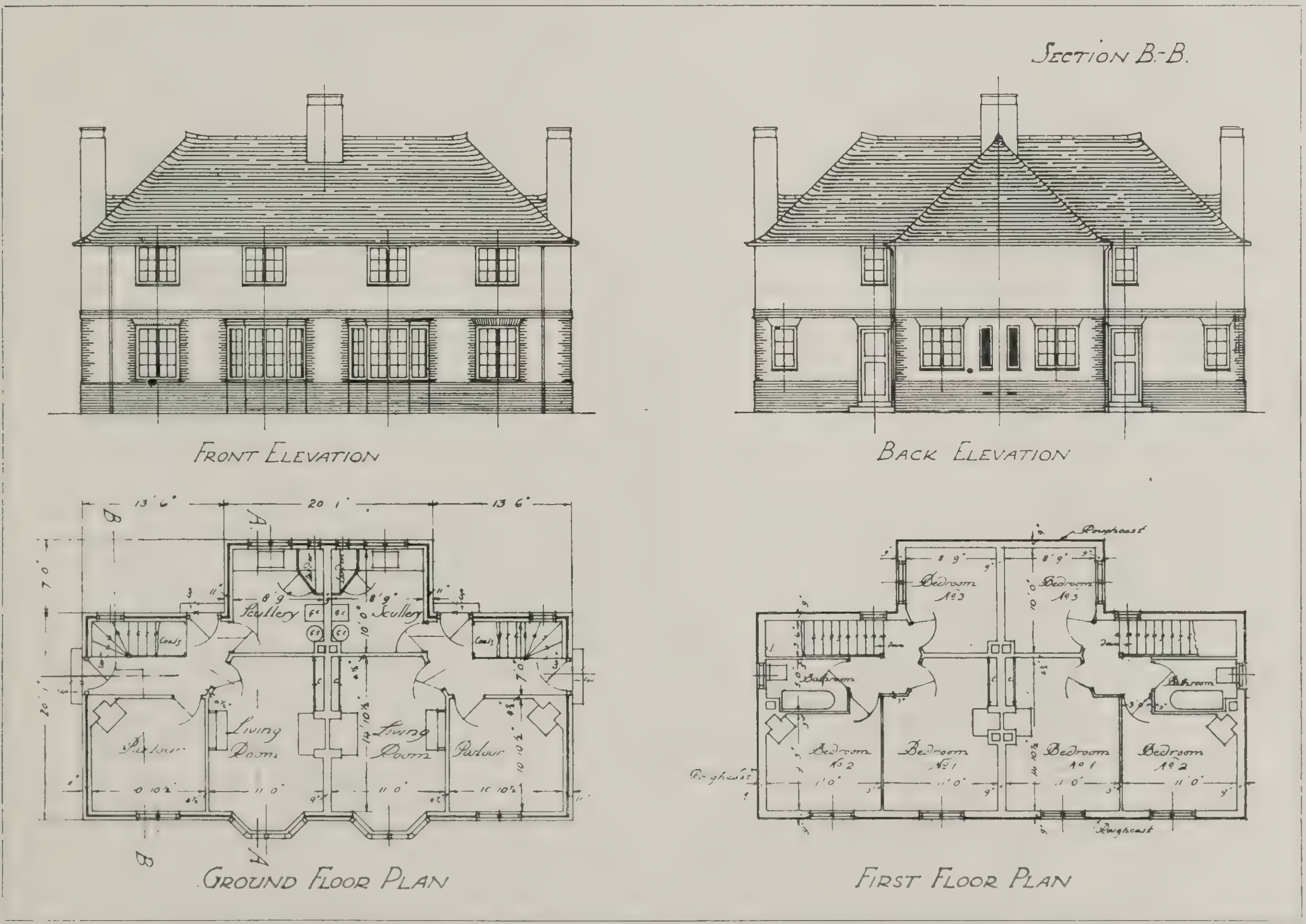


A BLOCK OF FIVE MAISONETTES THE BROOKFIELD HOUSING SCHEME, HIGHGATE, LONDON.

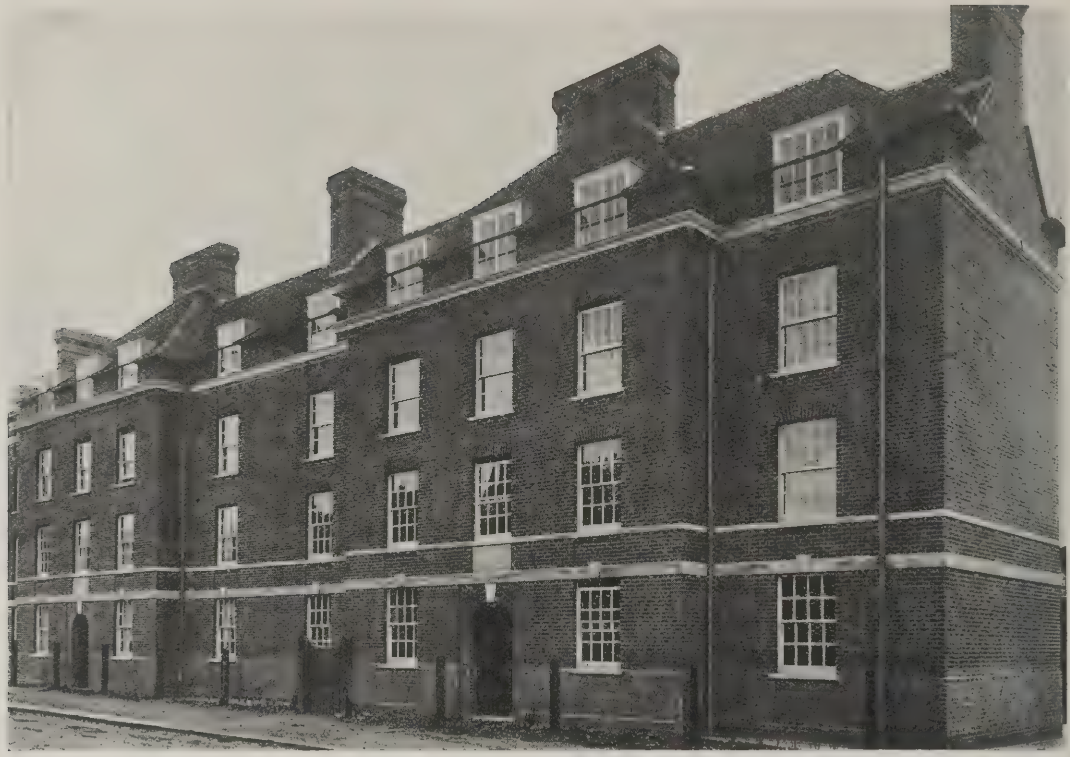


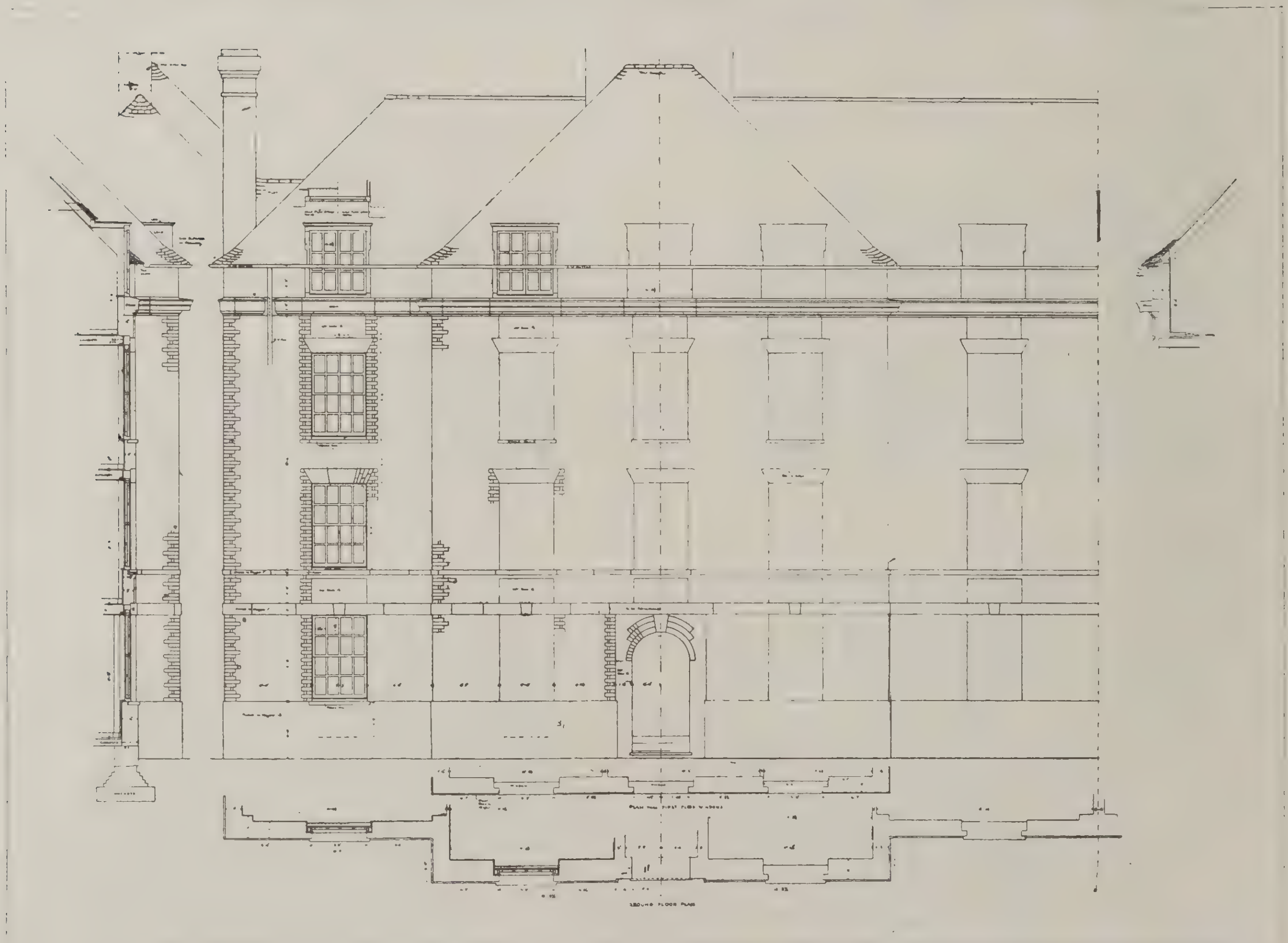
A BLOCK OF FOUR MAISONETTES: THE BROOKFIELD HOUSING SCHEME, HIGHGATE, LONDON.





A PAIR OF COTTAGES: THE BROOKFIELD HOUSING SCHEME, HIGHGATE LONDON.





A BLOCK OF SIXTEEN TENEMENTS IN CROFTDOWN ROAD: THE BROOKFIELD HOUSING SCHEME, HIGHGATE, LONDON.

blocks of maisonettes are planned on much the same lines, though the number of their rooms is different.

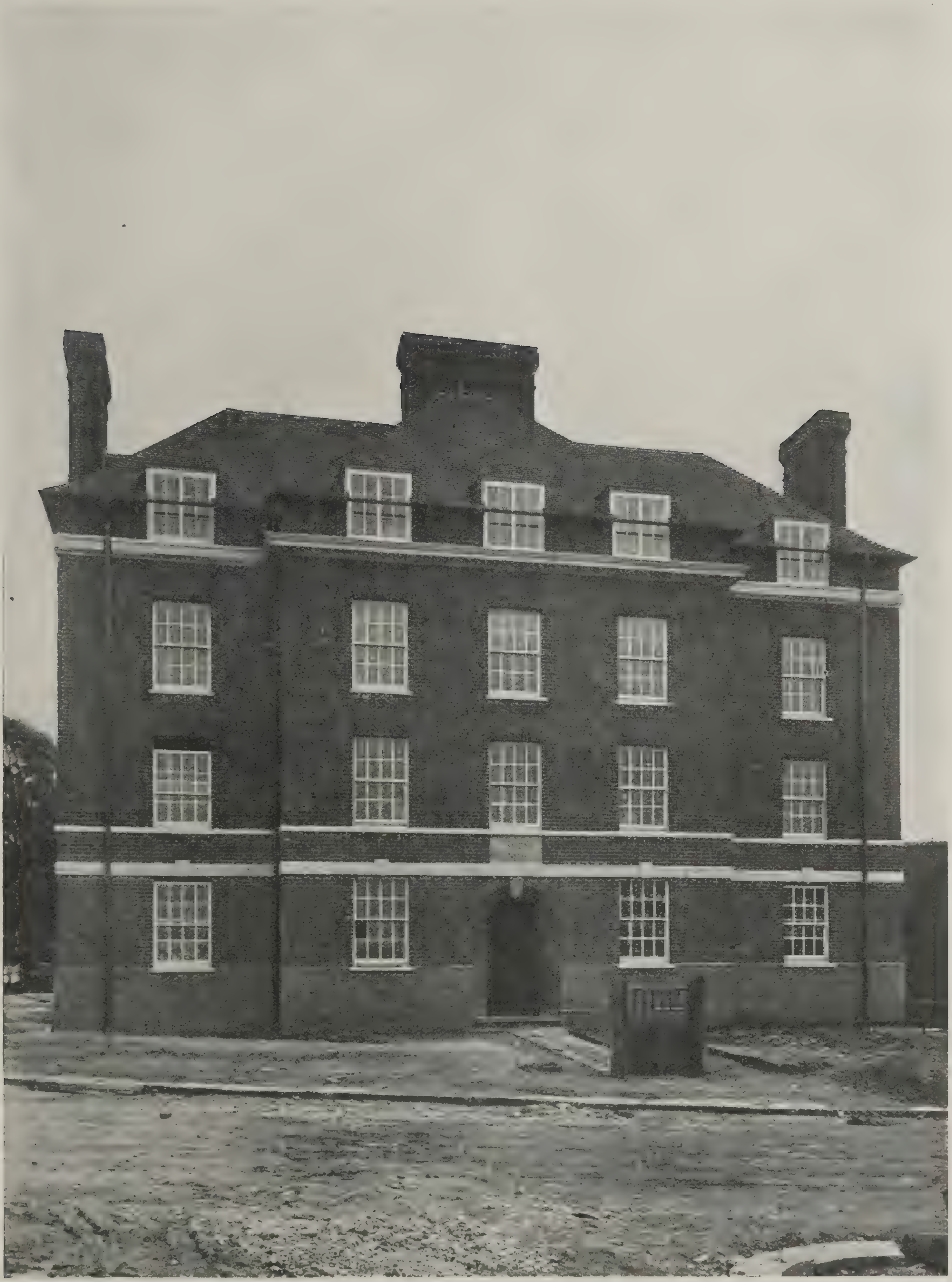
Each maisonette has its own back and front garden. The manner in which this is arranged can be seen by a study of the lay-out of the scheme. The centre maisonette on the first floor has a garden in the centre, the ground floor maisonettes gardens flanking this, and the end maisonettes on the first floor, gardens at the extreme sides. This is a very interesting arrangement.

The two pairs of cottages have six-room accommodation —a parlour, a living-room, a kitchen-scullery, three bedrooms, and a bathroom.

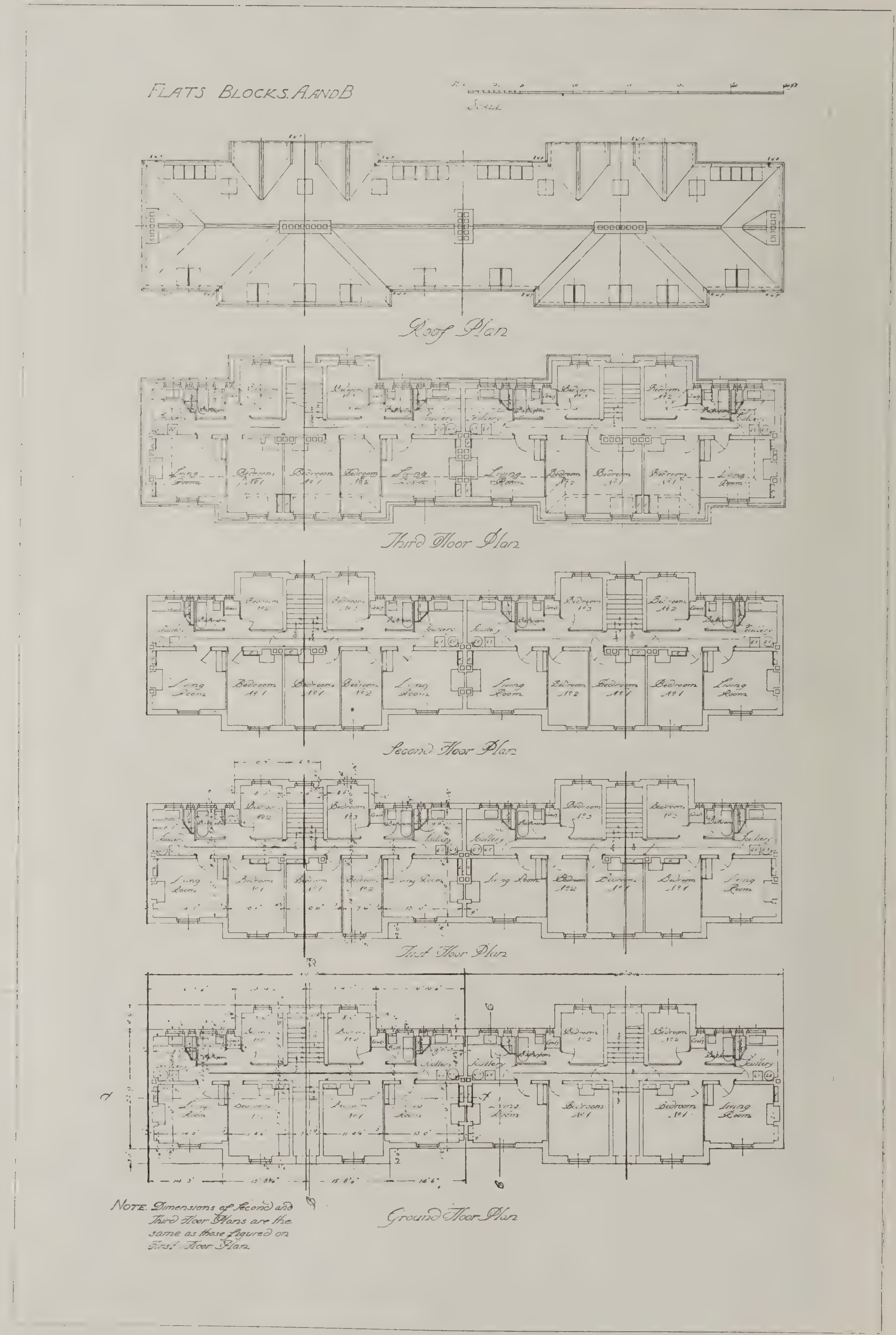
Every house, flat, and maisonette is lit by electricity, and is gas-heated and provided with a gas copper. All cooking is also done by gas, though other rooms have coal fires.

The Brookfield Estate itself stands in a high part of Highgate, and gives the residents a view over the "roof of London" to Westminster and St. Paul's. It is, in fact, a very delightful place to live in.

The general contractor for this work (which will have been completed and occupied by the tenants within the contract time) is Mr. Albert Monk, of Lower Edmonton, N. The electrical work is by T. Smerdon, London; the tiles by Colliers, Reading; the bricks by Major Morrisons, Pangbourne, the Daneshill Brick Co., Old Basingstoke, and Lawrence, Bracknell, Bucks.

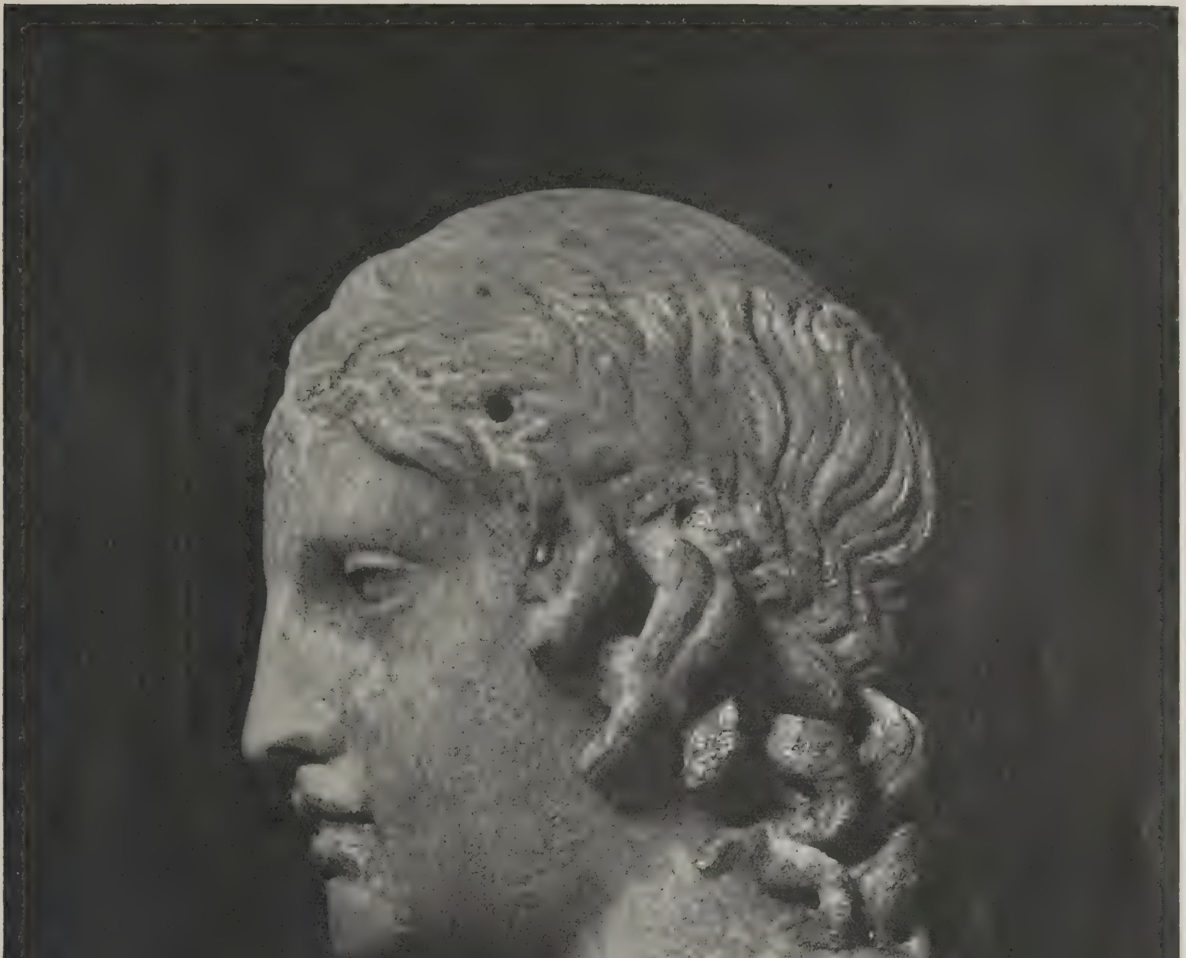


A BLOCK OF EIGHT TENEMENTS. THE BROOKFIELD HOUSING SCHEME, HIGHGATE, LONDON.



PLANS OF FLATS: THE BROOKFIELD HOUSING SCHEME, HIGHGATE, LONDON.

The Newly-Discovered Greek Statue



Mr. Arnold Mitchell, F.R.I.B.A., has enriched the Ashmolean Museum with a magnificent specimen of early Greek sculpture, which he had the good fortune to find in Dorset. The statue is thought by Dr. Percy Gardner to have been carved about 300 B.C., out of marble that, from its texture, would seem to have been quarried somewhere near Smyrna. How it came to Wessex baffles conjecture ; but its supreme beauty would easily account for and condone the abduction.

Little Things that Matter. XV—Pantiling

By EDWIN GUNN, A.R.I.B.A.

NOT so many years ago the authors of building construction books were wont to dismiss pantiling—the chief and almost the sole roof covering in use in large tracts of England and in the Low Countries—with a few contemptuous words. It may be admitted that the pantile roofs carried out in the slums of London during the late eighteenth and early nineteenth centuries deserve harsh criticism; nevertheless, they have one manifest advantage—if they often leak, they are easy to repair. Still, pantiles laid in the manner customary to those districts where they have long been adapted for all but the most monumental buildings can provide a very satisfactory roof covering, and these methods of laying are worthy of investigation.

The ordinary pantile is a slab of burnt clay, about 10 in. wide by 14 in. long, formed to a wave section crossways, but straight from head to tail, and clipped at two diagonally opposite corners as shown in Fig. 41 (see opposite page). A single nib is formed at the head, in line with the channel part of the wave section.

The gauge and spacing of the pantiling are practically fixed by the clipped angles, at 11 in. gauge and 8 in. side spacing, and any adjustment, apart from the variation brought about by other than normal sized tiles, is possible within narrow limits only. Though good pantiles lie close, usually it is not safe to rely on the narrow margin of the head or the side lap alone to secure a watertight roof, nor are tiles merely laid dry likely to be steady under stress of weather. They are, therefore, either bedded (of which more anon), torched, or pointed; the object in each case being to prevent wind—and with it rain and snow—from penetrating between the edges of the tiles, and also to hold the latter firm so as to prevent stripping.

Torching consists of pointing up all the joints in the roof covering from the underside after the tiles are laid. It has two obvious defects, its execution is hampered by roof timbers and battens so as to be less than perfect, while a slight movement of the roof causes considerable portions to loosen and drop out.

Pointing is a similar process applied to the outside surface of the roof. It can be done more completely, but it does not improve the appearance of the roof. It is apt to require renewal, and in time causes the surface of the roof to appear to be constructed more of pointing material than of tile.

Bedding consists of settling each tile as laid on a mortar fillet running beneath the ridges formed by the side junctions of each row of tiles. Several methods may be adopted. By the "strip lath" method a triple row of wrent laths is nailed above the tiling battens and running from eaves to ridge, to receive a mortar fillet below each joint as Fig. 42. This method uses the minimum quantity of bedding material, holds the mortar well, and has a neat and workmanlike appearance, but it lacks some of the advantages of "reeding and bedding." This latter method consists of filling in the spaces between the tile battens with a layer of reeds laid in the same direction and held in position by short pieces of lath sprung in under the battens as Fig. 43. Upon this basis the mortar fillets are laid, and in old work it was often usual to plaster between the rafters on the underside of the reeds. Reeding has the threefold advantage of (1) acting as a sort of "blotting paper" to absorb any trifling moisture which may percolate through tiles or joints; (2) in the case of roofs liable to wind pressure from beneath (as in many farm buildings), protecting the tiling from stripping; and, (3) providing a valuable insulating layer against heat and cold. The finish of the pantiling at the margins presents features differing from those of ordinary tiling or slating, owing to the curvature in cross section of the tiles.

When a half-round ridge tile is placed over the pantiles a considerable space is left above the furrow part of the tiles, and this requires filling. In good old work the space was always packed up with pieces of broken tile in mortar, or neatly filled with strips of plain tile as Fig. 44, which gives a very attractive and craftsmanlike finish. If the 11 in. gauge of the tiling did not quite suit the length of roof slope it was sometimes customary to make up the difference with one course of plain tiles above this packing and immediately below the ridge. In modern practice the space under the ridging is more often clumsily daubed with cement.

The soundest work is produced by laying an under eaves course of slates or plain tiles (out of sight) on which the tails of the bottom course of pantiles should be bedded in mortar, Fig. 45, or a brick corbel-course, as Fig. 46.

Owing to the fact that pantiles are commonly made right-handed, a gable will show a different edge on the two opposing slopes. Many old roofs were terminated at the gables by a low parapet of brick on edge, either 4½ in. or 9 in. wide, and rising just sufficiently to back up a cement fillet on the tiles, Fig. 47. This gives a finish full of character, but the parapets are apt to provide a ready means of ingress for damp. The ordinary tile verge with undercloak is not a very happy treatment for pantiling, and if a gable form arises the finish most common in East Anglia is practically the best that can be devised. It is shown in Fig. 48. The capping above the barge board holds down the exposed verge, the place where stripping usually begins.

Any of the ordinary types of cover flashing may be used with pantiles, though an apron flashing requires extensive labour in dressing it to the corrugations of roof. Soakers cannot be applied to a pantile roof. The use of leadwork in connection with pantiling is inclined to savour of patching a fustian garment with satin. The head and side joints with which the roof is intersected depend on mortar pointing or fillets, and one such joint more or less can make little difference.

Hips can only be covered with half-round ridging, beneath which the same problem as at the ridges must be dealt with. Intersections in old work were often formed by a course of pantiling laid down the valley, over which the tiling of the intersecting slopes was cut and bedded. This looks much better than an open metal valley, but it must be admitted that most of those which have been seen appear to have given trouble at some time or other. This covering is not really well adapted to a roof with many intersections, but to a bold and simple form free from complications and used under these limitations pantiling gives quite good results.

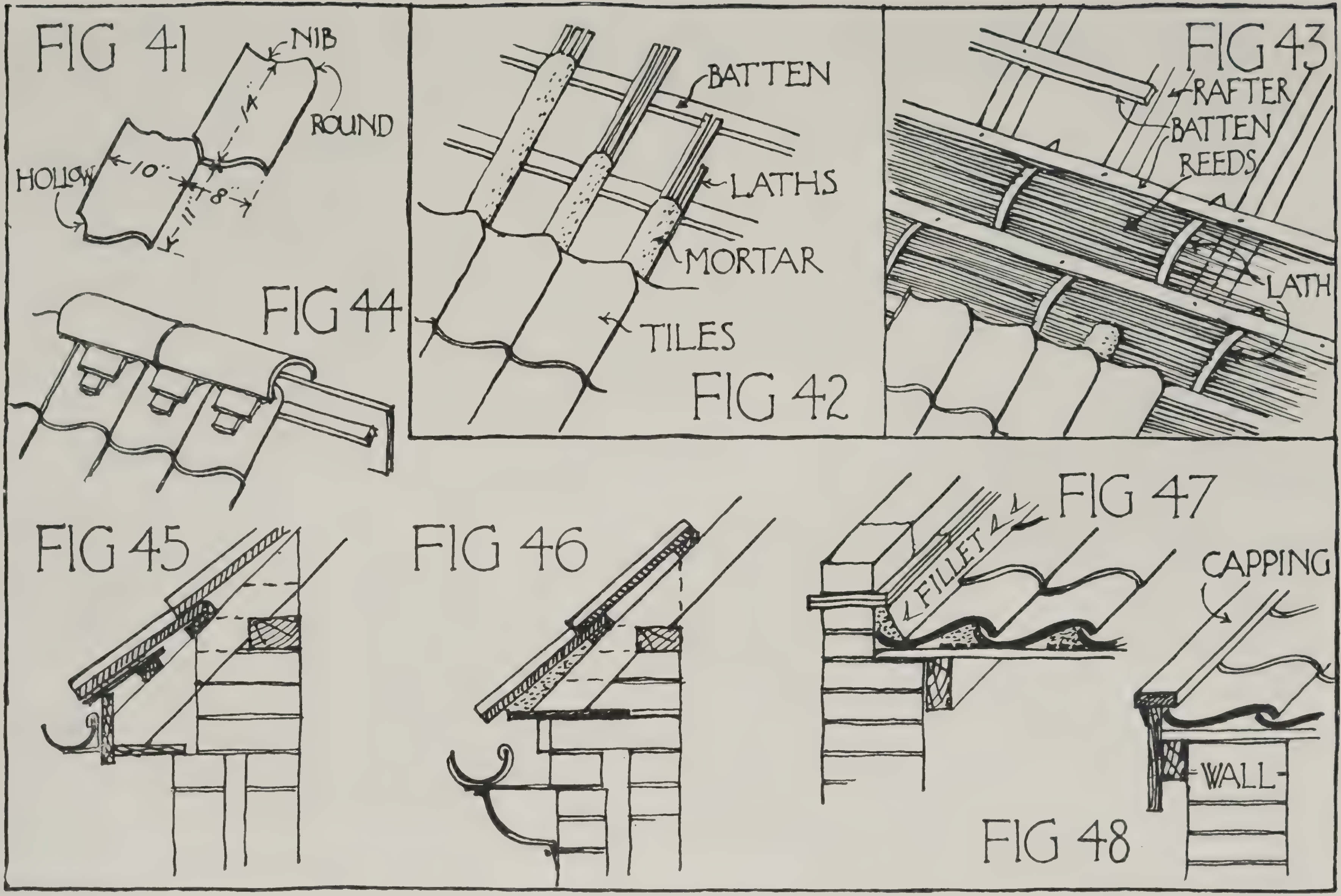
A Chapel in Every Home

It is possible that architects in designing the homes of the future will have to consider the spiritual as well as the physical comforts of the occupier. A movement for a chapel in every home has been begun by Mr. Joseph R. Wilson, of Philadelphia, and already it has the support of three cardinals, the Primates of the Anglican Church in Scotland, Ireland, Canada, India and Ceylon, the West Indies, and the Metropolitans of Australia and South Africa, three archbishops and one hundred and twenty-one bishops of the United States and Great Britain, the presidents of twenty-five universities, colleges and seminaries in the United States, the leading clergymen of the foremost denominations, and distinguished laymen.

It is suggested that in the future in planning homes, no matter whether they be houses, apartments, or tenements, provision should be made for a sanctuary. Mr. Wilson points out that there is nothing new in the idea. There were churches in the homes of Nyphas, Priscilla and Aquila, and even Pagan Rome had household temples for her idol gods. Mr. Wilson views with great concern the lack of religion displayed in the home of to-day, and the book * has been published at his personal expense for distribution among churchmen, public officials and publicists for no other purpose than as a contribution to the general betterment of humanity. He realizes that the home is the cornerstone upon which rests national life and progress, and that any effective means of strengthening and uplifting the home life will have a vital effect on national life. From the standpoint of the architect there is nothing impracticable in the suggestion.

Dr. Warren Powers Laird, Dean of the Department of Architecture, University of Pennsylvania, adds this contribution to the book: "To the architect, whose created works are not only the seat but the symbol of the life to be lived within them, the opportunity to incorporate a chapel in the home must bring peculiar satisfaction, for it would enable him to complete the practical provisions for the various functions of the home life, now too universally confined to the physical and social sides."

"An Appeal to the World for a Chapel in Every Home." By Joseph R. Wilson, LL.B., 1525 Spruce Street, Philadelphia.



DETAILS OF PANTILING. BY EDWIN GUNN, A.R.I.B.A.

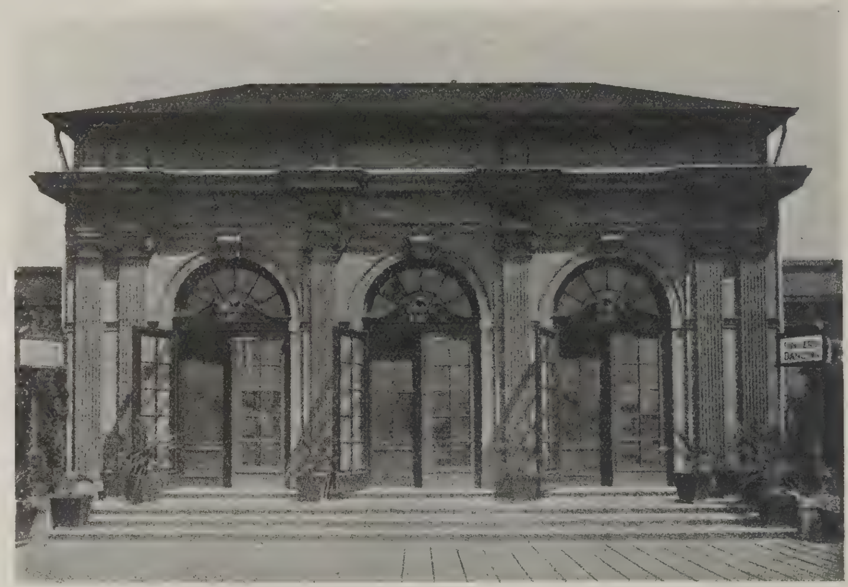
Magazines of the Month*

A Literary and Pictorial Digest

THE ARCHITECTURAL REVIEW for September devotes a large number of its pages to an article on the new London County Hall, by Mr. Maurice E. Webb, illustrated by a particularly fine series of photographs specially taken by Mr. F. R. Yerbury.

Delightful etchings of Wells, by Harold Falkner, accompany a descriptive article; and St. Paul's Church, Deptford, forms the subject of an illustrated article by Mr. Godfrey Pinkerton.

Mr. Walter Keesey is represented by some etchings of Paris, one of which we reproduce.



A REFRESHMENT AND DANCE PAVILION, SUNNYSIDE, TORONTO. CHAPMAN OXLEY, AND BISHOP, ARCHITECTS.

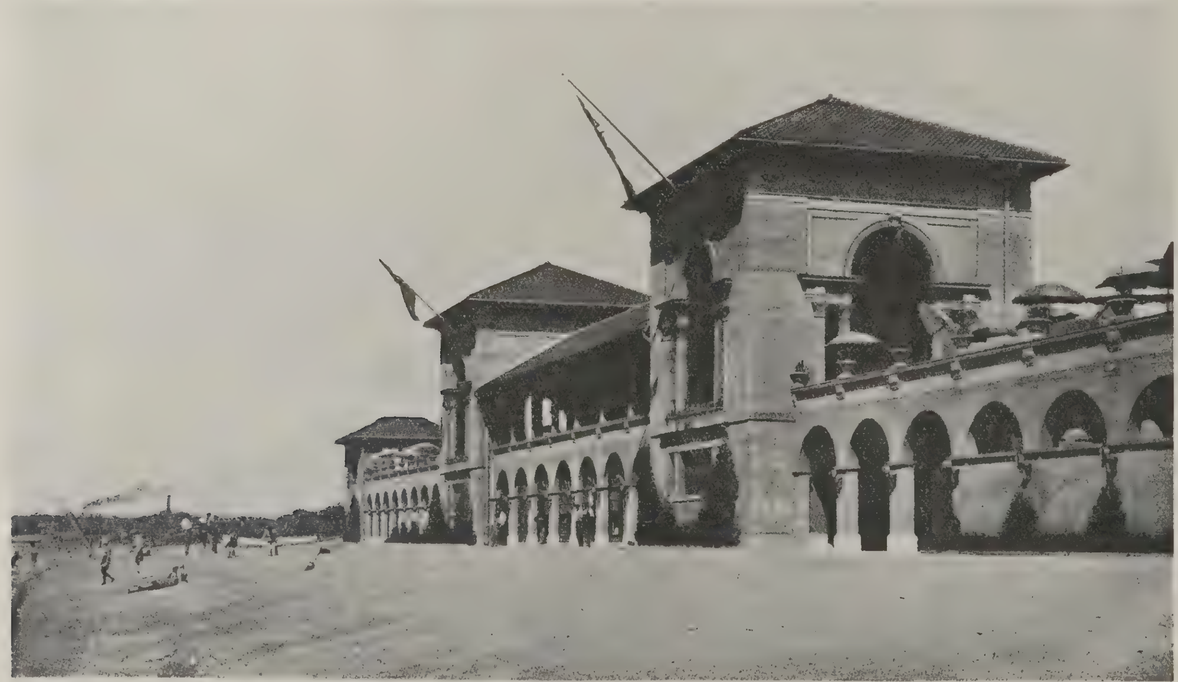
(From "Construction.")

CONSTRUCTION shows us how the Canadian takes his pleasure by the lake side. At Sunnyside, in the west-end of Toronto, the lake front is being rapidly transformed into an extensive playground and recreational area. One hundred and thirty acres of land have been reclaimed, and the lay-out makes provision for a building strip, traffic street, boulevard drive, and promenade. The Sunnyside pavilion, the first building improvement on the reclaimed area, comprises an outside terraced garden for refreshment and dancing. The bathing pavilion is in the centre of the area devoted to bathing, and is 375 ft. by 115 ft., with the entrance in the centre off the promenade. The entrance is a semicircular colonnade, with a large archway in the centre. This leads up a wide flight of stairs to the terrace, overlooking the bathing beach, and running the full length of the building. The two sides of the entrance colonnade are respectively given up to men's and women's dressing-rooms, with a separate section for boys. Both men and women bathers are provided with lockers, dressing-booths and shower rooms; lavatories, and first-aid rooms are provided, and a room for the serving of light refreshment is accessible from the beach. The building is constructed in reinforced concrete, with roof construction of timber.

The Harbour Commissioners cold storage warehouse in Montreal forms the subject of another article, and town planning is discussed from various points of view.

THE ARCHITECTURAL ASSOCIATION JOURNAL has an article by Mrs. Manning Robertson on The Architectural Cinderella, describing the housing experiments of Miss Octavia Hill. Sun Dials on Old English Churches are described by Mr. Gerald Bunce, and Mr. Lethaby's book on Form in Civilization is reviewed.

The September LONDON MERCURY contains a good deal of interesting architectural matter. In Editorial Notes it is contended that a university could do more for a plastic artist than for a man of letters. "When you come to architecture," says Mr. Squire, "you come to an art in which mechanics are even more important than elsewhere, an art which simply cannot be practised by the greatest natural genius who has not gone through a technical



THE BATHING PAVILION, SUNNYSIDE, TORONTO. CHAPMAN, OXLEY, AND BISHOP, ARCHITECTS.

(From "Construction.")

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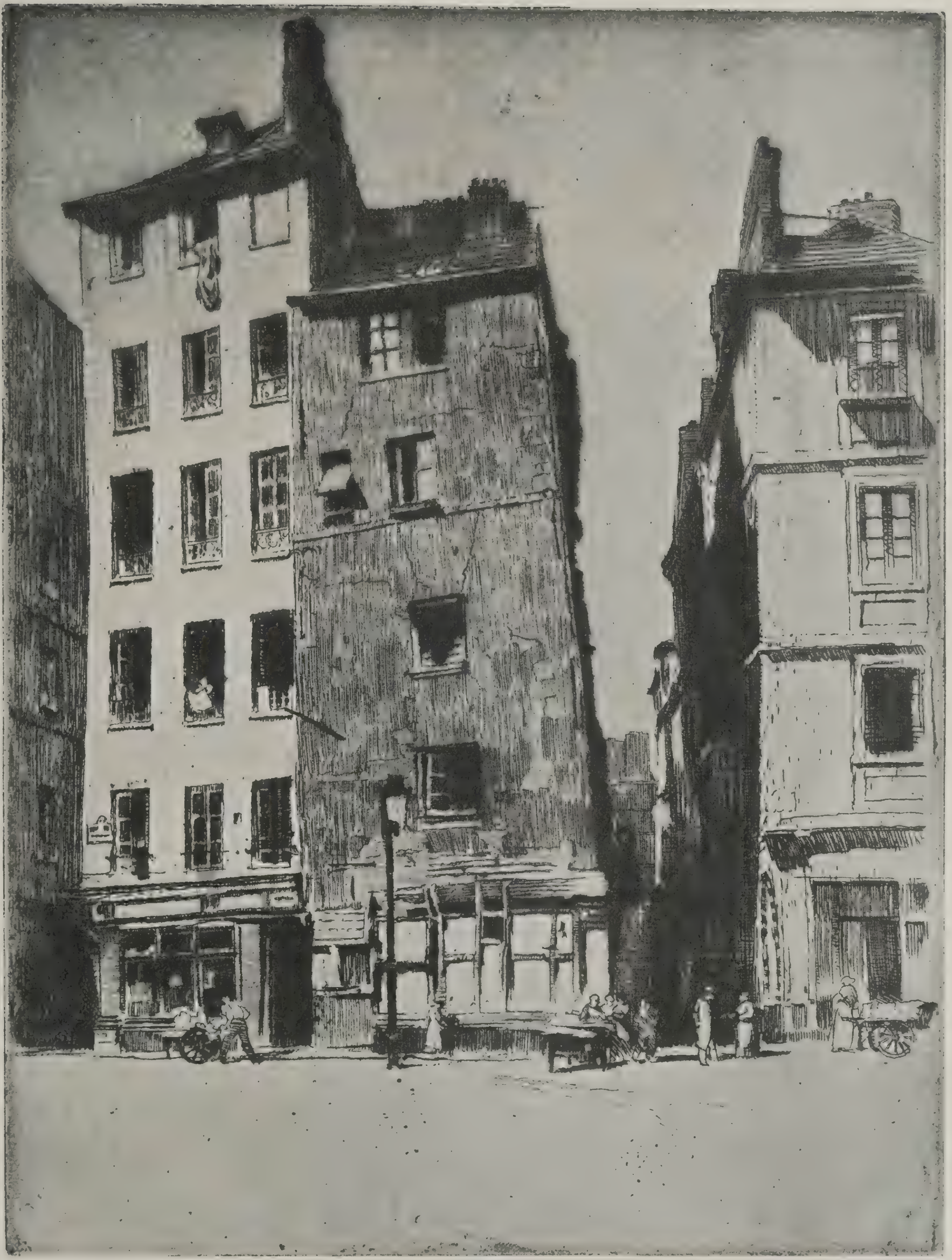
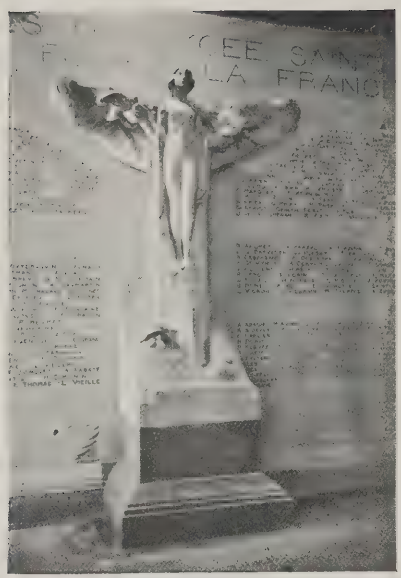
* All the above magazines and many others may be seen in the Reading Room at 29 Tothill Street, Westminster.



PARIS—BEAU BOURG. FROM AN ETCHING BY WALTER M. KEESEY.

(From "The Architectural Review")



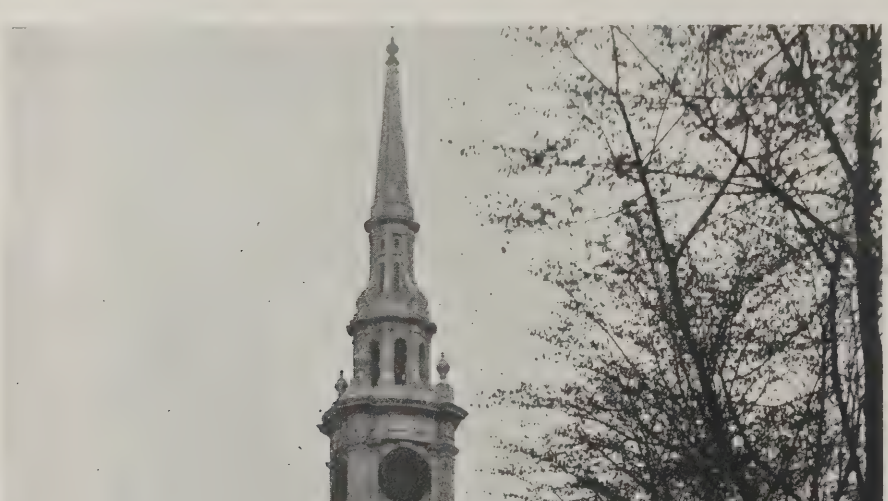
THE LYCÉE SAINT LOUIS WAR MEMORIAL.
(*From "L'Architecture."*)

training. The art is already recognized at the universities; late in the day a degree can be got for it at Cambridge." Does anyone suggest that if it had been recognized long since, and its study made a popular one among undergraduates, we should not have had a more active and enlightened public criticism of architecture than we have? It is still unsafe to perpetrate a false quantity in this country, but you can put up the oldest college building and nobody will say a word.

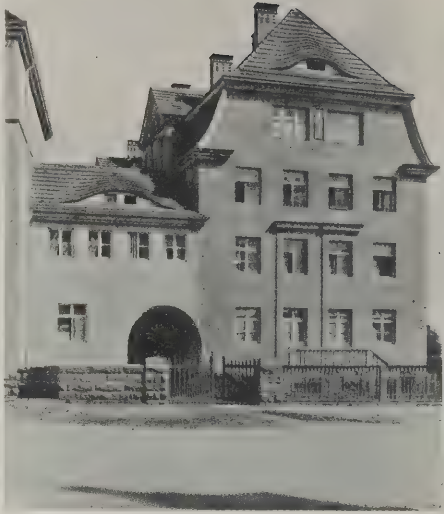
Mr. Halsey Ricardo contributes a scholarly article on The Historical Teachings of Architecture, and Mr. Powys's pungent criticisms of various new London buildings make piquant reading.

L'ARCHITECTURE has an article, illustrated by reproductions from eighteenth-century drawings, on The Construction of the Bridge of Orleans, which is described as one of the outstanding engineering feats of the time.

The Lycée Saint Louis war memorial is also illustrated. The joint work of MM. Leprince Renguet, architect, and Gaumont, sculptor, it is one of the finest memorials that has yet been produced. Executed in low relief, it takes the form of a long plaque supported on a plinth. In the centre, on a socle of perfect simplicity, stands a symbolic figure with outspread wings. By this arrangement the architect has obtained an effect of harmonious symmetry; the names of the dead even contribute to the decorative scheme and emphasize the cruciform effect of the composition.



ST. PAUL'S CHURCH, DEPTFORD. THOMAS ARCHER, ARCHITECT.
(*From "The Architectural Review."*)



A GROUP OF DWELLINGS IN DRESDEN-LÖBTAU. DR. OTTO SCHUBERT, ARCHITECT.
(*From "Moderne Bauformen."*)

The architect evidently understood the desire for simplicity which has always characterized the work of M. Gaumont, who from the beginning of his career has shown a rare knowledge of nature and a love for the spacious serenity of Greek art. Here, says the writer, we have something far removed from the effigies of gesticulating soldiers, with which our public places are crowded. Youth, with outspread wings, ascends from the soil of past days towards the light of a future of hoped-for peace, holding in open hands the doves of prosperity and brotherhood. The harmony of the whole composition, the perfect agreement between two great artists, the loftiness of the symbolism, will keep before the eyes of the students at St. Louis an example of dignity and restraint which will, we hope, be taken to heart by other public institutions.

MODERNE BAUFORMEN. In the August number is an article on the work of Professor Otto Prutscher, and some fine examples of craftsmanship and decoration executed under his supervision are illustrated. Building societies in Germany are evidently doing excellent work, to judge by the examples illustrated in BAUFORMEN. Dr. Luigi Otto Schubert, of Dresden, is responsible for the group of dwellings in Dresden-Löbtau, illustrated on this page.

THE CONNOISSEUR celebrates its coming of age in the September issue, and marks the date by a welcome reduction in price. A number of portraits by Pieter Borsseler, a forgotten seventeenth-century master, are reproduced, and Mr. Collins Baker contributes an interesting article.

Mr. Beresford Chancellor writes delightfully as ever of some scarce London books, from Stow's great work onwards, and reproduces a number of illustrations from books in the British Museum.

HOUSE AND GARDEN illustrates two houses by Mr. Guildford Dudley, L.R.I.B.A., and publishes some charming garden pictures.

ST. FRANCIS BOULEVARD, SAN FRANCISCO.
(*From " The Building Review.*")

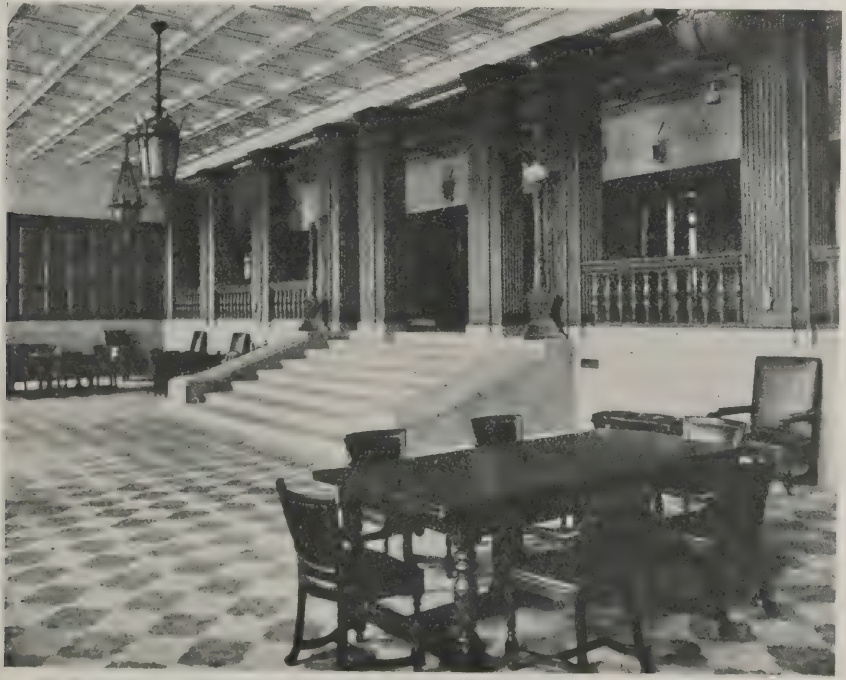
A HOUSE IN CALIFORNIA. MARSTON AND VAN PELT, ARCHITECTS. (*From " The American Architect.*")

THE AMERICAN ARCHITECT AND ARCHI-
ECTURAL REVIEW for August 30 has an
xcellent article on " The Relation of Pipe
rgans to Architecture." The writer
mplains of the wretchedly inadequate
aces so often allotted, and contends
at the fundamental responsibility for
e successful installation of an organ
sts on the architect. Many a fine
gan, he says, is handicapped from the
art by the architect's neglect of acous-
cs, and unless also the opening from the
gan chamber is of sufficient size to per-
it the tones to escape unimpaired, the
strument may be seriously choked.

The æsthetic value of good painting is
scussed by Mr. C. W. Cousens, and a
rtinent editorial comment urges the
cessity for architects to become better
siness men. Far too much work, it
ys, is being carried out by the archi-
ctural department of construction com-
nies, and it suggests that for a number
years architects have been shouldering
tails on to contractors, and have gradu-
y and involuntarily taught them how
get on with a minimum of architectural
rvice. This grievance is not unknown
English professional circles.

A HOUSE IN ST. FRANCIS WOOD, SAN FRANCISCO. H. H. GUTTERSON, ARCHITECT. (*From " The Building Review.*")

We reproduce the front view of a Californian house, designed by Marston and Van Pelt, and also a view of the main lobby of the Willys Overland building in Toledo.



THE MAIN LOBBY OF THE WILLYS-OVERLAND CO., TOLEDO, OHIO
MILLS, RHINES, BELLMAN, AND NORDHOFF, ARCHITECTS.
(*From " The American Architect.*")

In THE BUILDING REVIEW for August St. Francis Wood, a residential estate near San Francisco, is described and illustrated. The estate has been excellently laid out with finely proportioned sites, and certain restrictions govern the nature and extent of houses that may be erected. One-family homes alone are permitted, and these not over two stories high. Holdings of less than 40 ft. frontage are not allowed, and the best architectural talent available has been invited. The result is a group of residences of unusual charm. The boulevard illustrated constitutes the central feature of the estate, and a typical house is also shown.

Auckland Competition Result

A cablegram to the Secretary of the R.I.B.A. announces that all the prizewinners in the Auckland War Memorial Competition are resident in New Zealand. Three students of the Architectural Association however, are prizewinners. No names are given as yet, but further particulars are awaited and are promised for an early date.

Current Art

The London Salon of Photography

"The aim of the London Salon is to exhibit only that class of work in which there is distinct evidence of personal artistic feeling and execution." This note is given prominence in the catalogue of the exhibition now open at 5A Pall Mall East, and it is obvious that every care has been taken to keep within the aim of the Salon. However, evidence of personal artistic feeling must be a difficult thing to decide upon in photographic work, and in looking round the exhibition one wonders if some of the exhibits have met with the judges approval on altogether artistic grounds, and have not passed through more on account of clever technique.

For instance, there is an astonishing portrait of Madame Astafieva, which as a photograph was, no doubt, in its original state a very pleasant thing to look at, but which now appears besmeared with a multitude of really nasty colours; and again there are other prints which in general appearance and sloppiness of sentiment take one back to the engravings of 1870, or thereabouts. We say engravings, because in many of the exhibits there seems to have been every attempt made to obscure the fact that photography is the medium by which the pictures have been produced. Extraordinarily clever no doubt it all is, but why do it when the only result is to turn what was a good photograph into an imitation of an etching, a chalk drawing, or (what has happened in most cases) an imitation of a cheap reproduction, which anyone with any real artistic sense would not care to possess? There are quite a number of exhibits which come under the latter category, and should find no place in an exhibition of pictorial art. This is unfortunate because generally the exhibition arouses the keenest pleasure and admiration.

Photography has its limitations, and has its definite place, and it seems foolish to attempt to do things with it which are beyond its scope. One wonders what the comment would be if some of our best water-colourists held an exhibition of water-colours which by clever manipulating had been made to look like etchings ! ! !

After some of the "fake" prints it is, indeed, refreshing to turn to the "straighter" type of photograph of which so many do give evidence of genuine artistry. Undoubtedly the portraitists have the honours of the show. "Alphonso Wing," by J. Capstack, "Shadow Play," by Mrs. G. A. Barton, "John Galsworthy, Esq.," by Furley Lewis, "J. C. Squire," by Herbert Lambert, besides many others, are almost beyond criticism.

There are, of course, plenty of examples of very fine pictorial work. "In the Garden of the Villa D'Este," by Charles Job, is, perhaps, one of the best, and of a different type "Cannon Street Station," by Ward Muir, but there are so many of such great merit that it is difficult to single out individual exhibits for special mention.

There are a number of essays in the nude, but as a whole they are not convincingly satisfactory, with the exception, of "Atlas," by Nickolas Muray, which is really a most delightful study.

Lord Carnarvon's "The Toilet," two nude girls sitting about in a stone portico, excellent as it is in many ways, seems altogether wrong; one somehow feels that this sort of thing isn't done nowadays, if it ever was, and it all seems curiously artificial and posed, as, indeed, do all the nude photographs taken out of doors of "mermaids," "sea-nymphs," and so on.

F. R. Y.

The Fiftieth Liverpool Autumn Exhibition

When the architectural prodigies of Liverpool wolfed the Prix de Rome it was suggested in THE JOURNAL that the Mistress Art has "a loge in Liverpool." This suggestion was very charming, and, in regard to the matter under discussion, not to be challenged. But there are other sides to the question.

Says the hopeful outsider: "Are you not ungracious? Does this city not understand the mother of the arts? Is it not proud of its architects?" The City may be, but civically it does not appear aggressively grandiose about them. A large exhibition has been held for fifty years, and, for at least twenty, scarcely any architecture has been seen there. This year architecture has not a corner allotted to it.

The lay British mind does not always seem quite to comprehend that architecture is art. So the average exhibition satisfies the public by presenting to it pictures—pictures everywhere—and not a place to put them. Painters, not content with this ascendancy, complain that architects make no account of pictures in their designs. The public (ever loyal to its frames) avenges the painters by hanging their work on the middle of pilasters, and in other murderous spots. Architects, exhibition promoters, and the public are apt to forget the sculptor. And we all bridle when the foreigner decries our art methods.

At the very door of the present exhibition stands Elme's masterpiece, "St. George's Hall." Inside the gallery the works of Alfred Stevens, Fred Walker, Madox Brown, Holman Hunt, Rossetti, Millais, Burne Jones, Furse, and others, acclaim that painting has, in this England of ours, produced many fine artists. Our lack is that the tidy national mind puts the arts in compartments and refuses to see them as one great force. An authority on the Liverpool gallery gives two reasons for the architectural nullity of the exhibitions—the public do not want to look at plans and elevations, and the architects do not send their work.

If Liverpool is stronger in architecture than in painting and sculpture (and it seems to be so), perhaps this gargantuan feast of painting is desirable; and as we possess not the great civilization of some past ages, when the architect was sponsor to the sculptor and painter, and among them they builded great cities, we must be content for the present in examining and reflecting on the reasons for the greatness of painted art. Broadly, the tests are very similar to those for architecture and the rest of the arts. The peculiar manner in which the exhibition is hung, with masters and other painters indiscriminately mixed, assists the work of contrast.

We pass through a room of the greatest Pre-Raphaelites, each picture a complete and serious whole, when suddenly we are faced with Mr. Sim's "Lady Rocksavage." This picture is an Italian Madonna (with variations) from the top to the middle. Below that it is a Louis Quinze affair, all rococo gilt and high heels. An Italian Renaissance structure on a Baroque base: this kind of building is not confined to painters, but the painters to whom "Jimmy" Whistler referred as "swells" seem to avoid it. At least there is none of it in any of the English, or in the work of the four American "swells"—Whistler, Sargent, Alexander, Abbey—which we are indebted to the hangers for including. Whistler's "Carlyle," in addition to being one of the finest extant instances of a great soul's transference to canvas, is one of the most exquisite structural unities ever painted.

Jewel-like and serene, the work of the old Liverpool men — Huggins, Daniels, Windus—meets us here and there. A few modern locals are also worth seeing, though most of this sort of decoration is of the "simili" type of jewel. But though her artists have been scared away, Liverpool has yet Professor Reilly, who recently instructed the city on the subject of her beautiful Town Hall, which is enriched with paintings by Furse. In the exhibition are examples of lunettes, designed by Mr. Frank Salisbury, for inclusion in the Town Hall with the Furses. These examples leave one three modes of expression—a shriek, a curse, or a prayer. The modern rooms (or, rather, those where modernity predominates) are enlivened by many portraits of the modern woman.

There are in this important and varied collection some 2,204 exhibits. We forgot to mention that there are two architectural drawings in one of the bottom left-hand corners.

JESSICA WALKER STEPHENS.

The Surrey Garden Village Trust, Ltd.

Handicrafts Exhibition.

The second Handicrafts Exhibition, held under the Surrey Garden Village Trust Ltd., and on behalf of its funds, is now in preparation. For a young concern it is full of vitality, and keenly alive to the immensity of its aims and the usefulness of its ideals. These fall into three main branches: (1) In this period of swift workmanship and rapid amassing of money it is of tremendous value, even if it be only relaxation, to stand aside awhile from the rush of commercial life, and create with hand, mind, and imagination, slowly and with sincerity, some object which will be a living memorial and a thing of beauty. (2) To show that essential objects may also be beautiful. At a time when one's brain grows dizzy with the statistics of the numbers of objects that can be turned out from a factory with *n* men working for *n* hours on *n* masses of machinery, it is like turning from the glaring dust of a main road with its hurrying traffic into a shady bylane, to create, with one's own hands, something, not only useful, but beautiful. (3) To facilitate the sale of artistic productions, and to put the artist and the public into direct relationship. Even in this millennium of trade, there is a buying public which knows and understands the pleasures of artistic creation, and loves the object, not because it has been turned out at the highest pressure, but because it is a work of art, an individual thing, in short, an artistic production.

It is for the purpose of putting artists into touch with such a buyer that this exhibition is being held. Almost every form of individual effort is being covered —wood, metals, precious metals, leather, textiles, needlework, lace knitting,crochet, models of machinery, basket work, toys, illustrations, cookery, pictorial photography, lettering poster work, etc., and valuable prizes are being offered, while the judgments will be made by artists who have reached the top rung of the ladder. The exhibition is under the patronage, among others, of His Worship the Mayor of Croydon and the Mayoress, the Countess of Bective, Viscountess Astor, the Lord Bishop of Croydon, Dr. Jane Walker, Mr. Oswald Crompton, A.R.C.A., Miss Gladys Cooper, Miss Lillah McCarthy, and many other distinguished people. In short, Monday, October 9, to Saturday, October 14, will be a week of opportunity, not only for artists and collectors, but all those interested in the fine arts.

The exhibition will be held in the Large Public Hall, George Street, Croydon. It will be open at the following times :—

Monday, October 9, 2.30 to 7 p.m.
Tuesday, 11 a.m. to 7 p.m.
Wednesday, 11 a.m. to 9.30 p.m.
Thursday, 11 a.m. to 7 p.m.
Friday, 11 a.m. to 9.30 p.m.
Saturday, October 14, 10 a.m. to 1 p.m.

N. D. H.

List of Competitions Open

Date of Delivery.	COMPETITION.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8,000 francs.
Nov. 1	Labour saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C. 4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.
No Date	War Memorial at Birkenhead. Cost not to exceed £4,000. Premium 75 guineas. Assessor Major Gilbert Fraser, M.C., F.R.I.B.A. Apply Town Clerk, Birkenhead. The competition is open to all architects and sculptors of Birkenhead, Liverpool, and Chester only.

Correspondence

The Lead Paint Question

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The publication of the draft of the Regulations to give effect to the Convention passed at the International Labour Conference at Geneva last year marks an important stage in this controversy, which has always been keen and sometimes bitter. I have no wish to revive these "old, unhappy, far-off things and battles long ago." The white lead makers have long maintained that, while the extent of lead poisoning among painters was very doubtful, and had probably been grossly exaggerated, yet the danger must be met, and that the only rational method was to establish Regulations for the safe use of white lead rather than to adopt the simple, but unscientific and uneconomic policy of prohibiting the use of a product necessary for the maintenance and protection of so much of our structural and material wealth.

The draft Convention passed last year at Geneva vindicated this view. It adopted the general policy of Regulations for the use of white lead in painting ; but for the inside of buildings, where it was considered to be difficult to make Regulations effective, and where white lead was considered to be less indispensable, it proposed to prohibit its use after November 17, 1927, except in cases, such as for industrial establishments, where its use is necessary.

These draft Regulations have been prepared with a view to giving effect in this country to that part of the Geneva Convention. They are of the same nature as the Regulations advocated by the white lead makers, and are, indeed, almost identical in detail. A number of them provide for obvious precautions in cleanliness and medical examination. Of others the most important are those :—

(*a*) Prohibiting the use of white lead or sulphate of lead in dry or powder form.

(*b*) Prohibiting spraying for interior painting, and

(*c*) Prohibiting dry rubbing down.

Of all the Regulations, that which in my view is the most important is the prohibition of dry rubbing down. The danger of lead poisoning admittedly lies in the inhaling of lead dust, and the process most productive of dust is the dry rubbing down of paint. The method of damp rubbing down with pumice stone is, of course, well known, and demonstrations were made last year which show that this could be used satisfactorily even within twenty-four hours of fresh application of paint to the surface. There were, however, I understand, certain cases, such as the arrises of door mouldings, etc., which presented difficulty; it is therefore of importance to note that a waterproof sandpaper made by more than one process and manufacture has recently been introduced into this country from the United States which, according to the experts and practical painters who have examined it, overcomes all objections, and is, if anything, more efficacious for producing a good surface than is dry rubbing down, so that the technical and economic feasibility of damp rubbing down has now been admitted by some who heretofore denied its practicability.

It is well known that in this controversy employers and employed have taken opposing views. It is therefore perhaps the most satisfactory feature of the whole matter that the Conference of master painters and operative painters convened by the Home Office was, as I am informed, characterized by entire harmony, and that the draft of the Regulations recommended by them was adopted with unanimity. If the same co-operation and mutual goodwill be shown in carrying out these Regulations, the problem of paint poisoning among painters will, in my view, be solved and this long controversy be stilled.

E. M. JOHNSON, Chairman,
White Lead Makers' Section, London
Chamber of Commerce.

Enquiries Answered

Wiring Thatched Roofs.

"Architect" writes : "The owner of some cottages now being re-thatched wishes to cover the roofs with galvanized wire netting to prevent damage by high winds and birds. Can you tell me the best method of securing the netting, especially in the valleys ? What size of mesh should be used ?"

—Half-inch mesh galvanized rabbit wire should be used. The most vital points to protect are the verge, the eaves, and the "roving" or capping, below which birds commonly enter. The thing to guard against in fixing is any spike or rod driven *down* through the thatch, which might afford an easy passage for wet. Wiring over the ridge may be bound through the roof from side to side with wire, and at the eaves and verge one edge of the wiring may be stapled to the wall face and the other wired to the hazel pegs securing the runners. Hips and valleys should be covered with a width of wiring laid in the direction of their intersection and wired to the edges of the netting covering the slopes. Any fixings necessarily driven into the thatch should be pushed in at a slightly upward slope so as not to conduct water. E.

Lassar Baths.

F. writes : "Can you give me any information with regard to the method of working Lassar baths, and tell me where it is possible to inspect an actual installation ?"

—Full information and drawings of "Lassar" or lavatory baths are given in "Public Baths and Washhouses," by A. W. S. Cross, published by B. T. Batsford in 1906. An installation on this principle may be seen working at Acton Public Baths. The principle briefly is as follows : Instead of a large bath tub or "slipper" in which the bather is immersed, only a shallow sink-like tub is provided to catch the water from a series of sprays and conduct it to waste. The bather, therefore, is in running water. To enable full advantage to be taken of this speedy method of ablution, two dressing boxes should be provided to each bath compartment — one bather disrobing while another is bathing and dressing.

The system is very popular in Germany, and has many points to recommend it.

E.

The Week's News

New Roads for Finchley.

Finchley Urban District Council proposes to spend £21,996 on private roads.

Architect's Change of Address.

Mr. G. T. Jell, A.R.I.B.A., is moving, at the end of this month, to 20 Hanover Square, W.1. Telephone: Mayfair 560.

Preston Improvements.

Preston Town Council has accepted the tender of an English electric company of £94,900 for the erection of a new generating station in the town.

New Attractions for Hartlepool.

Hartlepool's spacious town moor is to be converted into lawn tennis courts and bowling greens, and in the neighbourhood of the promenade it is proposed to have a big open-air bathing pool.

Roof Lifting at Brixton.

At the Bon Marché, Brixton, a roof weighing over 100 tons is being raised bodily by bottlejacks to make room for the construction of a new story. As the roof is raised the walls are built underneath.

The New Lord Mayor of Sheffield.

Alderman W. C. Fenton, J.P., F.R.I.B.A., has been invited to become the next Lord Mayor of Sheffield. Mr. Fenton is a past president of the Sheffield, South Yorkshire and District Society of Architects and Surveyors, of which he was a founder and the first hon. secretary.

New Home for Freemasons.

The Freemasons are considering whether they should increase the size of the premises in Great Queen Street or whether they should acquire a site for a new building between the Strand and the Thames. The latter scheme would involve the building of a "great Temple of Masonry."

The Exhibition of Contemporary British Architecture.

Before forwarding their drawings and photographs to the R.I.B.A., intending exhibitors at the Exhibition of Contemporary British Architecture are requested to apply to the Secretary, R.I.B.A., for a copy of a printed form which they are asked to complete and enclose with their exhibits.

Great North Road Reconstruction.

Sections of the Great North Road within the County of Huntingdon are under reconstruction. These sections cover the road from Water Newton Village to "Kate's Cabin" (at the junction with the Peterborough-Oundle road), and the longer stretch from Norman Cross to within a mile north of Brampton Hut, at the junction with the Huntingdon-Thrapston road.

The Architectural Vacancy at Hong Kong.

Applications for the post of architectural assistant to Messrs. Little, Adams and Wood, of Hong Kong, announced in THE ARCHITECTS' JOURNAL for August 25, are now being considered. Any further applications should be sent without delay to the Secretary, R.I.B.A., 9 Conduit Street, W., from whom full particulars can be obtained.

New Infirmary for Roseneath.

The trustees of the late William and John Jones have come to terms with the Charity Commissioners on the question of pooling the resources of the William and John Jones Trust, the Wrexham Infirmary and the Wrexham and East Denbighshire War Memorial, in order to build a new infirmary at Roseneath, to replace the present one in Regent Street, at a cost of about £66,000.

Company to Supply County Councils.

A company under the title of the Public Authorities' Mutual Supplies, Limited, has been formed to safeguard municipalities purchasing goods for public services from being overcharged. The company, into whose operations the making of profits would not enter, is to take the place of the agent and the merchant, and to deal direct with the producer.

A.A. Exhibition of Sketches.

Members of the Architectural Association are invited to send sketches, etc., for the annual exhibition of the Association to be held between October 30 and November 23. Notification of intention to exhibit should be sent to the Secretary not later than October 14. All sketches, which should be framed and labelled, must be delivered to 35 Bedford Square, by October 25.

The late Mr. S. C. Searle.

We regret to record the death, at St. Margaret's-on-Thames, of Mr. Septimus Cecil Searle, A.R.I.B.A., in his sixty-ninth year. An old Harrovian, Mr. Searle, senior partner of Messrs. Searle and Searle, of Paternoster Row, had been in practice for forty-seven years in the City of London, and carried on the business of architect and surveyor founded by his father, Mr. Charles Gray Searle, in 1840.

Cinema on Chapel Site.

Excavations at St. Peter's Chapel of Ease in Palace Street, on the site of which a cinema is to be built, have disclosed an ingenious method of constructing foundations. The site on which the chapel stood consists of reclaimed lands. The whole of the walls were supported solely upon an ingeniously constructed raft of timber baulks, many of which had been reduced to mere wood pulp by the action of the subsoil.

Slum Clearances at Edinburgh and Leith.

Important slum clearances and reconstruction schemes are under consideration for Edinburgh and Leith. Those for Edinburgh represent an outlay of £200,000, and those for Leith, £82,000. In Edinburgh the total number of houses involved is 635, and 105 shops and other business premises. In Leith 558 houses are dealt with, and, in addition to reconstruction, there will be 150 new houses erected.

Improving Ramsgate.

Prizes of £600 have been awarded by Ramsgate Council for plans in connection with the development of the West Cliff, where a large area of land previously under private ownership has been acquired for the expansion of the town.

The winners were: £300, Messrs. W. Harding Thompson and P. B. Hepworth, Gray's Inn Road, London; £200, Mr. G. T. Morris, 37 Chancery Lane, London; and £100, Messrs. Franklin and Deacon, Luton, Beds.

Construction of Hotels in Angola.

A law has been passed authorising the Government of Angola to grant concessions for the construction and exploitation of two hotels in Mossamedes and Lubango respectively, each with a minimum of fifty rooms. United Kingdom firms interested may consult a copy of the main provisions of the law on application to the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1 (quoting Reference 6460/F.L.).

New Olympic Games Prizes.

Competitions in literature and art will be a feature of the Olympic Games of Paris in 1924. The competitions will be international, and will be five in number, namely: architecture, literature, music, painting, sculpture. The prizes, as in the athletic contests, will be Olympic medals. The competitors will be absolutely free in the choice of their subject and in the form and dimensions of their work. The only conditions imposed are that the work shall not have been previously published or exhibited, and that it shall be directly inspired by the idea of sport.

A New Institute.

A dinner is to be held shortly to inaugurate an Institute of Paint and Varnish Technologists. Among the objects of the new Institute will be the dissemination of practical and scientific knowledge by reading and discussing papers, the improvement of technical education, the promotion of research, and the establishment of close relations with the Government and with societies interested in the products of the industry and their application. Applications to attend the inaugural dinner should be sent to Mr. H. D. Bradford, at 42 Ribblesdale Road, S.W.16.

Proposed Tube Railways in Calcutta.

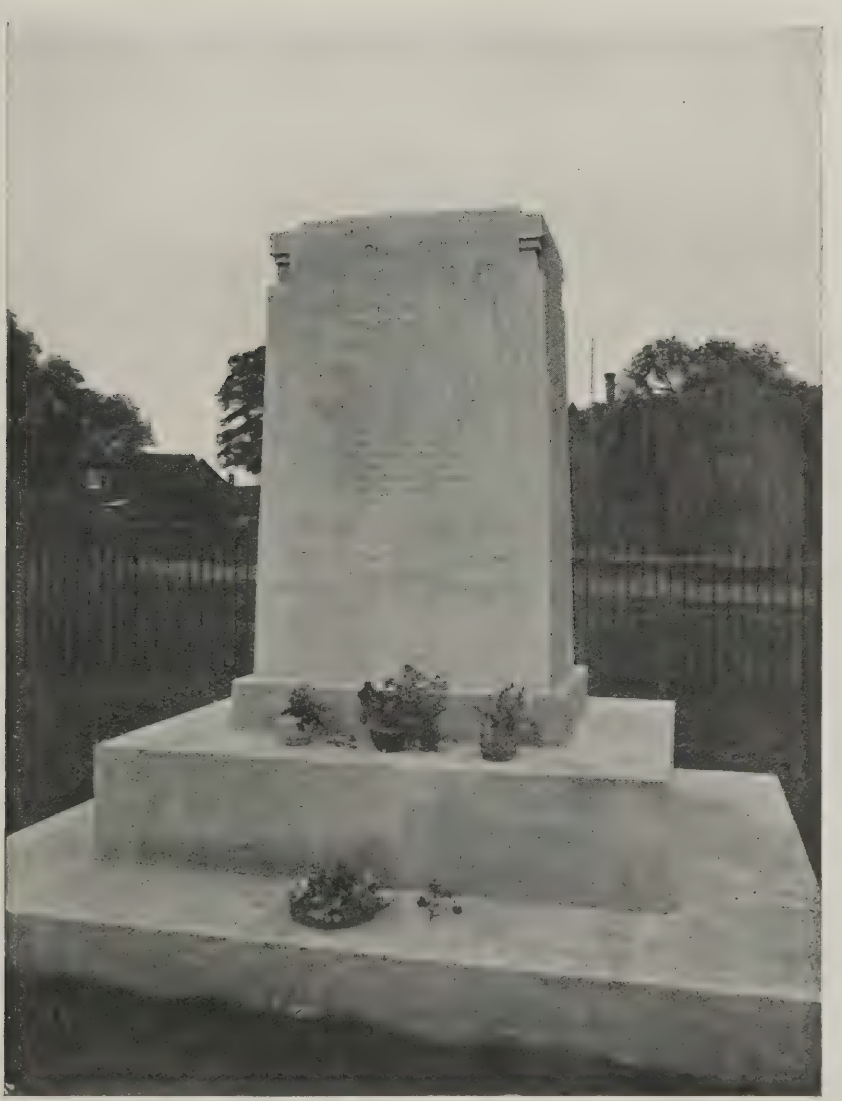
The Office of the High Commissioner in London for India has forwarded to the Department of Overseas Trade copies of a report on the possibilities of a tube railway in Calcutta between the East Indian Railway and the Eastern Bengal Railway, together with a book of plans and a longitudinal section. These documents can be inspected by representatives of United Kingdom firms interested on application to the Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1, after which date they will be available for loan in order of application to firms in the provinces who are unable to have them inspected in London.

Wednesday, October 4, 1922

Vol. LVI. No. 1448

THE ARCHITECTS' JOURNAL
& Architectural Engineer

With which is incorporated "The Builders' Journal."

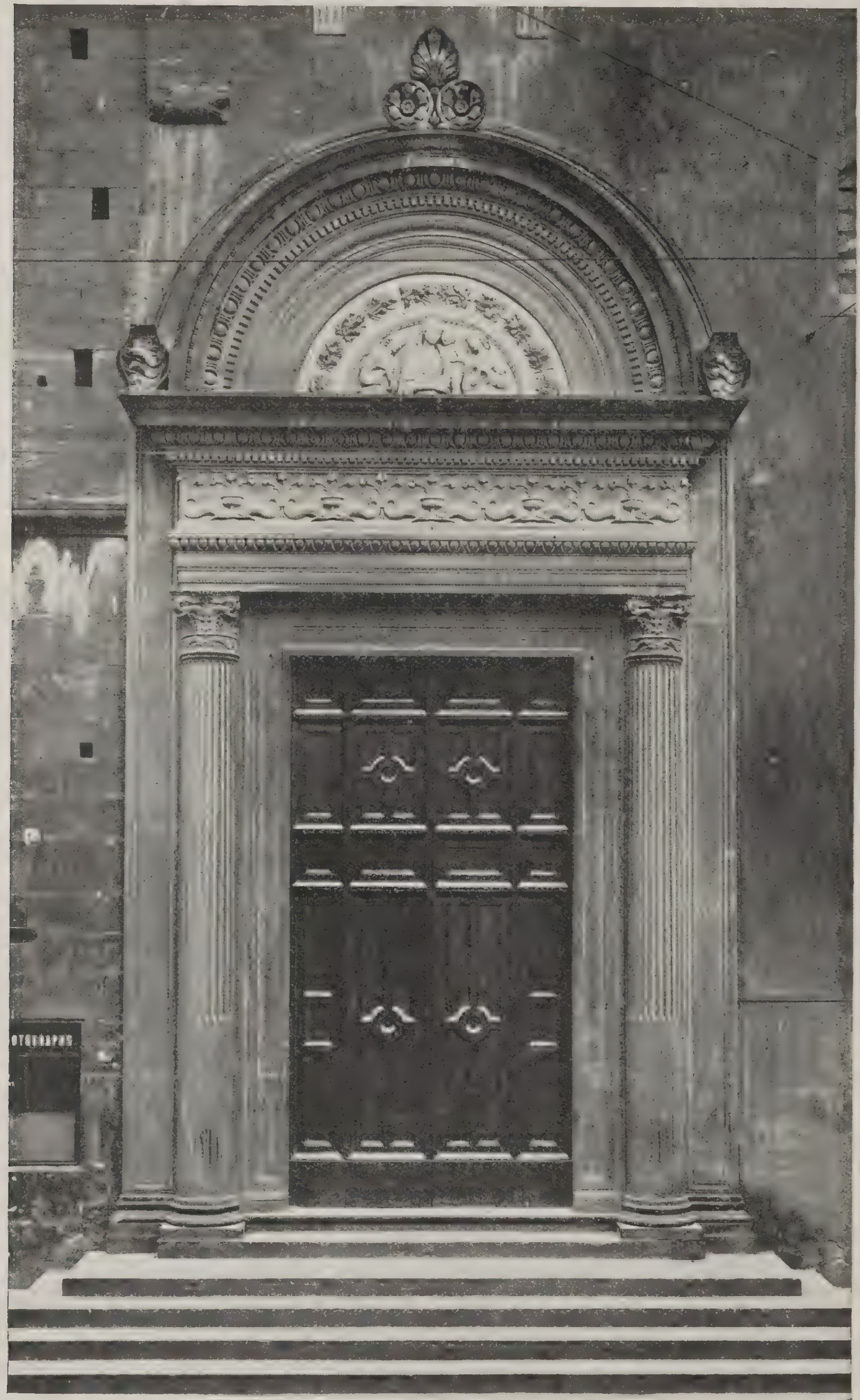


WAR MEMORIAL AT LONG WITTENHAM, GREAT DIDCOT, BERKS.
E. GUY DAWBER, F.R.I.B.A., ARCHITECT.

27-29 Tothill Street, Westminster, S.W.1.

Architectural Details. 35.—Doorway, Chiesa di Badia, Florence

Benedetto da Rovezzano, Architect



The detail of this doorway is extremely curious, the principal motive being a dolphin, which can be seen formally composed along the frieze, on each side of the lunette, and upon the capitals of the columns, where it is used rather aptly in the form of little volutes. The flower arrangement in the frieze and around the sculpture is also original and charming.

THE

ARCHITECTS' JOURNAL

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A Conference on Architectural Education

THE suggestion has been put forward recently that the Royal Institute of British Architects should organize a Congress on Architectural Education. It would be difficult to think of a more useful piece of work for that body to undertake, for architectural education, with all that those two words imply, is the foundation on which the future of the profession is being built.

During recent years there have been important developments in the training of the coming members of our profession—the growth of the schools of architecture and the decline of the pupil system, the award of degrees in architecture by leading universities, the " recognition " of the schools by the R.I.B.A., carrying with it exemption from the major part of the Institute's own examinations, the introduction into this country of the Atelier system and the Prix de Rome competitions.

During this period of change and growth there have naturally been put forward many widely different opinions as to the best lines of development, and the time is surely ripe for a thorough assessment of our efforts. There should be as complete a comparison as possible of the work of the various schools in our own country, and of that work with the products of the schools in other lands, and a " full-dress " debate on some of the various problems which are inseparable from a great scheme of professional education affecting directly the architecture not only of this country but of the whole Empire.

For such comparisons and for such discussions a Royal Institute Congress would provide most excellent opportunities, and, what is equally important, would enable the Institute to exhibit one of its main activities not only to architects and to the members of the teaching profession in our primary and secondary schools and in the universities, but also to many of our most enlightened citizens who, while not taking an active part in educational progress, are keenly interested in it.

Such a Congress would naturally include in its scope a great exhibition of students' work—English, French and American, and this exhibition in itself should prove to be of a most instructive and stimulating character, of profound interest to architects, students of architecture, and all to whom beauty in one of its highest manifestations is a sheer delight.

The possible subjects for discussion are fascinating in the extreme and almost overwhelming in their variety A small number of them may be mentioned in order to indicate the breadth of interest possible at such a Congress:

" The object of architectural education."—Are the schools, for example, endeavouring to produce brilliant draughtsmen, useful assistants, all-round practitioners or specialists in a branch of architectural practice, and are they producing men who will worthily carry on the traditions of the great architects of the past?

" The subjects of a course of architectural education, and their interaction."—There is material enough for a paper on the development of the teaching of each subject—History of Architecture, Theory of Design, the Science of Architecture (including Theory of Structures, Sanitation with Heating and Ventilating, and Acoustics), Materials of Construction, etc. There is here, too, a fine opportunity for a brilliant essay on the influence on design of varying studies, historical and scientific. " Draughtsmanship " is another fascinating subject, and one which would doubtless be well illustrated by the various exhibits on view. The members of the Congress might also consider with advantage the extent to which professional students of architecture should devote time to the study of Town Planning, Decoration, Furniture Design, Sculpture, and other cognate arts, Practical Craftsmanship, Social and Economic Conditions, and such subjects of general culture as History and Literature.

A paper should certainly be read on " Teaching Methods in Architectural Education, with special reference to recent experiments."

Among other subjects which would be suitable for discussion at such a Congress may be mentioned, " The Relation between School and Office work," "Architectural Education and its connection with Professional Bodies, their Examinations and Admission to the Profession," and " Post-graduate Education, and Research in Architectural Education;" while the general questions of school libraries, equipment, scholarships, prize schemes and methods of examination should not be overlooked.

So far, the suggested Congress as outlined above deals only with the training of architects. To be fully effective it must also include in its scope, (*a*) architectural education for art students, and (*b*) architectural education as a part of general education.

The first of these points raises extremely interesting questions with reference to the part played by architecture in the training of artists in other spheres. If, for example, architecture be recognized as the Mistress Art, we might well discuss the development of schools of art with architecture as the dominating subject, or, on the other hand, the development of schools of architecture including in their scope the training of workers in all cognate arts and crafts.

The last point—architecture as a part of general education—becomes in its ramifications almost the most important of all. If, through the ages, architecture has been and still is at least one of the noblest of the arts, comparable to music and literature in its influence on the human mind, and if architecture and town planning are the very roots of Preventive Medicine and of the utmost importance to the well-being of humanity, these facts should surely be adequately reflected in our schemes of primary, secondary, and university education. In the latter, for example, it should always be possible for a student reading for an Arts degree to study architecture as an optional subject. If our future teachers and public men could have such opportunities our towns and cities would develop on sounder lines in the coming years.

This section of the Congress would also be concerned with the question of public lectures and newspaper articles dealing with architecture as a living art, and would inevitably, raise the subject of architectural criticism, which should clearly be, in the interest of architecture, as free and open as it is in literature, if our art is to play its fullest possible part in life.

It would seem, then, to be quite clear that a Congress on Architectural Education would not only serve an extremely useful purpose, but that it would also be a particularly fine opportunity for the Royal Institute to interest a large and influential section of the public in its activities; and it is hoped that if proposals for such a Congress are put forward officially they will receive the active support of every member of the Institute.

A Building "Boom" at Hand

The long-expected building "boom" is upon us. Master-builders, it has been stated to a "Times" interviewer by a competent authority, are everywhere "engaged in pricing to an extent unparalleled for many years past." The ambiguity of the phrase will not cause any real misapprehension of its true meaning, which is placed beyond cavil by the further assurance that the important works now in hand or in contemplation include the rebuilding of Messrs. Fuller's premises in Regent Street; the construction of municipal baths at Paddington; extensive additions to the premises of the Metallurgical and Chemical Corporation, Willesden; a contract in Westminster estimated to cost a million sterling; extension of the Criterion Restaurant; building an annexe to the Prince's Hotel, Regent Street; conversion of the Hotel Windsor, Victoria Street, into offices. This list could be greatly extended, but there is no need to add to it to show that architects and builders are getting very busy indeed. Then the work for widening the tunnels and lengthening the stations of the South London Tube Railway is absorbing much energy and material; while the preparations for the forthcoming British Empire Exhibition at Wembley Park are in themselves a powerful antidote against inactivity and unemployment. Having long foreseen this turn of affairs, we have lost no opportunity of counselling business men to put their building work in hand in anticipation of the "boom." It is not yet too late to act on this advice, but obviously there is no time to be lost. Wages are stabilized for the next six months; after that, however, there may occur an abnormally heavy demand for labour and materials, with the usual effect upon prices. Those prospective "building owners" who put their work in hand without further delay may expect to reap considerable benefit from prompt action. But, at any rate, architects and builders are to be heartily congratulated on the visible and palpable signs of returning prosperity.

Rival "Costing" for Housing

The "cost of housing" discussion is always with us. From its general trend, a cynic might infer that it has assumed the aspect of a game of football, with uncommonly selfish players aiming at the opposite goals. Government spokesmen struggle hard to impress the public with a tremendous idea of the wisdom, tact, and foresight with which officialdom has vindicated economy and thwarted the desperate efforts of wicked builders to inflate prices; while the National Federation of House Builders responds with an imposing array of figures in support of the contention that "the builder, however anxious he may be to build a cheap house, cannot do so under 125 per cent. on the 1914 figures." The figures that the National Federation of House Builders are "broad-casting" do not greatly encourage building enterprise. It was judicious, therefore, to counteract this effect with the explanation with which the secretary of the Federation was prompt to supplement his first letter. "However true the statement may be—as it applies to Government contracts"—namely, that the cost of building is only 60 to 70 per cent. above pre-war—"it does not hold good," he avers, "in the case of houses which are built to attract a purchaser." There's the rub; and it is only too true that, as the secretary says, "the usual type of Government house would not sell readily to people who are prepared to buy a house to live in. To build a house for sale," he adds, "the designs must be not only convenient, but attractive; the fittings and the finish of the house must be bright, and done with a view to pleasing the taste of the buyer. Leaded lights, panelled doors, a good class of grates, mantels, and door and window furniture, are all necessary to the house-builder, and [officially regarded as] luxurious in a Government house." In all which there is decidedly an element of truth—in fact, the tale is "ower-true." Houses built under the influence of a frantic effort for economy, real or false, are apt to be a painful spectacle, destitute of every mark of grace, denuded of every trace of dignity, devoid of any pretension to charm, and of any indication that "man does not live by bread alone." A walk round some newly-built Government or local council group of dwellings is a most depressing experience, and one does not willingly incur again the headache and heartache it induces. Truly this is housing reduced to the utmost limits of graceless featurelessness. Primness and plainness in such excess as one finds in a poor-law building destroy the idea of house-pride and house-joy. Much as one detests the house "made bright with a view to please the taste of the buyer," one is bound to admit, however reluctantly, that even the "bright" house shows some sort of aspiration, some desire to escape from sheer æsthetic dejection, some degree of buoyancy and gaiety: all which is infinitely less hopeless and abject than the sullen "submission to hard fate that is so painfully suggested by many a Government-sanctioned "brick box with slate lid." It is a matter in which inferior taste is better than no taste at all—better morally, if not æsthetically. To this extent we agree with the secretary of the House-Builders' Federation.

The Menace to the Whitgift Hospital

Croydon councillors, or the majority of them, are itching to destroy their only beautiful building—Whitgift's Hospital of the Holy Trinity. They are about to ask Parliament to consent to this act of barbarism. Parliament will probably do nothing of the kind, observing that the necessary street widening could be effected by pulling down certain modern buildings that have but scanty claims to respect, and, unlike the Whitgift almshouses, none whatever to veneration. Built in 1596, the almshouses are a quaintly beautiful monument to their pious founder, and a priceless example of the building modes and methods that prevailed in his day. The Society for the Protection of Ancient Buildings, and the National Trust, may surely be counted upon for strenuous opposition to the ill-advised Bill; but it is a pity that Mr. John Burns is not in Parliament to thunder against it. To his efforts in the House we are indebted for the respite given the almshouses on the last occasion when they were ruthlessly threatened with extinction. Croydon ratepayers should indignantly repudiate the ill-advised action of their councillors in spending money on the promotion of a Bill for the destruction of the only vestige of amenity to which the town can lay claim. Those practical-minded persons who feel unable to deny that the almshouses are obstructive to traffic have suggested their removal, bodily or piecemeal, to some more convenient site; but a building deprived of its original environment loses most of its own distinctive charm, and fails to impart to its new neighbourhood the glamour withdrawn from the old. Removal breaks the spell; and, besides, if the Croydon burgesses had the misfortune to pass their precious Bill, it is not beyond possibility that the Whitgift Hospital, once its portability was proved, might be shipped to America.

The Exhibition of Students' Designs at the R.I.B.A.

AN exhibition of designs, prepared by students of the "Recognized" schools of architecture who have qualified for exemption from the Final Examinations of the R.I.B.A., is now being held in the Institute rooms at 9 Conduit Street. It is unique in being the result of a departure from the hitherto recognized course of qualification for diploma of the R.I.B.A. It is the practical work of the student carried out during his or her last year's course in the schools of architecture for the diploma which is now recognized as equivalent to the passing of the examination for the R.I.B.A. qualification.

A medal is to be awarded to the student submitting the best designs.

One's first impression of the exhibition is the seeming greater activity of the Liverpool School of Architecture, its exhibits comprising work carried out for the Prix de Rome Scholarship, while those of the Architectural Association, the Glasgow and Aberdeen Schools, are limited to student's work for the diploma alone.

Undoubtedly, the best set of drawings—so far as they go—is by Miss E. G. Cooke, of the Architectural Association School, particularly the plan for a "Restaurant on an Island." The feeling, quality, and artistic character expressed in this unsymmetrical plan is unequalled by any in the room. The plan for the lay-out of the square in front of Victoria Station is also good, and shows a grasp of essentials. One only wishes that this student had shown as much ability in elevational design as in planning.

The general standard of the work of the Liverpool School is very high, more particularly so in the sets of half-inch blue print working drawings for a bank. I consider these are the most valuable of the exhibits sent in by this school, for, although undoubtedly American in character of design and method of delineation, they show the capacity of the student to grasp the essentials of clear practical drawings, an asset invaluable to the student entering the practical world of architecture, and one not infrequently absent from or dormant in the strictly academically trained man. The latter, as most practising architects admit, so often fails in the effort to represent his ideas or those of his chief in a way which will not only be beautiful as a dream on paper, but as a practical document capable of producing a beautiful building.

The Prix de Rome designs of the Liverpool School for the "Home for the Royal Academy" have not, however, the same merit. The plans are in most cases confusing, with too many elements, and do not show that bigness of grasp so essential in good planning. Like the "Lake-side Restaurant" designs, they lack true inspiration and freshness of thought.

The design for the wall treatment of an office building by Mr. P. S. Haswell is interesting, but the windows are too small for a commercial building in this country. The triple-light windows would have been better as twin windows, to be more in keeping with the circular-headed windows over. Nevertheless, the effect is direct and "clean," which is more than can be said for most of the work which is being carried out in one of our most important thoroughfares to-day.

In his design for a "Building for the Storage of Documents" he has rather missed an opportunity for something resh in treatment. The side features are meaningless and he central windows would have been better treated in vertical lines.

Mr. E. R. Arthur of the same school produces a dramatic effect in his church design, the long vertical spire or minaret contrasting with the squat church behind, but his foreground has gone to seed.

This student's leaning towards the dramatic is also shown in the unacademic colouring of the plans for his "Home for the Royal Academy."

Mr. E. W. Martin has not risen to any great height in his unexpressive "Aviation School," unless, of course, his idea was to camouflage its purpose.

His "Lake-side Restaurant," like others for the same design, does not fit the site, but it is probably the best of this group.

Mr. W. A. Devereaux's best drawing is his colour scheme for an interior. It does one good to see what the architectural schools are doing in this direction, and one ventures to hope it will inspire the London architect to conceive something more than his usual white scheme in his next new building.

Mr. Devereaux's plan for a "Lake-side Restaurant" is satisfying, and his elevations are fresh in design and delightfully coloured.

As in the work of the other students of this school, his working details, although practical, would not, I fear, produce the artistic result promised in the smaller scale designs.

The work of the Glasgow and Aberdeen schools shows a thoroughness which is to be commended, but the designs are more practical than artistic, and do not show much advance on the usual street architecture.

Mr. Ian A. Moodie, of the Aberdeen school, in his design for a Presbyterian Church in Scotland, shows a most thorough and practical set of drawings worked out in every detail except the artistic. Why he should have designed it for Scotland is difficult to see. It is scarcely characteristic of that country in aught save its thoroughness. I would rather it were built somewhere else than in Scotland.

His designs for the restoration of Elgin Cathedral are his best drawings, and he appears to have caught the spirit of the old building; but his façade for the Reference Library is not long enough for a triple motive.

Mr. G. B. Scotland's work does not come up to one's expectations in connection with the Glasgow school. The practice of rendering in black ink and colour is not conducive to good work.

The holding of this exhibition should do much to keep up the interest in the various schools by fostering that healthy spirit of rivalry, showing them their weaknesses, and inducing them to do better work. But it is a question whether the awarding of a medal to the student who shows the best work will achieve its purpose. There may be a tendency both with the student and the masters to aim at winning the medal rather than honestly carrying out the studies which will ultimately make better architects.

T. S. TAIT.

[It should be pointed out that the exhibition is not really representative of the best work of the schools, as students who have already obtained their Associateship are not allowed to exhibit, though we believe it was originally the intention to admit their work. Consequently the exhibition loses a good deal of interest. At the moment of going to press no announcement has been made of the name of the student to whom the medal has been awarded.—EDS. A. J.]

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

to admit them. People simply lose their reason at the sight of the famine horrors. It is for this reason that, as I stated in a previous article, the full story of the famine will never be told. With an effort the cultivated reporter can seize such facts as little hungry children gnawing their hands; a ravenous man biting off the outstretched finger of another man and calmly chewing and swallowing it; men and women falling upon a dying girl and devouring her raw flesh; two women eating two children and an old woman, and also killing two other women in order to eat them; and the discovery everywhere of human corpses cut up for food. Official investigators were sent to certain towns and villages in the Samara district, and I have photographs in my possession of these investigators at work surrounded by the body-eaters and the remains of their shocking banquets. One well-known English author said to me, “ Do tell me, yes or no, have you direct evidence as to whether children have actually been eaten for food in Russia? It would not surprise me in Central Africa.”

THE INSANITY OF STARVATION.

What has the Russian artist, poet, draughtsman, and short story writer seen in these truly terrifying facts? Looking through a large collection of “ art of the famine ” productions, it seems to me that the romance in him has invested his subject with the æsthetic and religious garment of a Visitation.

It is not the first time since the Revolution that Russian artists have experienced and expressed the religious aspect of a momentous event. It seems that the old pre-war intelligentsia, the anarchist-individualist, dreamt the Revolution, gloried in it, deified it. “ You welcomed the ruin and tragedy and horror of a new deluge,” as one of their fellow poets reminded them. When it came they were staggered. Some fled, others clothed themselves in a protective idealism and raised the banner of religious romanticism. They deified the Revolution as the Great Liberator, spoke of the revolutionaries as “ holy bandits,” saw Russia crucified on Calvary, being taken down and hurried to a glorious resurrection. For a time the Revolution was a dream. Then came civil war and its bitter realities. Liberation had not come, and the revolutionary ardour vanished at the touch of violent reality. Some of the old intelligentsia fled, others became dumb, and others accepted the inevitable course of events. They sang poems to the Revolution, the new Russia, the new art, the new everything. They composed passionate verse exhorting their fellow artists to be up and doing in a civic art way. They were to come into the open and celebrate the re-union of art and life. I will quote some of the outpourings in the article on Civic Art.

In the same way as many artists gave the November Revolution a romantic interpretation, so many have seen religious romanticism in some of the awful facts of the famine. I fancy the peasant in them has come to the surface in familiar religious and mystic images, especially empty landscapes strewn with primitive crosses and devout suffering figures. Like the simple peasant maid, the primitive in the artist has interpreted the famine as a Visitation. None the less, they recognize the bleak truth of the famine and suggest its realities, however poetic the latter may appear.

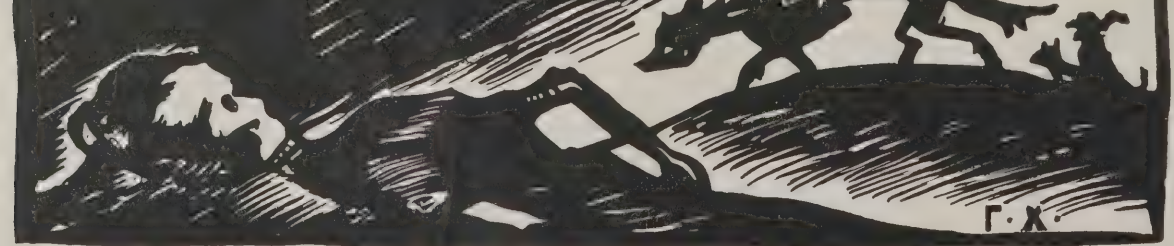
As an example of the short story evoked by the famine, the following extracts from one may be given. They are taken from a sketch called “ The New Land,” printed in the Moscow “ Pravda.” A Russian peasant and his sister lay by the old cart in the barn. They have eaten their last scrap of rat's meat. The girl speaks of a new land that has been opened in the south where corn is plentiful. They will trek there. The story continues :—

“ Men began to make ready for the journey: they repaired their carts. Those who had not eaten their horses fed them on scraps of hay and dried dung. The horseless ones made hand carts as best they could.

“ The rats had gone—a grey moving blanket of them had passed through the village two days before. The villagers had killed all they could; these were already eaten.

“ Myron had to keep his big body out of sight. Men's eyes were greedy for meat. He ate little—crushed bark, or boiled hide cut from fallen animals that made a pinkish stew. But all his flabby flesh hung on his bones still, like wet sand: his bones found no support in this sand and were becoming numb.

“ Nadka, flat-chested, with a greenish skin, and sore-swollen eyelids, was always near him, saying: ‘ Don't show yourself, Myron. Men have gone mad before now,



ANIMAL SCAVENGERS.

particularly of nights. They will kill you. You'd better get thinner. Get yourself thinner, Myron.'

" ' I can't get thinner,' answered Myron hoarsely.

" He shook his dusty, moppy head and sought safety in the barn.

" ' It's all a fraud, I tell you. It's water, not flesh. You just feel it.'

" Timidly Nadka felt his legs.

" ' True, it's a fraud. And what a body you used to have. I remember. But they won't believe that, and will kill you. You'd better not show yourself.'

" Myron slept with open eyes. The nights were long and dry like the days. He stretched ropes near his shelter so that he might hear any stranger bent on evil."

They continue toiling on day after day across the burned-up soil. The woman dies, and the man goes on alone. He develops delusional insanity. Imagines that he is pursued by cannibals, while he in turn pursues the Fata Morgana of a field of yellow, richly-growing corn. As he tries to catch the spikes they slip through his fingers. Then comes the tragic end :—

" Myron crawled under the next cart, lay down in the shade, and looked out. Under the cart which he had just left he saw the four. The woman winked at him again. Myron moved his head close to the wheel and shut his eyes. Before him quivering, winding cornfields stretched, full of crimson, green, and brown ears of corn. Throwing the ears aside with its horns a cow with a dull fat muzzle stepped out and looked at him. And suddenly its eyes grew dark and receded, and over them floated a shadowy wolf's snout.

" Myron opened his eyes.

" Behind the wheel the woman squatted, and a man was pressing a hammer into her hand.

" Myron leant his head against the spokes and closed his eyes."

PLAGUE.

The vision of golden corn lures him on, while the apparition of cannibals goads him to death. It is a poetic description of human beings driven mad by hunger.

Famine verse takes all forms—proletarian, symbolist, imagist, futurist, suprematist, even nothingist. The latter is a sort of dadism or negation of everything. Some of the samples handed out take the breath away. Here is one quoted by " Broom," an Italian publication :—

" Dir boor shtchill
oobyeshtchoor
skoom
vy so boo
rlez."

After that, futurist monosyllabic verse appears quite simple. One telling, strongly worded appeal in this form begins :—

" Stop !
Listen to this !
Listen to the great never-ending cry."

Then it appeals to each country in turn,

" London
At banquet
With King and Queen ; "

Paris, which it implores to follow Nansen, Washington, and the American farmers; Berlin—all are brought into a general design by the refrain " Bread ! Bread ! Bread ! "

Many appeals are made by large coloured propaganda posters, propaganda postcards and stamps, and woodcuts of considerable merit appearing in official publications. Among the latter is " Chernaia Godina " (Black Year), a monthly publication issued for the first time this year. Each number contains fifty pages of matter, stories, verse, facts and figures on the realities of the famine. It is illustrated with woodcuts which interpret the famine from the point of view referred to—an appreciation of the reality with an insistence on poetry and religious romance. The whole might be called " The Days of Visitation are Come."

THE EXODUS.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

it will give an appearance of cheerfulness and sunlight to the interior, such as always exists in the tomb of Napoleon in "Les Invalides," Paris.

The business of the company is confined almost entirely to acting as executor and trustee, and in designing the interior this point has been strongly emphasized. Ample accommodation for protracted conferences is provided, the officers and their private rooms occupying one entire side of the bank, the other side being given up to tellers, etc., whose banking screen consists of marble and bronze with clear plate glass.

There is a safe deposit vault on the main floor, level with the street, another below this; and in the basement three separate vaults, each 50 ft. by 116 ft., have been laid out for future requirements. These vaults will be of the latest type of concrete, steel and electric protection. In the basement are two large committee rooms also conveniently arranged for conferences. Below the entire structure is a sub-basement, which gives the utmost protection from tunnelling as well as providing space for a heating and ventilating plant.

For the employees, locker rooms and rest rooms with shower baths for both sexes are provided.

The adjoining First National Bank, which is twenty stories high, was also designed by Mr. Bossom.

The building for the Greenwich Trust Company, at Greenwich, Conn., is constructed of pink Milford granite, the dome being of granite terra cotta. The vestibule is treated in Botticino marble, with a Tennessee marble floor. In the centre of the vestibule floor is an illuminated floor clock, operated from the master clock in the dining room in the basement. The ceiling is a cove of ornamental plaster and is lighted by concealed "flint reflector" lighting in the cornice.

THE ENTRANCE VESTIBULE.

On entering the bank, we find the men's room is on the right-hand side. It is fitted up in quartered oak in Elizabethan style; the furniture is of brown leather and all the fittings have been designed to harmonize with the style of the room. To the left of the entrance is the ladies' room, designed in the Adam style. In connection with the men's and ladies' rooms modern toilet facilities have been provided.

The large banking room, including the two balconies, has been treated in a very complete manner. The ornamental ceiling and decorations of the banking room have been copied from the work of Giulio Romano and Giovanni da Udine in the Villa Madama, just outside Rome, on the northern slope of Monte Mario. The decorations have been carried out as exactly as possible in the identical colours made from actual sketches of the Villa Madama, but subjects appropriate to the bank have been introduced, notably its coats of arms, and other emblematic treatments have been employed, including a medallion sketch of General Putnam on his famous ride down Horseneck. In the main ceiling around the dome

A VIEW IN THE RECEPTION ROOM.

FIREPLACE IN THE RECEPTION ROOM.

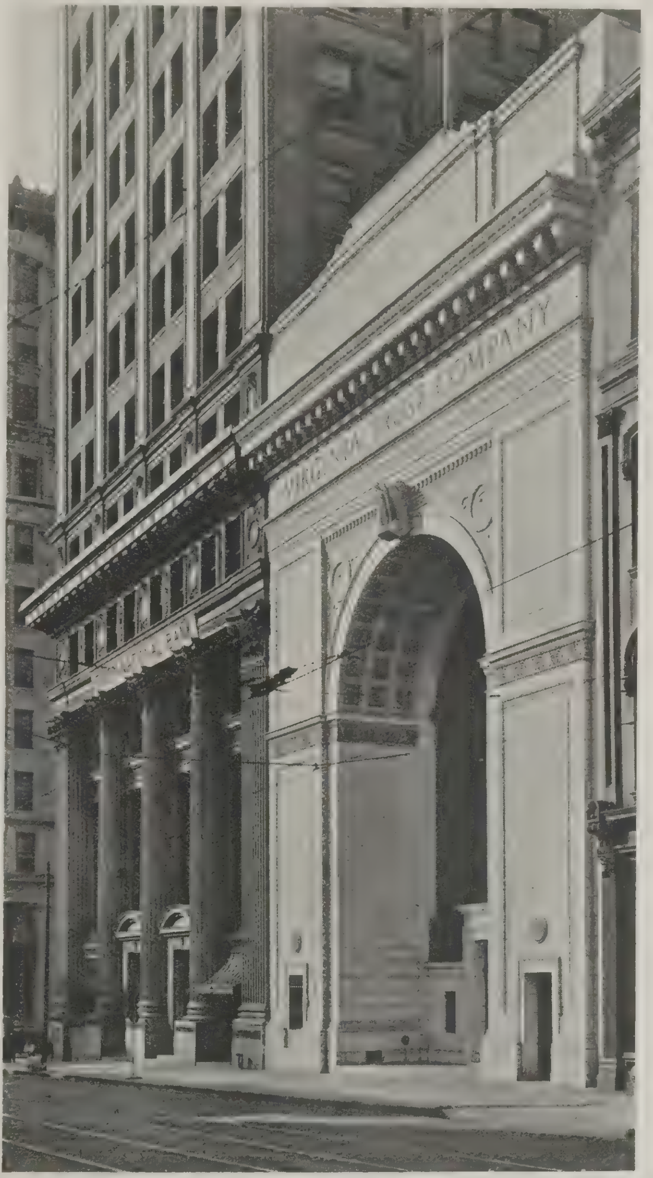
there are eight figures, symbolic of the four seasons and four elements. Over the large windows in the centre of the Trust Company are two cartouches on each side, representing Art, Architecture, Building and Engineering, the crafts entering into the production of the building. The decorations have been carried out, both as to design and colour, to reproduce faithfully the original conception of the artists.

The walls of the banking room and the banking screen are Botticino marble; the steps of the stairs leading to the front balcony are of Tennessee marble; and two columns at the front of the banking room supporting the front balcony are of Escolette marble. The Botticino marble used comes from the Province of Isria in the northern part of Italy, and the Escolette marble from Greece. All the marble has been carefully collected for beauty in graining and soundness of material.

All the metal work in connection with the banking screen check desks is of bronze executed to special designs prepared by the architect, and the railing of the front stairs is of iron, painted in colours to correspond with the interior decorations.

The banking room receives its artificial light from a large central chandelier, containing fifty-nine lighting bulbs, and designed to harmonize with the interior of the room. The centre of the ceiling of this room is composed of stained leaded glass in soft tones. This is lighted from above by a skylight, which allows the light from the roof to come through this leaded glass. The apex of the dome is 43 ft. above the floor.

The committee and consultation rooms are situated off the bank lobby. They are finished in American walnut, and all of the furniture is of the same material. All the counters and desks required for the employees are of walnut and of modern type, with all the latest devices and improvements. The officers' space, at the front of the banking room, has a parquet floor with marble border and walnut furniture. The entire working space on both sides of the Trust Company, and the floors in the committee room and consultation room are of cork, and the floor in the safe deposit department is of marble. All the lighting fixtures throughout the building have been designed specially for the various spaces in which they occur, and with a view of getting the very best results.



THE VIRGINIA TRUST COMPANY'S BUILDING, RICHMOND, VIRGINIA. ALFRED C. BOSSOM, ARCHITECT.

In the basement and on the first floor and the mezzanine are fireproof vaults for the storage and safe keeping of the bank's records. These are provided with fireproof doors operated by combination locks. At the rear of the Trust Company main room are the vaults, which have been built to resist any attacks. The outside of the vaults is finished in polished steel, then there is 20 in. of concrete, and the inside of the vault has a 3-in. chrome steel lining which is fireproof. The entire inside of the main vault, which measures 16 ft. by 15 ft., is finished in polished steel and equipped with money chests and safe deposit boxes. The main entrance to the vault, including the vestibule, weighs 64,000 lb., the door itself weighs 35,000 lb; the circular opening to the vault is 7 ft. in diameter, and the emergency entrance on the side of the vault (which is used in case of a lock-out on the main door), including the vestibule, weighs 12,000 lb. The total weight of all the material entering into this main vault, which includes the doors, linings, safe-deposit boxes, etc., is 214,000 lb. This vault is fitted up with all the latest devices for the safety of both the Trust Company and customers.

At the side of the vault is the president's office, which is finished complete and furnished in mahogany, and equipped with private toilet conveniences. At the rear of the other side of the vault there are locker rooms and other conveniences for the employees of the Trust Company. The walls of the vault are isolated so that an employee standing at one side of the vault, by turning on the lights, has a complete view of the sides and rear of the vault at all times, which precludes the possibility of any burglarious attacks on the vault from the rear.

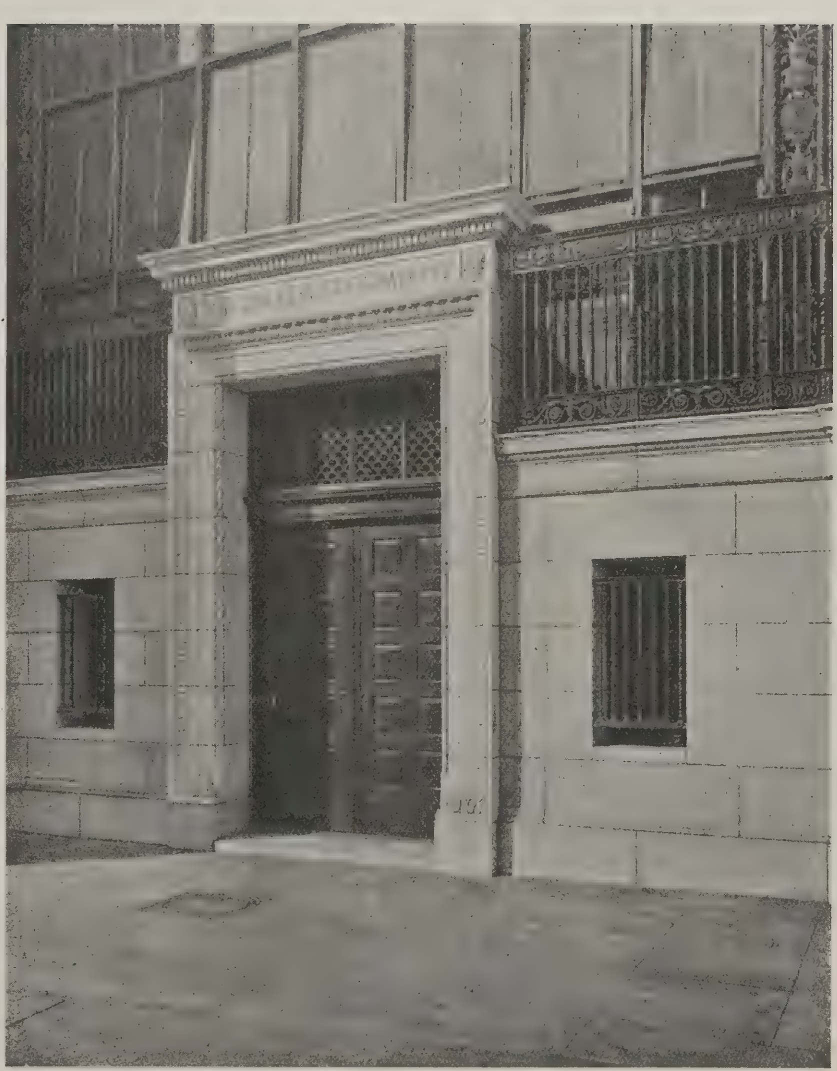
The director's room is finished and furnished in American walnut with walnut panels. A room on the front mezzanine is provided for the use of the bank stenographers, and the rear mezzanine is devoted to working space for the clerks and toilet facilities.

In the basement are fireproof vaults for the storage of trunks, silver, and ordinary storage. They are provided with modern doors which are governed by time locks. All these vaults have steel shelving.

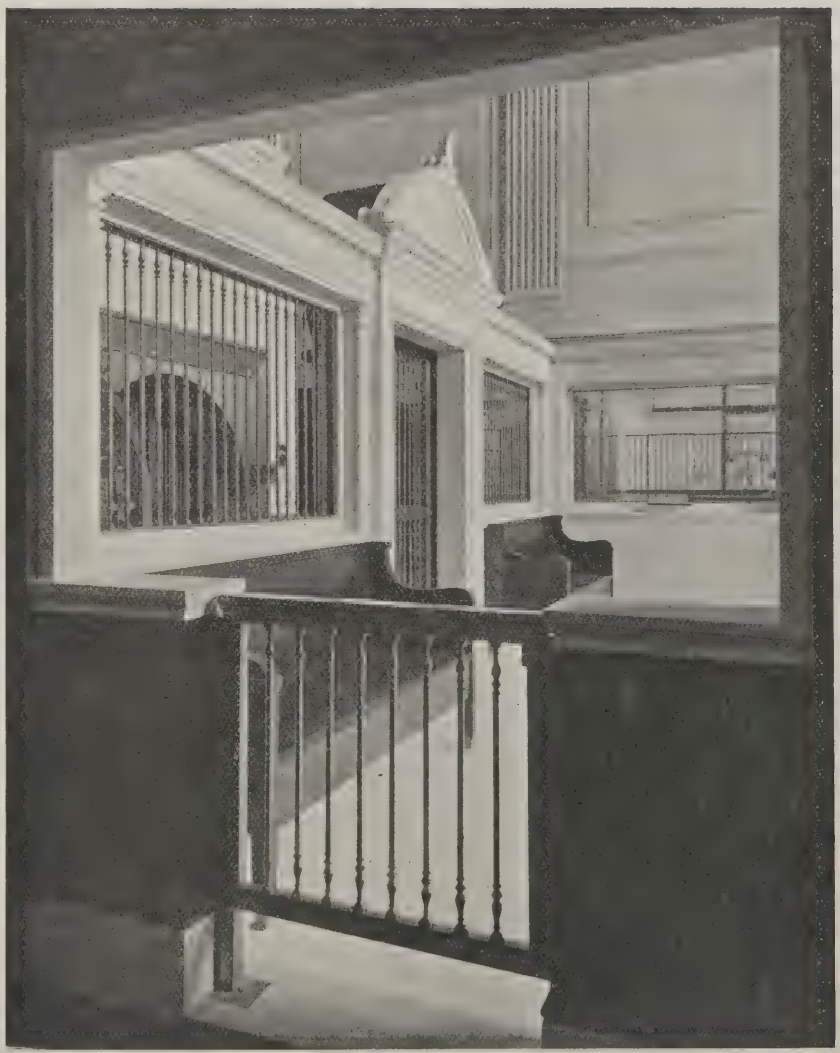
The rear part of the basement is divided up into examination rooms, fitted up with tables for the examination by clients of the material which they have stored. This department is treated in a putty-colour finish with plate glass. Also in the basement is the storage room for furs, in connection with which a refrigerating machine insures the proper temperature at all times to keep the furs in proper condition. This room is provided with a vault door controlled by time locks to make absolutely safe all articles in storage.

Off the examination rooms there is a room provided for the furrier, where the furs can be examined and altered as the owners desire, and at the rear of the furrier's room is the dining room for the employees of the company. In conjunction with the dining room is a kitchen and pantry and a refrigerator. The boiler room, which comes next, is fitted out for the heating of the building, and for the distribution of the hot water required for the various fixtures in the building.

Underneath the sidewalk is a complete storage battery plant consisting of cells, generator, and automatic controls.

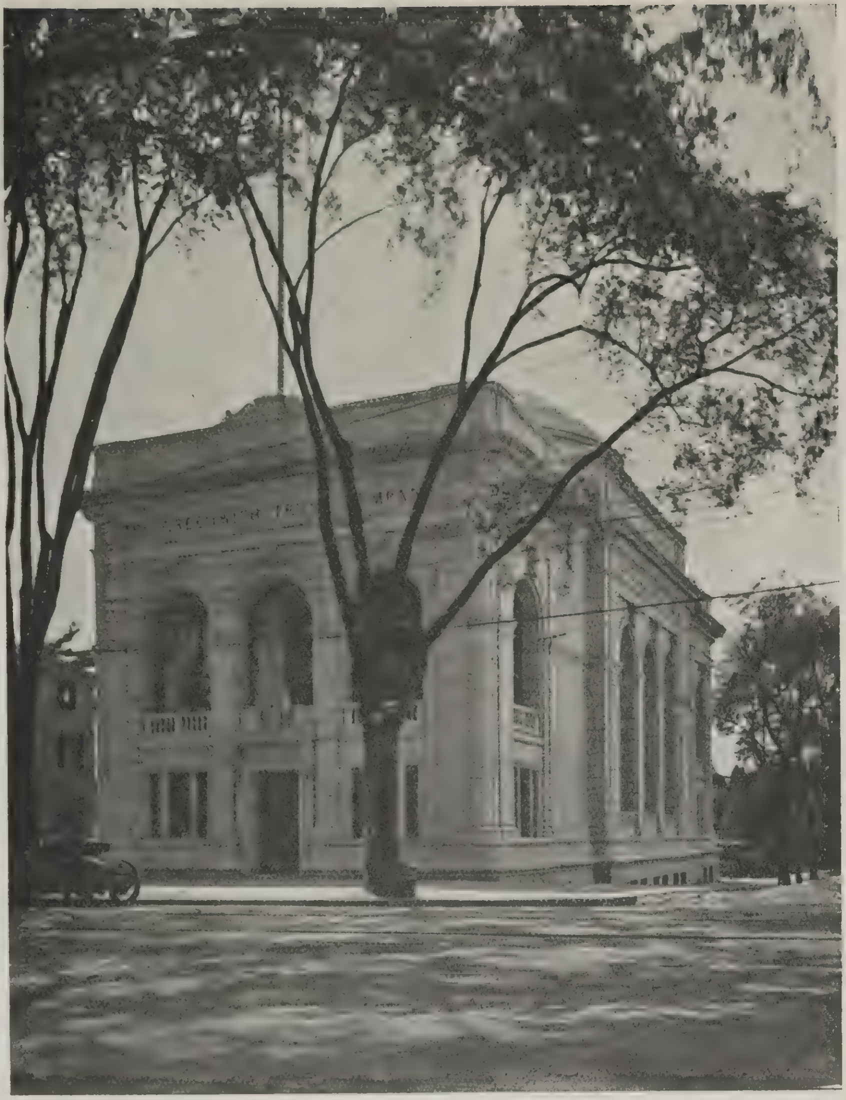


THE MAIN ENTRANCE.

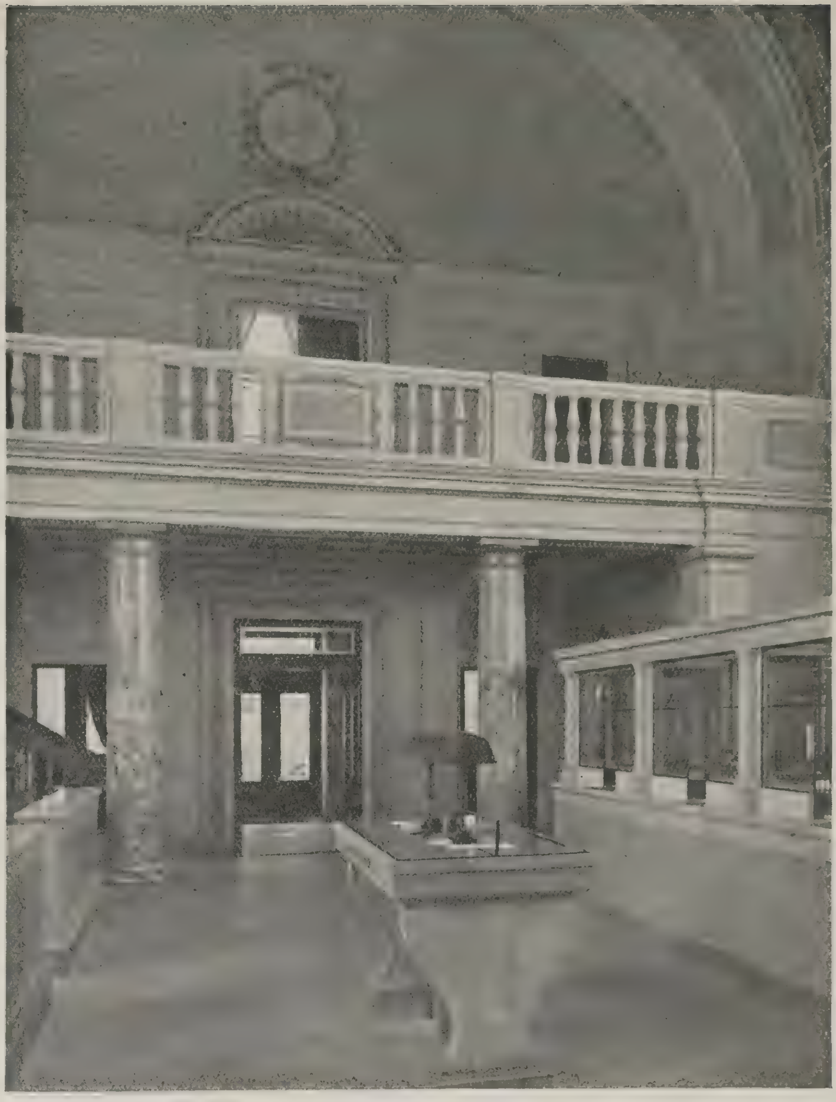


THE BANKING HALL.

THE VIRGINIA TRUST COMPANY'S BUILDING, RICHMOND, VA. ALFRED C. BOSSOM, ARCHITECT.



A CORNER VIEW.



THE BANKING HALL.

THE GREENWICH TRUST COMPANY'S BUILDING, GREENWICH, CONN. ALFRED C. BOSSOM, ARCHITECT.

The St. Pancras Housing Scheme

H. V. ASHLEY and WINTON NEWMAN, FF.R.I.B.A., Architects

IN 1919 the St. Pancras Borough Council invited ten architects to submit designs in competition for the tenement housing scheme for Prince of Wales Road, N.W., and the assessor, Mr. Harry Redfern, placed first that of Messrs. H. V. Ashley and Winton Newman, FF.R.I.B.A.

The buildings as executed are in lay-out substantially as originally planned; but the elevations have been considerably modified—we fear to their detriment—by the elimination of the roofs and the substitution of asphalt flats, and the separation of the main block facing Prince of Wales Road. It is not uncommon, but nevertheless it is very regrettable, that the trained judgment of architects should have to give way to the often lightly considered rulings of a lay committee. It is difficult to make a domestic brick building look right without a roof, and in this connection we are pleased to illustrate the architects' original proposals for the treatment of the elevation to the main road.

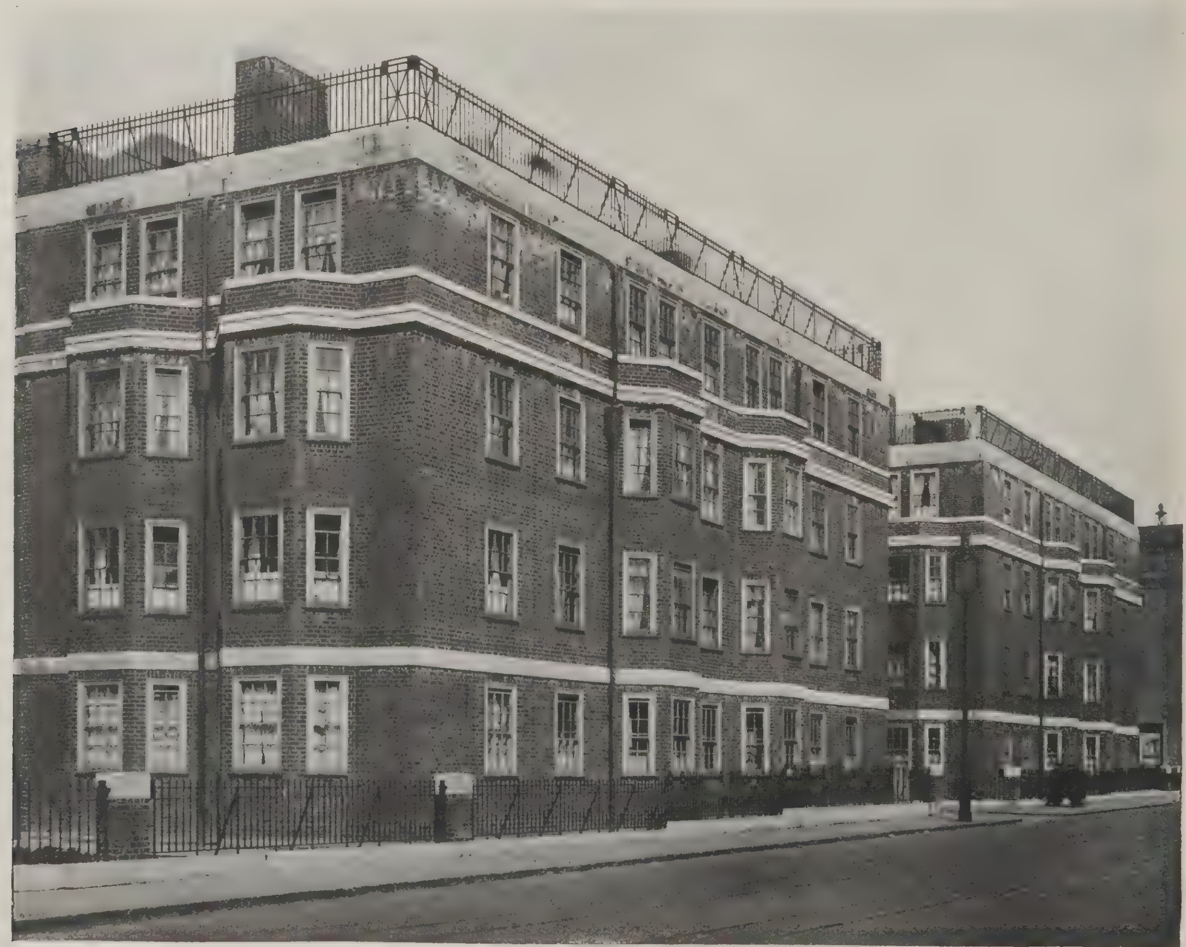
The site was a difficult one to plan owing to its shape, and a long blank wall of a tall factory building had to be taken into consideration and disguised as far as possible. Provision was required for a crèche, which also was ultimately not proceeded with.

The illustrations show clearly the disposition of the several tenements and their detailed planning. Care has been taken to give a sunny aspect to all the living-rooms and bedrooms at some time of the day, and generally to render the flats as light and airy as possible. The central courtyard, with its raised playground and perambulator stores below, is quite successful in execution.

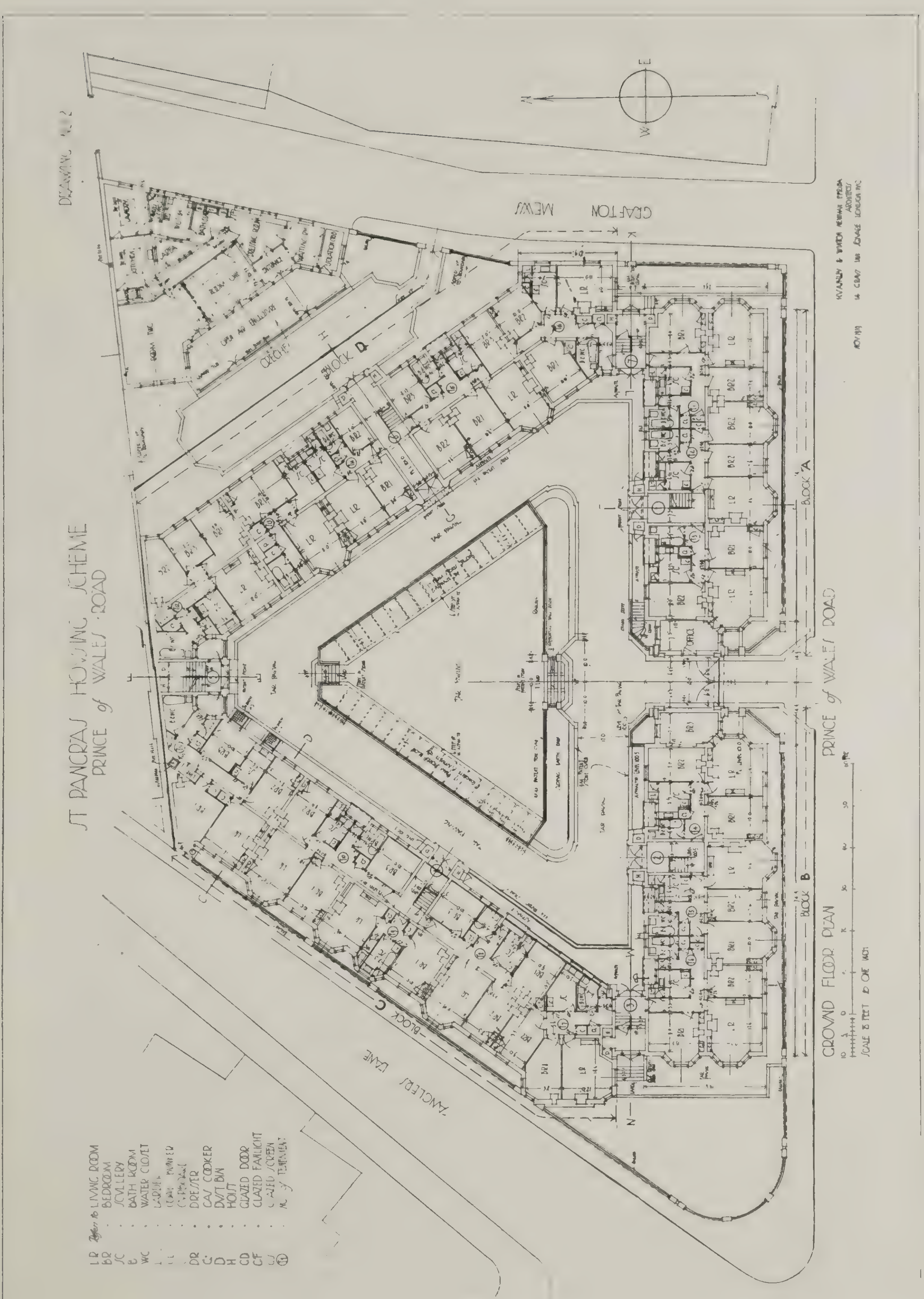
Hot water, limited in amount, is supplied to each flat. The living-rooms are fitted with a "worker" grate, for open fire or range, as may be required, and the sculleries with gas stoves and gas coppers. All the rooms are wired for electric light. Hand-lifts for coal, etc., give on to each landing.

The general walling is in multi-coloured red brick with artificial stone dressings, and the floors are constructed with steel joists and hollow tile filling, and finished on top with breeze, to which wood flooring is nailed.

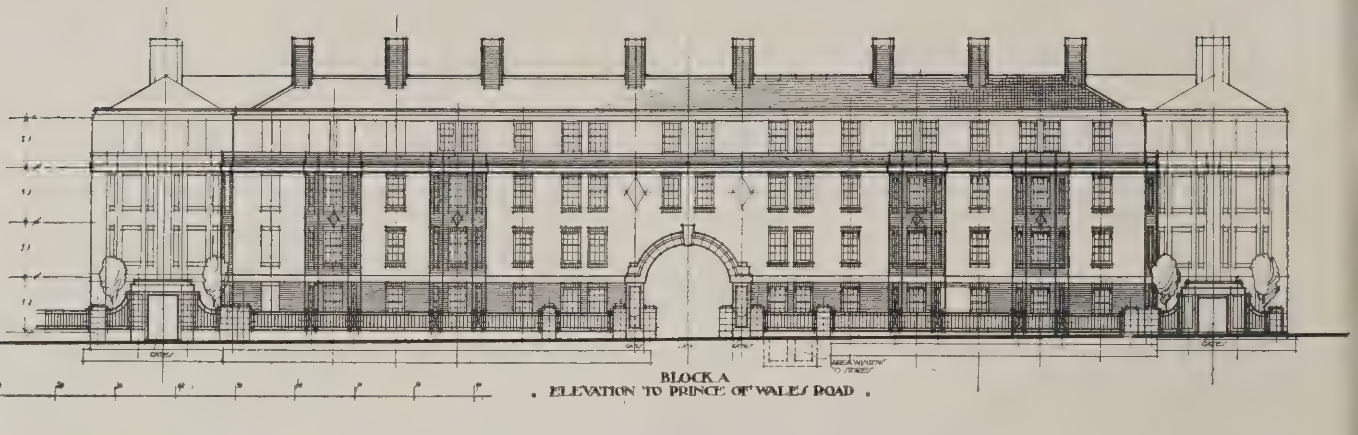
The general contractors were Messrs. Chessums, Ltd.; the sub-contractors being as follows: Thomas Faldo & Co. (asphalt); Bristow Bros., of Speen, Bucks (facing bricks); Stuart's Granolithic Co. (artificial stone); Young & Co. (steelwork); J. A. King & Co. (hollow tiles for constructional floors, partitions, etc.); F. Edwards & Son and The Falkirk Iron Co. (stoves, grates, and mantels); Ames and Finnis (sanitary ware and fittings); The Gas Light and Coke Co. (gasfitting); F. Geere Howard, Ltd. (electric wiring); Yannedis & Co. (door furniture); T. W. Palmer & Co. (gates, railings, handrails, balusters, etc.); Waygood-Otis, Ltd. (lifts and cranes); J. Jeffreys & Co. (heating and ventilating).



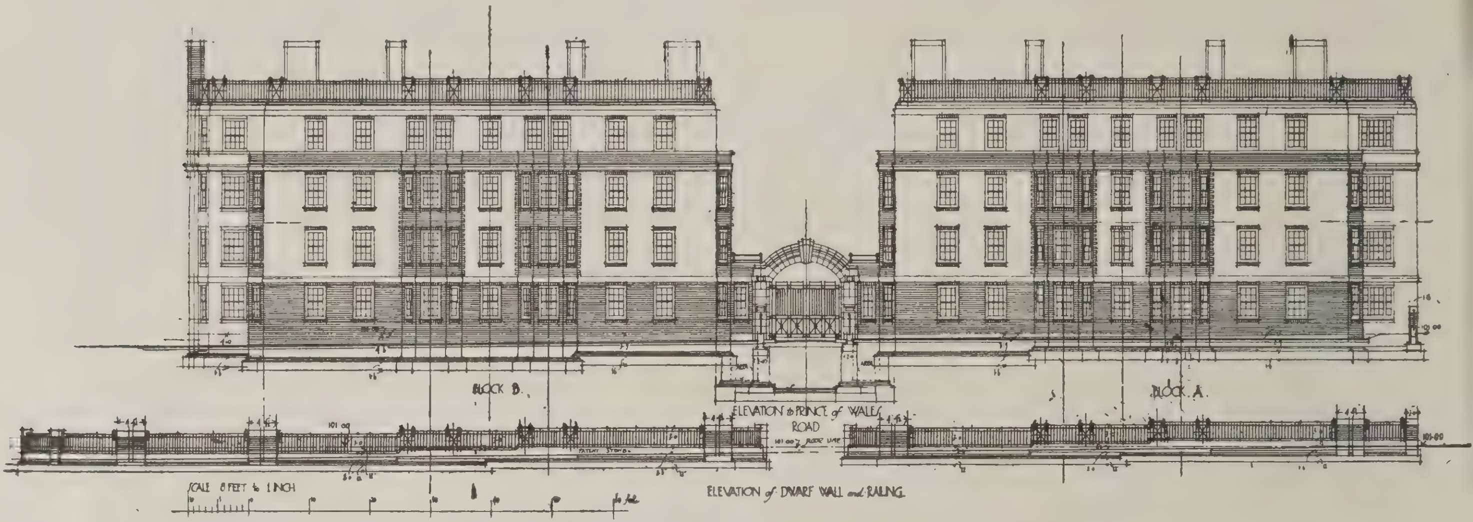
THE ELEVATION TOWARDS PRINCE OF WALES ROAD.



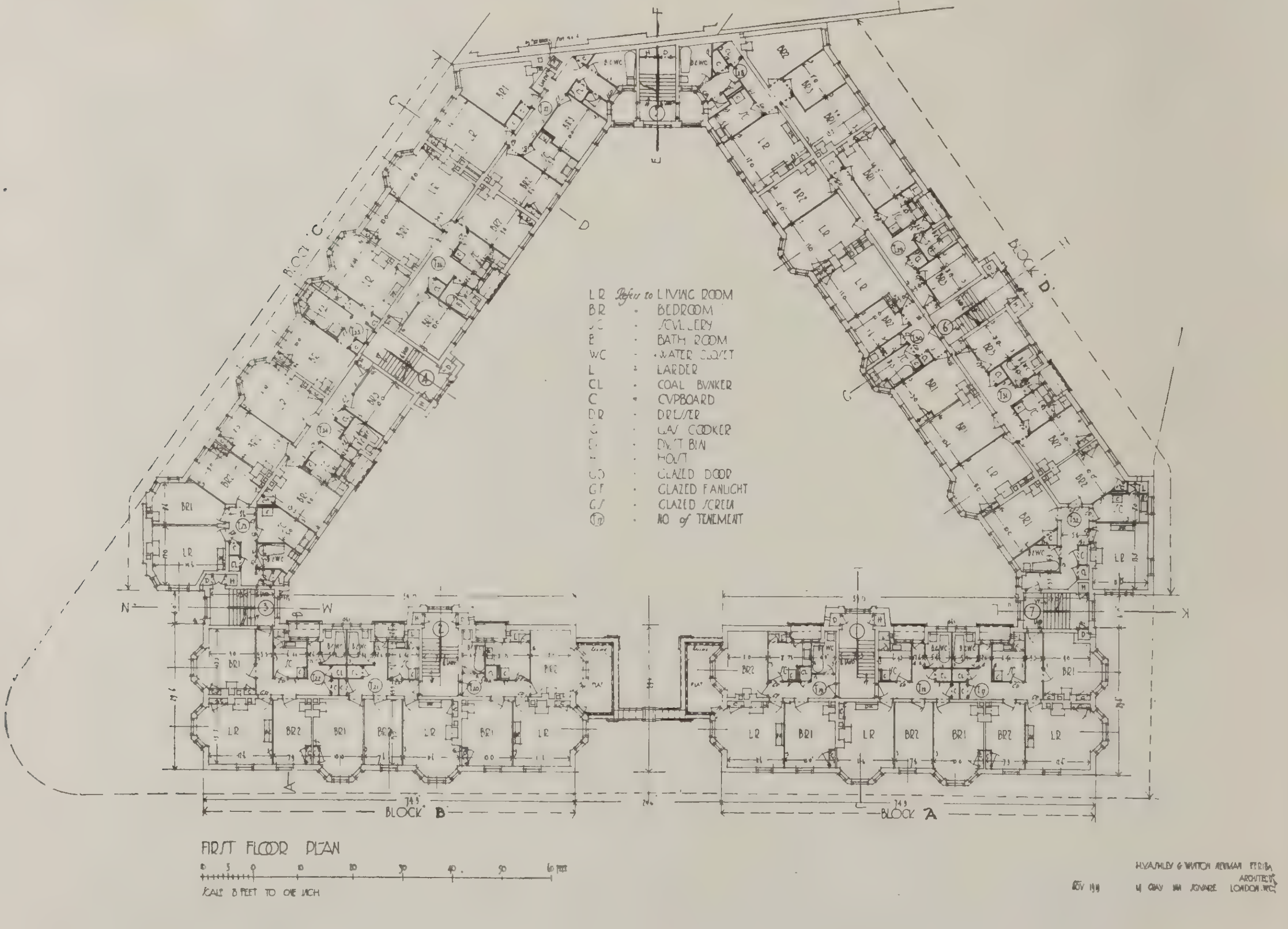
THE ST. PANCRAS HOUSING SCHEME: GROUND FLOOR PLAN. H. V. ASHLEY AND WINTON NEWMAN, FF.R.I.B.A., ARCHITECTS.



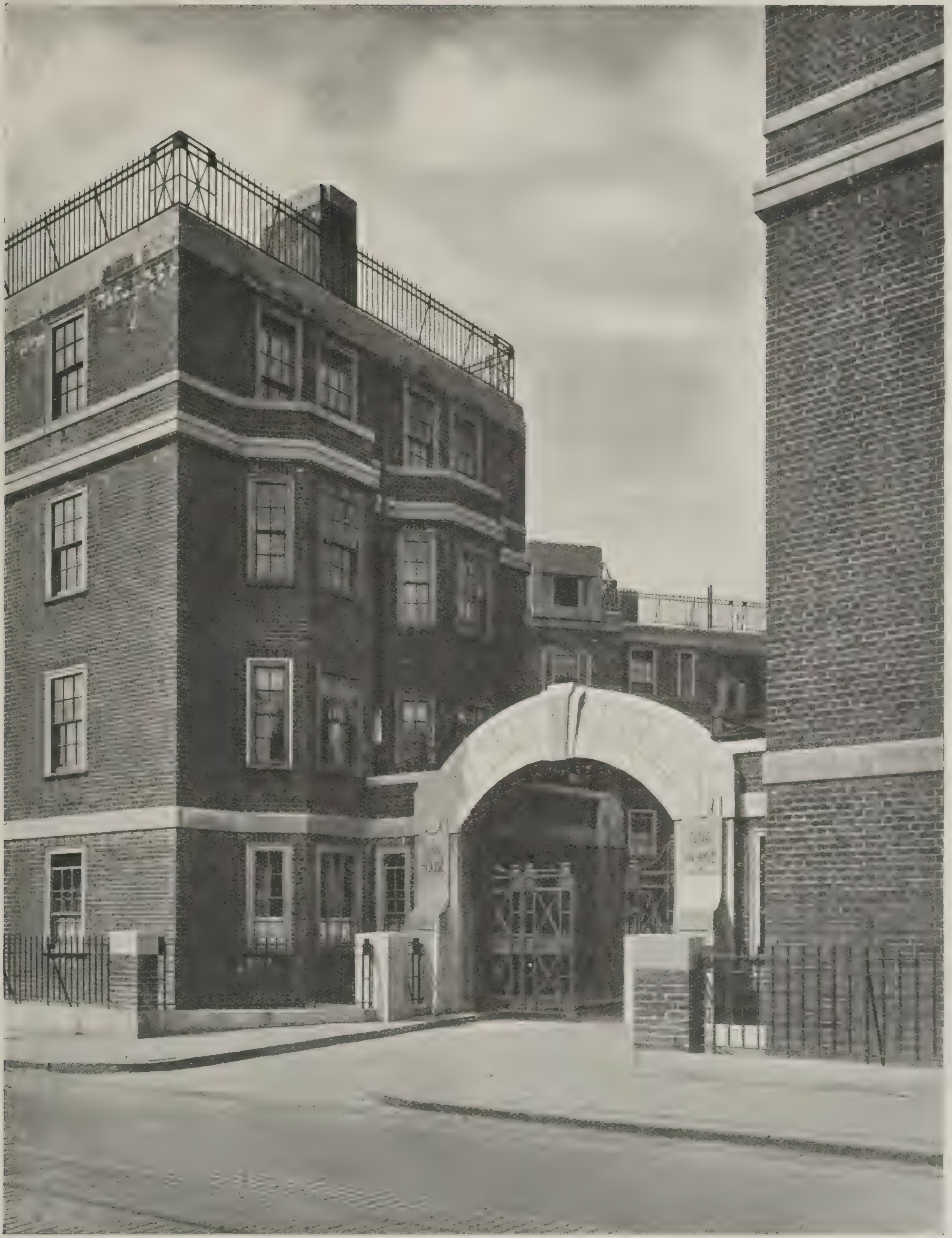
ELEVATION AS ORIGINALLY DESIGNED BY THE ARCHITECTS.


BLOCK B.
BLOCK A.
ELEVATION to PRINCE of WALES ROAD
SCALE 8 FEET to 1 INCH
ELEVATION of DWARF WALL and RAILING

AS MODIFIED BY THE ST. PANCRAS BOROUGH COUNCIL.



THE ST. PANCRAS HOUSING SCHEME. H. V. ASHLEY AND WINTON NEWMAN, FF.R.I.B.A., ARCHITECTS.



THE ST. PANCRAS HOUSING SCHEME: ENTRANCE FROM PRINCE OF WALES ROAD.
H. V. ASHLEY AND WINTON NEWMAN, FF.R.I.B.A., ARCHITECTS.

Construction. 27.—New Offices for the Liverpool Victoria Friendly Society

SINCE the publication of the first article on the progress of this block of commercial offices a considerable advance has been made with the construction of the foundations and underpavement vaults. The outer ring of the reinforced foundations for the portion now in course of erection is all but finished, all the grillages for the stancheons being now covered. The centre section of the vaults in Southampton Row is practically completed, part of the shuttering and forms for the panels, counterforts, back and roof having now been struck. The retaining wall along Bloomsbury Place is also well advanced, and another three or four weeks should see its completion and that of the north-east corner of the vaults along Southampton Row.

Fig. 6 illustrates the bottom reinforcement at this corner, at the point where the vaults and the retaining wall meet. It will be noted that the surface behind the bars consists of the 1 in. layer of asphalt which runs up the back of the vaults and retaining wall, and helps to convert the whole site into a watertight "tank." The reinforcement of one of the counterforts is shown on the right of this photograph, but a closer and clearer view of a similar one is given in Fig. 1, which also shows very plainly the asphalt surface at the back.

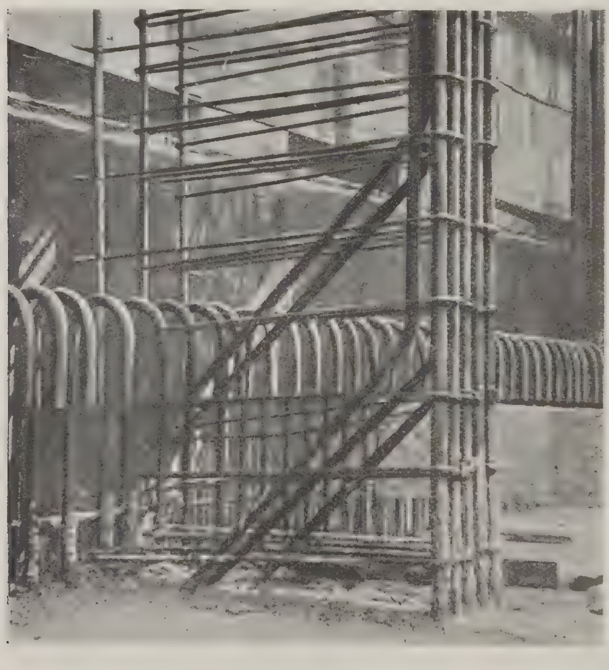
Along Bloomsbury Square the main reinforcement for the bottom portion of the vaults is now in place, and the level of the floor of the coal vaults has been reached. The design of the vaults is illustrated in the drawings 3 and 4 reproduced on the following pages. The drawings on the opposite page show a series of sections taken along this side of the building, and those on page 454 the plan and elevations of the coal vaults at the point where they meet the existing buildings.

On the first drawing the complete section shown on the left applies practically over a distance of about 40 ft. from Bloomsbury Place, the level of the vault floor being the same as the general basement floor level. After this there is a drop of 2 ft. 8 in. in the basement for the boiler-house, the floor of the vaults being raised 6 ft. 3 in., as indicated in the complete section and elevation shown in the middle of the drawing. The whole of the vaults opposite the boiler-house are to be used for the storage of coal and coke, and chutes are being constructed at intervals in the floor of the vaults in order to feed the coal bins opposite the boilers. A 6 ft. by 4 ft. 6 in. hydraulic ash hoist is also provided in order to raise the ashes, clinker, etc., from the boiler-house to the street level, a section of the vaults at the point where this hoist is incorporated being given on the right of the drawing.

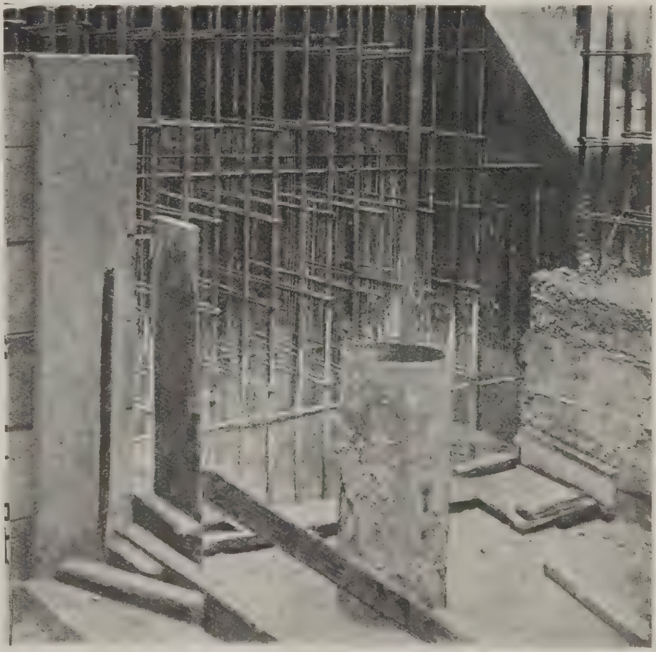
It will be seen from an examination of the drawings that the coal vaults are connected to the main foundation raft by means of a reinforced concrete beam, through which the coal chutes are formed. This beam is designed as a cantilever to take the full thrust due to the earth pressure at the back of the vaults, and transmit it to the blue clay of the foundation, due allowance being made for any reverse movement which might be produced in the case of the vaults being full of coal and a settlement occurring in the sandy soil beneath the vault floors. Fig. 2 is a view of part of the reinforcement of this beam near the ash hoist, the cast-iron pipe in the centre being intended to take the hydraulic ram for the hoist.

Many difficult problems were encountered during the design of these vaults owing to the number of different sections which had to be dealt with, and considerable thought had to be given to the arrangement and spacing of the reinforcement in order to evolve a method of construction which would not interfere with the timbering of the trench and the asphalting.

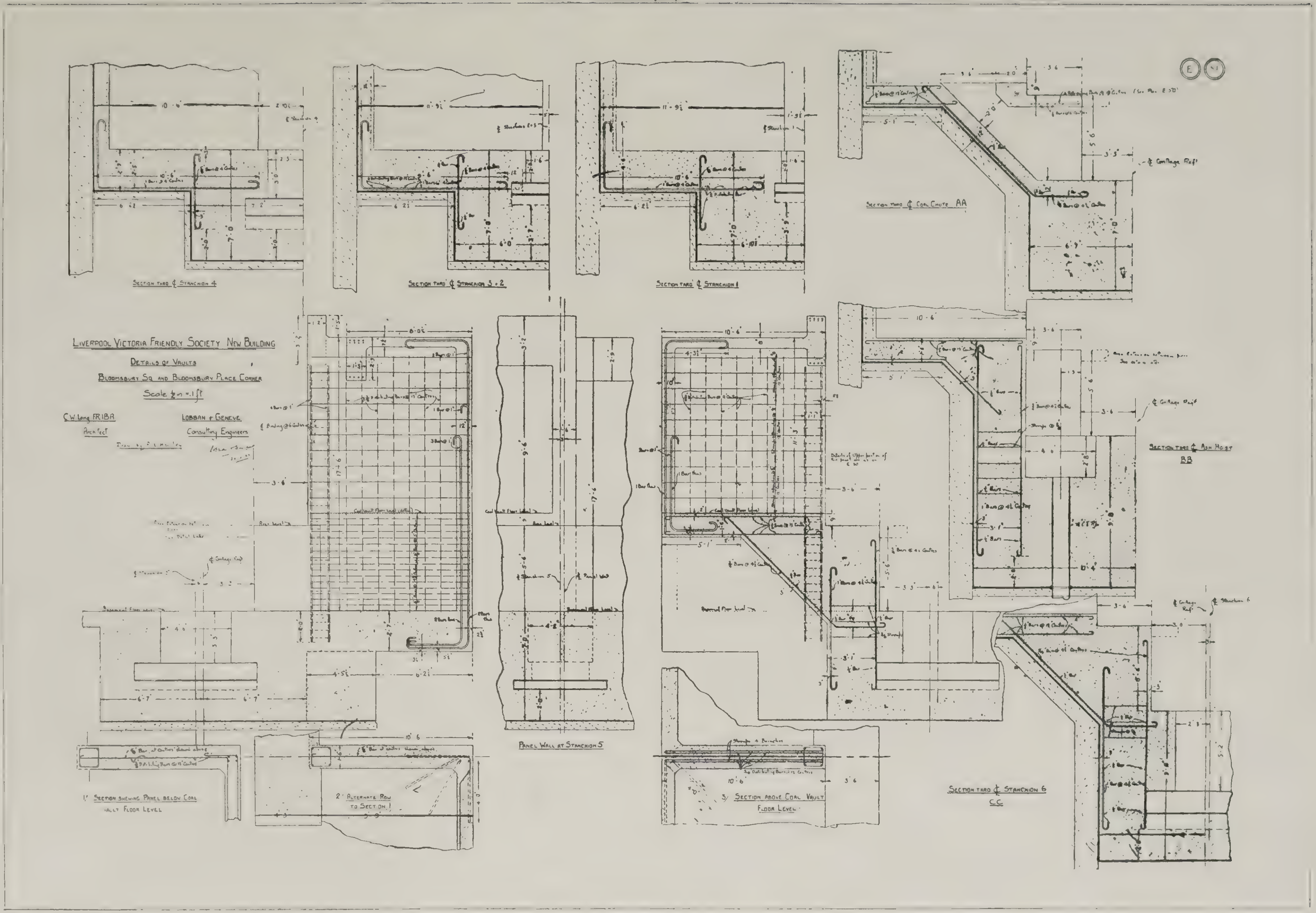
The drawing on page 454 indicates the provision made for the continuation of the vaults when the building is extended after the expiration of the present leases. The plan and elevation of the end panel wall (on the left) shows a return portion which forms, with the wall itself and the back, an empty space or recess. It is proposed to fill this with a temporary brick wall in order to support some old existing brick vaults shown on the left of the drawing. When the existing buildings are pulled down and the new building extended, a duplicate panel will be built in the recess mentioned above, and the vaults continued from this panel in the manner already described. The drawing also shows a general plan of the coal vaults and chutes, and the junction of the main foundation raft with the base of the wall underpinning the end wall of the first of the existing block of buildings (see Fig. 4). The return of the asphalt is also clearly indicated.



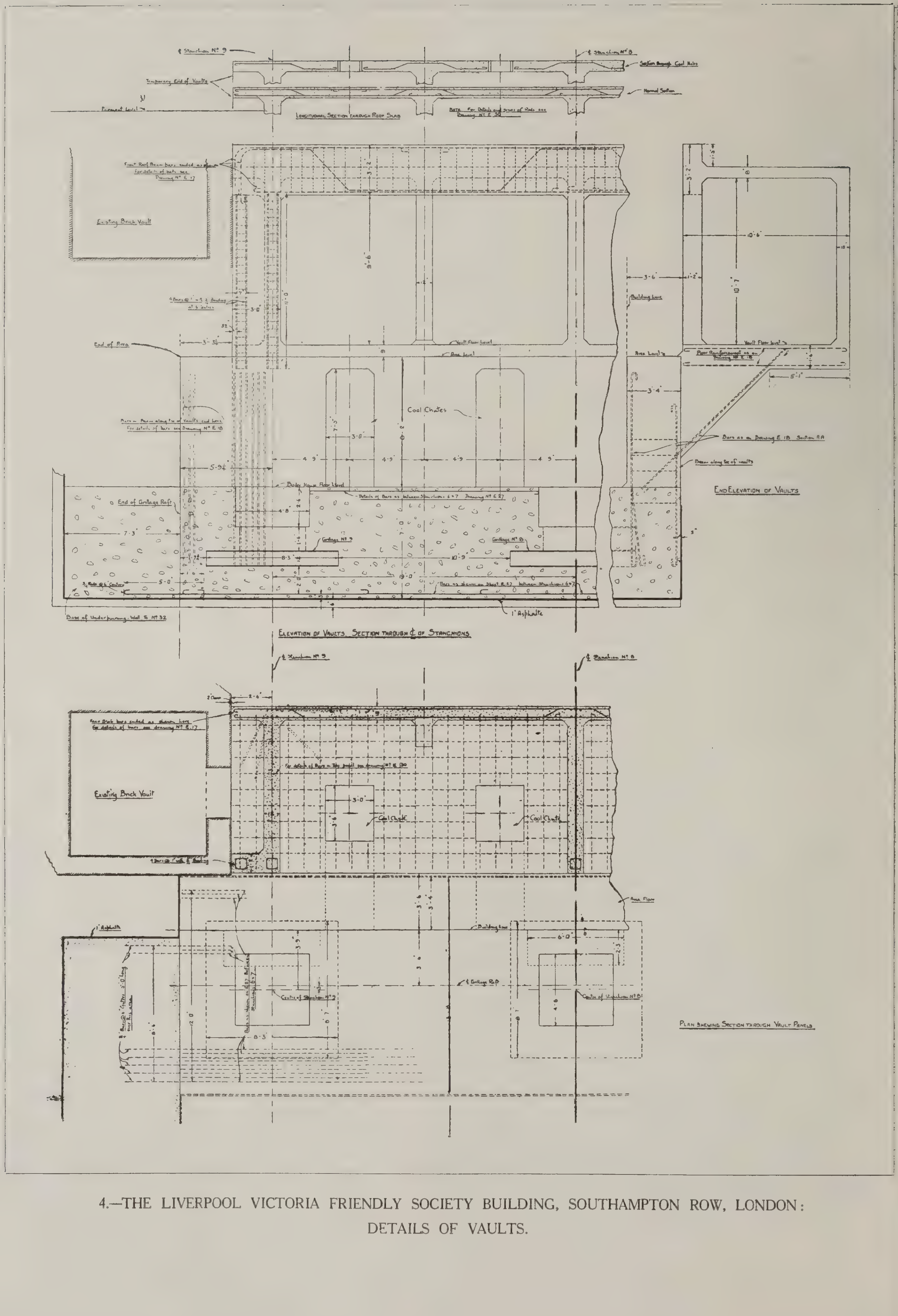
1.—REINFORCEMENT OF A COUNTERFORT



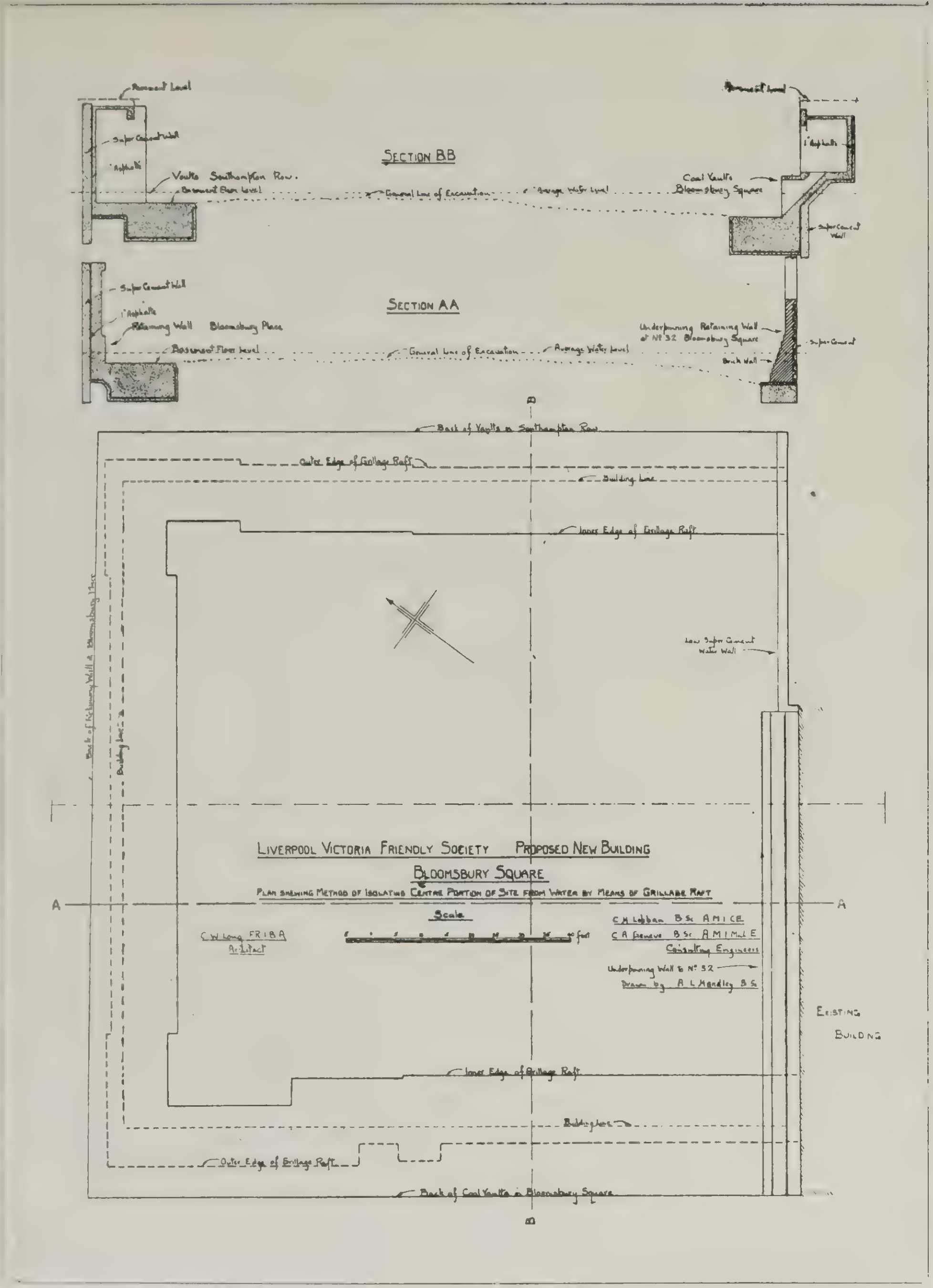
2.—PART REINFORCEMENT OF BEAMS NEAR ASH HOIST.


Section thro' ℄ Stanchion 4
Section thro' ℄ Stanchion 3 & 2
Section thro' ℄ Stanchion 1
Section thro' ℄ Coal Chute AA
Section thro' ℄ Ash Hoist BB
Section thro' ℄ Stanchion 6 CC
Panel Wall at Stanchion 5
1/ Section shewing Panel below Coal Vault Floor Level
2/ Alternate Row to Section 1
3/ Section above Coal Vault Floor Level
Liverpool Victoria Friendly Society New Building
Details of Vaults
Bloomsbury Sq and Bloomsbury Place Corner
Scale ½in = 1 ft
C W Long FRIBA
Architect
Lobban & Geneve
Consulting Engineers
E
N

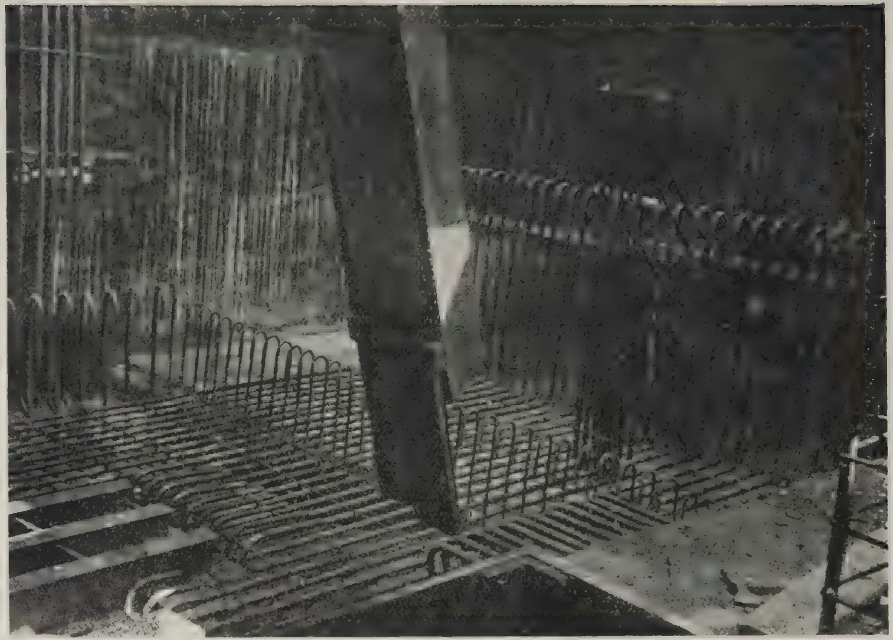
3.—THE LIVERPOOL VICTORIA FRIENDLY SOCIETY BUILDING, SOUTHAMPTON ROW LONDON: DETAILS OF VAULTS


℄ Stanchion Nº 9
℄ Stanchion Nº 8
Section through Coal Holes
Temporary End of Vaults
Normal Section
Pavement Level
Longitudinal Section through Roof Slab
Note. For Details and sizes of Rods see Drawing Nº E 30
Front Roof Beam bars ended as shown For details of bars see Drawing Nº E 17
Existing Brick Vault
4 Bars @ 1" with ½ Binding at 6" centres
End of Area
Vault Floor Level
Area Level
Building Line
Floor Reinforcement as on Drawing Nº E 18
Coal Chutes
Bars in Beam along face of Vaults end here For details of bars see Drawing Nº E 18
Boiler House Floor Level
Details of Bars as between Stanchions 6 & 7 Drawing Nº E 27
End of Grillage Raft
Grillage Nº 9
Grillage Nº 8
¾ Rods @ 6" Centres
Bars as shown on Sheet E 27 between Stanchions 6 & 7
1" Asphalte
Base of Underpinning Wall E Nº 32
Bars as on Drawing E 18 Section AA
Beam along face of vaults
End Elevation of Vaults
Elevation of Vaults. Section through ℄ of Stanchions
2" Cover
Rear Slab bars ended as shown here For details of bars see drawing Nº E 17
For details of Bars in this panel see drawing Nº E 30
Existing Brick Vault
Coal Chute
Coal Chute
Area Floor
1" Asphalte
Building line
℄ Grillage Raft
Centre of Stanchion Nº 9
Centre of Stanchion Nº 8
Bars as shown on E 27 Between Stanchions 6 & 7
Bars @ 6" Centres 5'-0" long over this area
Plan shewing Section through Vault Panels
3'-2"
9'-6"
11'-0"
3'-0"
3'-3½"
3'-6"
1'-2"
10'-6"
10'-7"
1'-5"
3'-4"
5'-1"
7'-5"
4'-9"
4'-9"
4'-9"
4'-9"
5'-9¼"
4'-8"
2'-6"
7'-3"
8'-3"
10'-9"
19'-0"
5'-0"
2'-6"
3'-0"
3'-6"
3'-9"
6'-0"
2'-3"
8'-3"
12'-0"
8'-6"

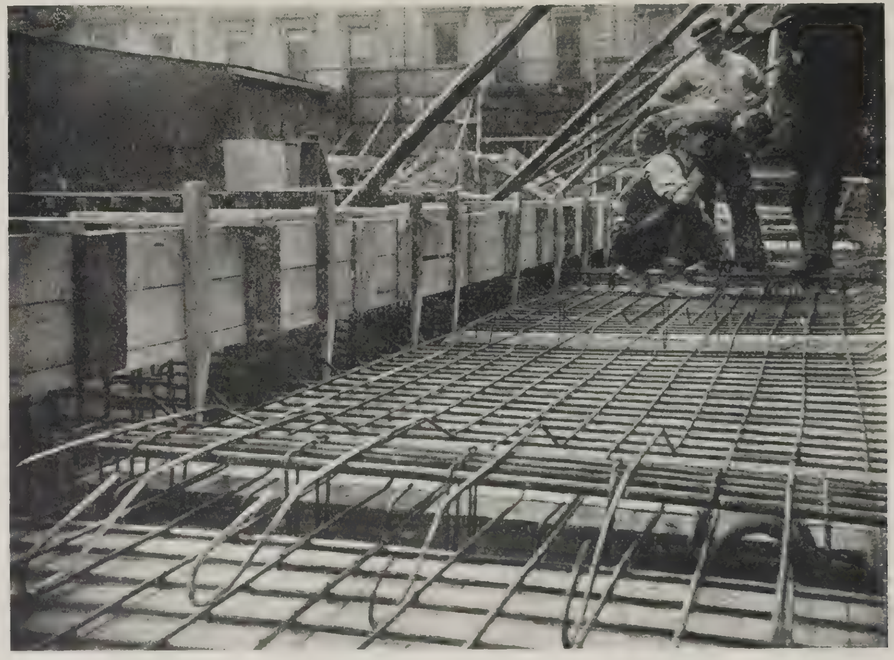
4.—THE LIVERPOOL VICTORIA FRIENDLY SOCIETY BUILDING, SOUTHAMPTON ROW, LONDON: DETAILS OF VAULTS.


Pavement Level
Super Cement Wall
1" Asphalte
Vaults Southampton Row.
Basement Floor Level
SECTION BB
General Line of Excavation
Average Water Level
Coal Vaults Bloomsbury Square
Super Cement Wall
SECTION AA
Retaining Wall Bloomsbury Place
Basement Floor Level
Underpinning Retaining Wall at No 32 Bloomsbury Square
Super Cement
Brick Wall
B
Back of Vaults in Southampton Row
Outer Edge of Grillage Raft
Building Line
Inner Edge of Grillage Raft
Low Super Cement Water Wall
LIVERPOOL VICTORIA FRIENDLY SOCIETY PROPOSED NEW BUILDING
BLOOMSBURY SQUARE
PLAN SHEWING METHOD OF ISOLATING CENTRE PORTION OF SITE FROM WATER BY MEANS OF GRILLAGE RAFT
Scale
feet
C W Long FRIBA
Architect
C H Lobban BSc AMICE
C A Geneve BSc AMIMechE
Consulting Engineers
Underpinning Wall to No 32
Drawn by A L Handley BSc
A
A
Existing Building
Inner Edge of Grillage Raft
Building Line
Outer Edge of Grillage Raft
Back of Coal Vaults in Bloomsbury Square
B

5.—METHOD OF ISOLATING PORTION OF SITE FROM WATER BY GRILLAGE RAFT.



6.—BOTTOM REINFORCEMENT OF VAULTS.



7.—REINFORCEMENT OF TOP OF VAULTS.

THE LIVERPOOL VICTORIA FRIENDLY SOCIETY BUILDING, SOUTHAMPTON ROW, LONDON

Mention was made in the previous article of the difficulties met with from underground water. This question naturally is of great importance in connection with the amount of reinforcement to be provided in the basement floor. Fig. 5, an outline drawing of the foundations, shows clearly the arrangements made to deal with this problem. In order to keep back the water whilst the main foundations were being laid, a light super-cement wall, reaching above the water level, was erected practically round the whole of the site, the underground water being then diverted into suitable sumps from which it was pumped day and night. This left the blue clay surface quite dry, and enabled the asphalt to be laid and the foundations to be built without much trouble. The whole of the site is now surrounded by a ring of solid foundations, reaching well into the impervious blue clay, except along the line of the existing buildings. Along this line an under-pinning wall is being built with its base also in the clay, and this wall will eventually join up with a low super-cement water-wall which has been started from the Southampton Row side. As the site will then be entirely isolated from water, very little reinforcement will probably be necessary for the basement floors.

The design of the reinforced concrete retaining wall along Bloomsbury Place, and of the under-pinning wall of the existing building, will be dealt with in a special article to be published shortly.

The architect is Mr. C. W. Long, F.R.I.B.A., of London and Cambridge, and the consulting engineers for the steel and the reinforced concrete work are Messrs. C. H. Lobban, B.Sc., A.M.Inst.C.E. and C. A. Geneve, B.Sc., A.M.I.Mech.E., both of the University of London (King's College). Messrs. James Carmichael (Contractors), Ltd., are the general contractors, and Messrs. Dorman, Long & Co., Ltd., are supplying the structural steelwork.

The previous article on the construction of the building was published in our issue for May 3.

The Coventry Street Corner House Extension

THE restaurants of Messrs. Lyons are an increasingly prominent feature of London life, and their latest development, an extension of the Coventry Street Corner House, bids fair to eclipse its many predecessors in comfort and appearance as well as in size.

The new building, which is now in course of erection, is being carried out to the design of Mr. F. J. Wills, and will contain seating accommodation for about 3,000 people. There are five stories, including the basement, with a restaurant on each, the total area amounting to 40,000 ft. super.

The ground floor comprises in addition a shop and entrance hall, and there are ladies' rooms on the third floor, one at the top of each of the two staircases. Four passenger lifts are also provided.

The whole building will be heated by warmed air and by steam radiators, and an elaborate system of ventilation, by which each floor is furnished through ducts with its own supply of fresh air, is being installed.

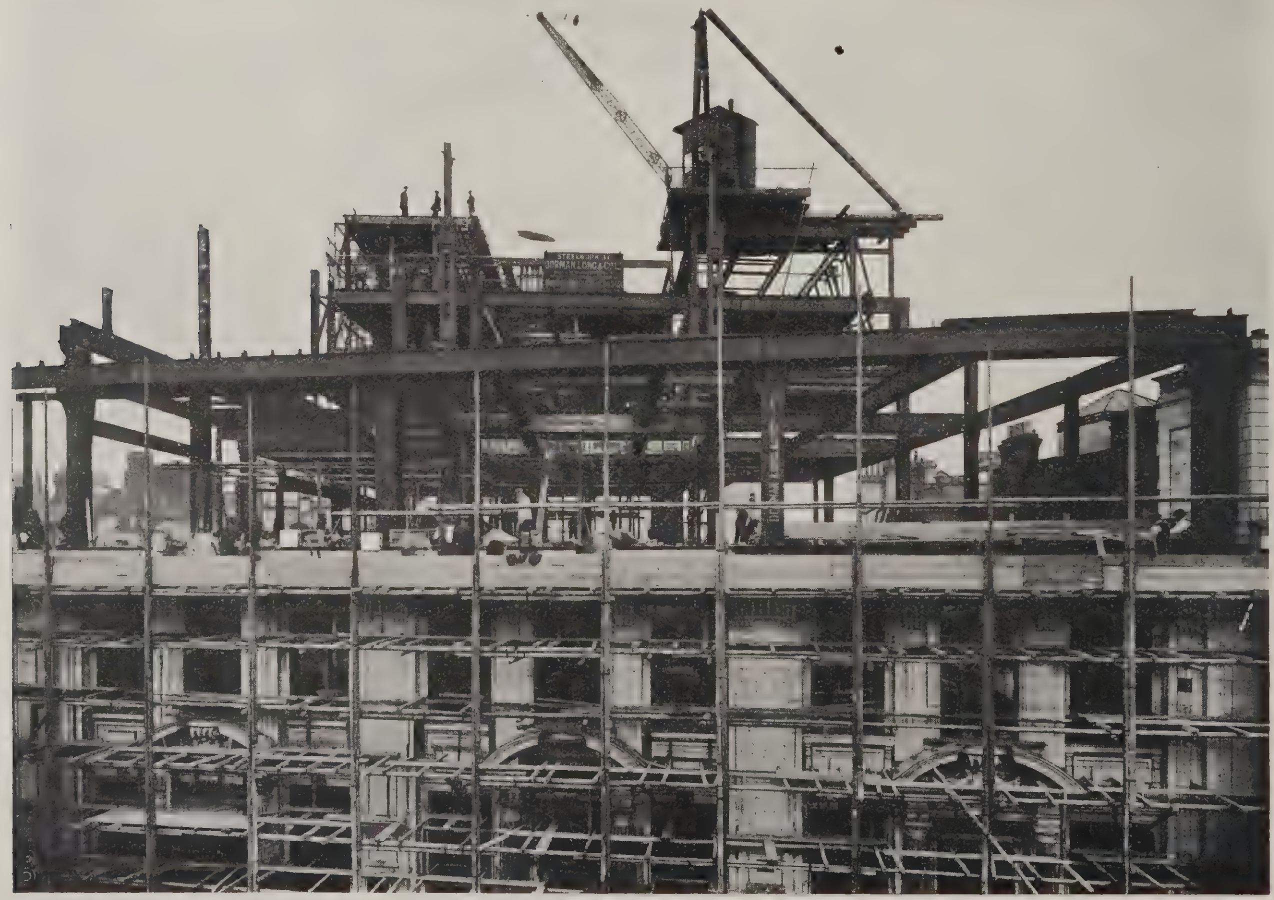
The constructional steelwork is an interesting feature of the building, 25,000 tons having been used. This was designed by Messrs. Reade, Jackson and Parry, and was manufactured and erected by Dorman, Long & Co., Limited, London.

The steelwork is of particularly massive construction on account of the large spans required between columns to ensure a minimum of uninterrupted space in the rooms on the various floors. The bottom lengths of main stanchions carrying the basement, sub-basement and ground floors were 60 ft. long and weighed 22 tons each, and several of the main floor girders exceeded 10 tons in weight each.

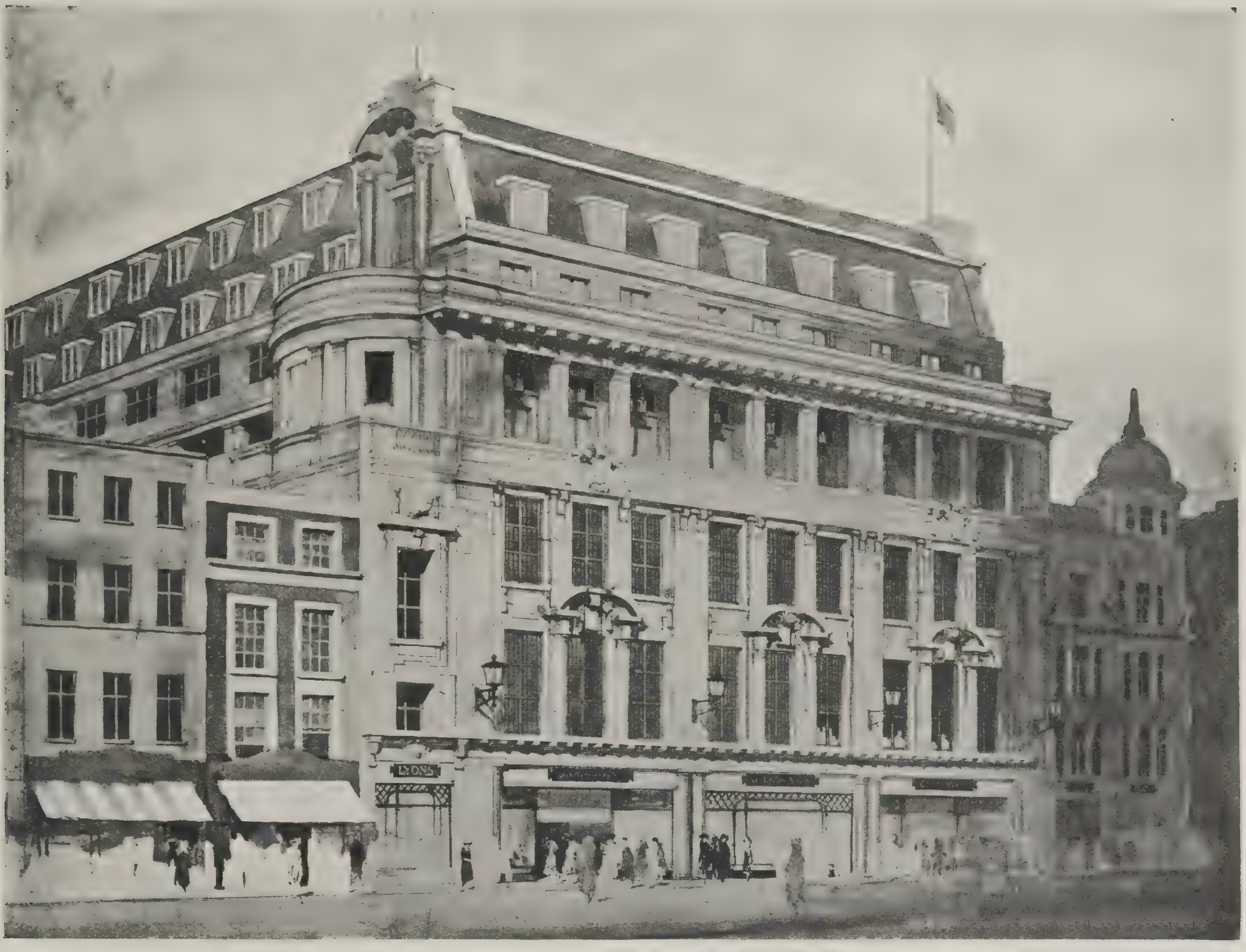
The erection of the whole of the steelwork was carried out by means of two steam cranes, which were carried on the steel structure itself and lifted from time to time as progress upwards was made.

The heating and ventilation is designed by Mr. A. H. Barker, and Messrs. J. Lyons and Co.'s Constructional Department are carrying out the constructional work besides being responsible for interior fitments.

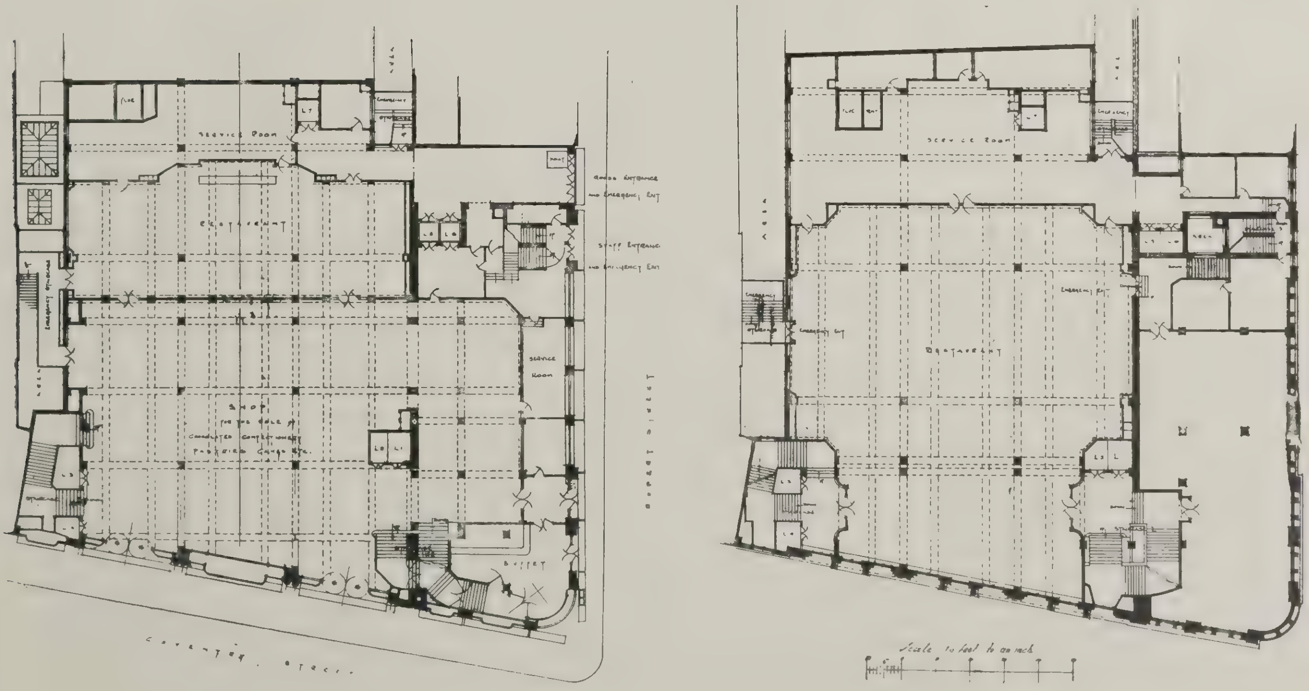
Other contractors are: Shaws Glazed Brick Company (glazed faience); Waygood-Otis, Ltd., (lifts); The Crittall Manufacturing Company (casements); Bradford and Company (hollow brick floors); Babcock & Wilcox (boilers); The Art Pavements, Ltd. (mosaic staircases); Jones & Willis (shop fronts).



A VIEW OF THE LYONS' CORNER HOUSE EXTENSION, COVENTRY STREET, SHOWING STRUCTURAL STEELWORK



PERSPECTIVE VIEW.



THE LYONS' CORNER HOUSE EXTENSION, COVENTRY STREET, LONDON.
F. J. WILLS, ARCHITECT.

Architecture in the Lay Press

Great Houses and Great Cities

"Everyone will wish the example of Mr. Edward Wood, M.P., in handing over Temple Newsam, his beautiful and historic Yorkshire seat, with its grounds and portraits, to the city of Leeds as a possession for ever, to be followed by other owners of historic mansions. . . . It would be an ideal way of preserving them and of enabling their beauty to be appreciated by an age to which, for several reasons, the secrets of the best architecture appear to be irrecoverable. We do our best to preserve the masterpieces of painting and sculpture, but good architecture is equally ennobling, and to judge by the numbers who visit Hampton Court, Temple Newsam is likely to exercise a similar gracious influence. Unhappily, however, an architectural masterpiece costs much to keep up, and if an owner cannot keep it up, or if it falls into unappreciative hands, with the risk perhaps of demolition, there may be no alternative, failing such a bargain as has been struck between an enlightened city and a loyal owner, to its ultimate disappearance. But there are many historic houses within reach of great cities, and their impending fate must cause sorrow to families proud of their inheritance, and anxiety to the lovers of art."—"The Times."

Must England be Jerry-Built?

"New houses must be built. With a housing shortage and an ever-increasing population, they are an unfortunate necessity. But must all new houses be ugly? The town dweller who has the slightest artistic perception has had some severe shocks on his holidays this year—observing how rapidly the 'uglification' of England is proceeding. Good architecture may be expensive, but at any rate it is ornamental—and *practical*. It may be a slight consolation to feel that the gimcrack bungalows and glaring villas which are making the English countryside an eyesore will not last for ever, but they may (unfortunately) last our lifetime. Each year that we return to the country we find it less and less lovely—more and more spoilt and overbuilt. We must resign ourselves to this. But must the speculative builder *always* choose the beauty spots of the country to 'uglify'? . . . We have already a Society for the Preservation of Ancient Buildings. Why not found a new one, to work in conjunction with local councils all over the country for the protection of the countryside from the Jerry-Builder?"—Arthur Willis, in "The Daily Mirror."

A Plea for "Soap Boxes"

"It is a fact that the more we spend upon our buildings nowadays the less satisfactory our results appear to be. We plaster our façades with pilasters, and classical orders, with the sole result of making them look vulgarly ornate. . . . Now skyscrapers have no classical orders. Nor has the new building of the Pensions Ministry at Acton. . . . And the extraordinary fact is that the result is good—definitely, incontrovertibly good. I think almost any architect would agree with me. The complete absence of fussiness and pretty-prettiness, the subordination of everything to the object in view, the honesty of the building, its utter truthfulness, has an attraction that anyone can see at a glance. I do not say that this is the last word in modern architecture, or even in the use of concrete as a building material, but it does seem to me to indicate the lines upon which we must proceed, sooner or later, if our architecture is to have any future. Let them carry on with their soap-boxes! I believe this first one was Mr. Ian Macpherson's idea. He may, without knowing it, have achieved immortality thereby."—Clennell Wilkinson in "The Outlook."

New London

"England is changing. A new order is gradually ousting the old. The traditional landlord class, criticized bitterly by many, is disappearing to make way for a newer type of proprietor. The first had a sincere personal interest in his tenants, the new regards his acres as a business proposition. He is on his trial. In the material, also, change is at work. The old mid-Victorian London is vanishing, and in its place is rising a new city with great promise of beauty. Kingsway and Aldwych have replaced a network of slums. The Regent Street of Nash is giving way to a new street of great buildings of an architectural style which must raise England's standing in the world of art. Beautiful in themselves, they are designed for the greatest utility. There is much to be said for the old artistic view that the truest utility produced the truest beauty. There is a commendable desire to preserve historic buildings, and many of them are being surrounded by new buildings designed to avoid incongruity just as was the old chateau of Versailles enshrined in the centre of the Louis XIV palace. This desire to create a new London worthy to rank artistically with the great European cities is a sign of regeneration. The national spirit is recovering from the great war."—"The Daily Express."

A Good Sign

"A revival of building is clearly shown by the fact that, owing to lower prices, work is to proceed on contracts estimated of the value of £15,000,000, of which £5,000,000 is to be spent on building in London. This is a wholly good sign. The distribution of such a considerable sum will assist a number of industries. Building activity is something that everyone can see with his own eyes; it inspires confidence. Better times may be coming. It is particularly satisfactory that the released contracts will provide work for a very considerable number of men. A fillip to the architectural profession should be another good feature of the revival. During the prolonged shutdown of private building young architects' prospects have been far from rosy. They seem brighter to-day than at any time since the armistice. It is not a coincidence, but plain cause and effect, that the Government had to stop building before private enterprise could begin. The Government building operations kept prices unreasonably high for years, put a grievous burden on the taxpayer, and caused acute discomfort through their failure to supply enough houses. Now that the Government are out of the business, house-building is rapidly coming down to a commercial basis. Private enterprise will do the rest."—"The Daily Mail."

London Transfigured

"It is not too much to hope that the next ten years should see the realization of the schemes for rebuilding the shabby south side of the Strand; the building of at least one more new bridge across the Thames; the rebuilding of Drury Lane; and the reconstruction of the huge site in Bloomsbury temporarily earmarked for the University of London. One hopes, also, that the old London is being filmed for posterity—before it is too late."—The Special Commissioner of "The Sunday Chronicle."

The Historical Teachings of Architecture

"Building craft, which includes architecture, has been and always is a living and developing art, and the fibre of tradition that runs through it is extraordinarily tenacious of life. The Italian workman, for instance, uses, when the emergency arises, the hand-to-mouth shifts and contrivances that Cæsar's legions employed when making their camps in Germany and Gaul. . . . In the ruins in Rome and the Campagna round about one can discern the desperate shifts the builders were put to, from the scarcity of wood for strutting and centering. Wood was hard to come by, and there were insatiable claimants who asserted prior rights. Wood was essential for the warming of the houses and the public baths; the bakers and cook-shops insisted on their needs; the armourer and the smith had to be satisfied; the potter and the tile maker appeased before ever a stick was available for the builder. The arches, vaults, and domes are eloquent witnesses of this cruel shortage. The use of concrete lessened the demand for bricks, but concrete for floors and roofs requires centering, and expedients to minimize this necessity help to give interest to the amazing structures that were built in the heyday of Roman prosperity. Some of these expedients are in actual use by the workman of to-day."—Mr. Halsey Ricardo, F.R.I.B.A., in "The London Mercury."

Better Looking Houses

"The tragic cost of building since the armistice has had one supremely good result: it has driven architects to express the people's need for homes in the simplest terms. At the worst this has produced dullness—the spirit of Gower Street. At the best it has driven the designer to make his work succeed by qualities of sheer design, right proportion, good grouping, rhythm, and other intangibles which critics try to describe for the confusion of plain men. Economy has brought us back, by the elimination of inessentials, to an art of common sense. At the same time the best of our architects have put the best of their skill into planning for comfort and health and not for appearances. They have taken counsel with the makers of grates and baths and sanitary dodges, so that economy and efficiency might be allied with seemly forms. That is not to say that simple houses are easy to do. The plainer the house, the more need for those subtle differences which give a plain building that elusive quality that we call style for want of a better word. The public will get what it ought to want, when it has the wit to go to the architects who can give it. Architecture is everybody's business because it is the one art which affects everyone's eye and everyone's comfort. . . . It is that quality, compounded of dignity, modesty, urbanity, and orderliness, that we want to see created in greater measure in our domestic architecture. We are on the way to it. There are architects in plenty who can give form to the conception. It is for the public to see that they get the chance."—Sir Lawrence Weaver, K.B.E., in "The Evening News."

Correspondence

The Architectural Outlook in Russia

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—As a Russian architect who has but recently left Russia, I have read with great interest the articles by Mr. Huntly Carter, published in your Journal. The picture he gives of the condition of the houses and streets of Petrograd and Moscow is exceedingly true to life. Those who knew Petrograd before the revolution would hardly recognize the comfortable, well-appointed flats of former times in the cheerless, squalid, and evil-smelling habitations of to-day. Scarcity of fuel is largely responsible for the lamentable state the houses are in. Mr. Huntly Carter mentions that in many instances the window-frames, doors, and other woodwork have been removed for firewood. Most of the furniture, it may be added, has shared the same fate. Lack of heating materials has wrought havoc with the buildings in other respects as well. Thus, in very few houses are the water-pipes intact; owing to the freezing of the water most of these have burst, generally with disastrous results, especially as regards the sanitary arrangements, which, in the average Russian house of the present day, defy description. Indeed, the cold has perhaps caused more suffering than want of food. It is misery to spend the long, dark Russian winter in rooms which can be neither heated nor adequately illuminated. Candles and petroleum are almost unobtainable; gas is not, as a rule, laid on in Russian houses, and electric light is but sparingly doled out to the general public, always on account of the need for economy of fuel.

It is, of course, inconceivable that such a state of things can continue indefinitely. A change is bound to set in, and there are indications that permit the assumption that this is at last within sight. According to the latest accounts, a certain activity prevails in architectural circles in Moscow. Some, at any rate, of the architects there have plenty of work, their earnings attaining the "astronomical" (as we say in Russia) figures of 600 and 700 million Soviet roubles a month. For the present their activities are limited to the repair of existing buildings, but in order to make one of these fit for human habitation it is often necessary to demolish two or three others, much in the same way as the Russian mechanical engineer repairs a disabled locomotive with the aid of pieces taken from others still more decrepit.

Owing to the absence of almost every kind of building material very few attempts have hitherto been made to erect new structures.

It would not be surprising should the lead, in this respect, be taken by rural Russia. The peasants are the richest class nowadays. They are credited with having hidden away or buried a considerable amount of gold, which will presumably come to the surface again as soon as a feeling of security has been restored, and communistic experiments are a thing of the past. In this connection it is interesting to note that an owner of brickfields in the south of Russia stated recently that he was receiving far larger orders for bricks now than ever before, and that his customers were almost exclusively peasants.

But it is with the rebuilding of the cities that architects are chiefly concerned New types of dwelling houses will have to be designed to suit altered conditions. Few people will be able to afford palatial residences. Lofty, spacious apartments, so characteristic of the days when money was plentiful and firewood cheap, will only be found in the mansions of such as have known how to profit financially by the present upheaval.

The question of domestic architecture is, however, only a small portion of the stupendous task which will confront Russian architects in the future. During the years of war, invasion, revolution, and internal strife, many towns have been partially or totally destroyed. These will have to be rebuilt, and a scheme of town-planning evolved in accordance with modern ideas and requirements. The problem is of unprecedented magnitude and absorbing technical interest, but its satisfactory solution depends upon an unequivocal sanction, in practice as well as in theory, of the rights of property and individual action.

R. BOKER,
Hon. Corr. Mem. R.I.B.A.

The Preservation of Westminster Abbey

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—As an Englishman who received all his architectural training in England, I was appalled when I saw, a short time ago, in one of the American papers, that an effort was being made to prevent the disintegration of the fabric of the Abbey by giving it a coat of what almost amounted to limewhite, or calcamine, or cement wash. Having had some experience myself with this matter, I looked into it still further, and found that certain sections of Yale University had been seriously affected, but a practically invisible preservative coating has been applied, which not only hindered further deterioration, but also created a hardened surface extending back perhaps a quarter of an inch into the stone, which neither changed the effect of the stone nor its colour.

Grace Church in New York, built ninety years ago, suffered in the same way, and has also been treated by another process which in no way affects the appearance of the building, but has proved very satisfactory as a preservative.

I personally had an experience on a building in Lynchburg, in Virginia, and another in Greenwich, Conn., both of which were successfully treated without in any way affecting their appearance. I mention these matters only to show that it is not at all necessary to ruin one of the finest architectural gems possessed by the British Empire in order to preserve it.

When I went to see Henry VII's Chapel last week it gave me the impression, where it had been whitened, of looking like a poor plaster cinema which had been repainted after it had been broken in many places. The Wren Towers, the general mass of the building, Henry VII's Chapel, all of very divergent types, are tied together by a colour-scheme which no man has ever been able to equal, and if the entire building is whitened, this continuity and harmony will be seriously jeopardized, if not absolutely ruined. If this process be followed out in the Abbey the same unquestionably will be copied elsewhere, and before it is realized a great many of the gems of English architecture will be irreparably ruined. Very little work has been done so far—only enough to give the impression of how disastrous the final result will be.

Surely there must be enough studious and public-spirited men in England who will insist that the present work be instantly stopped and a thorough investigation made of other possible processes which can produce the satisfactory results without destroying the entire beauty of the edifice.

ALFRED C. BOSSOM,
New York City.

[Mr. Bossom has lately been on an architectural mission to this country, and has now left for New York. We hope to publish in our next issue an interview which Mr. Bossom has given to a representative of this JOURNAL.—EDS. A.J.]

The Resistance to Fire of Concrete and Reinforced Concrete

Some Interesting Experiments

A SUMMARY of the results of the experiments carried out in the Civil Engineering Department of the University of Birmingham with the object of elucidating the problem as to what happens when concrete structures are exposed to high temperatures has been given by Professor F. C. Lea, O.B.E., D.Sc., M.Inst.C.E., M.I.Mech.E., and R. E. Stradling, Ph.D., M.Sc., Assoc. M.Inst.C.E., in a paper read before a meeting at Hull, of section G, of the British Association. A paper dealing with a few of the preliminary experiments was presented to the section for discussion in 1920. During the intervening years further work has been done, the cost of which has been defrayed by a grant from the Department of Scientific and Industrial Board. A report giving full details of the experiments is published by the department.

Following are the general conclusions arrived at from the experiments :—

It would appear from the experimental work already outlined that it is possible to make a concrete which retains sufficient strength at high temperatures to carry the full loads imposed by ordinary design methods, provided the temperatures concerned are not above about 900 deg. to 1,000 deg. C., average values to be reached in building fires. But such an assumption is only valid for the condition imposed upon the concrete during the experiments.

The experimental conditions which differed from practical ones are mainly two :—

(1) Concrete only was used in the experiments, and was not associated with steel,* as is usual in most building work now.

(2) The strength was measured within a few hours of the cooling of the specimens which were allowed to cool in the furnace. It is just these two further considerations which are of supreme importance in reinforced concrete work, considered as a fire-resisting material, and it is necessary now to examine these in more detail.

It was pointed out in this paper that if concrete is raised above 100 deg. C., then contraction is practically obliged to occur. On the other hand, steel embedded in the concrete still continues to expand as the temperature rises.

It is not difficult to realize what must happen. The adhesion between the steel and concrete must break down either by a complete sliding of the steel through the concrete, or the concrete must crack and thus leave the steel in this way. In practice it is this latter which occurs. One has only to read the descriptions of the behaviour of reinforced concrete buildings during fires (*e.g.*, the Red Books of the Fire Prevention Committee) to realize that this is the case. One of the points on which great emphasis is laid is the "spalling off" of the concrete from the steel reinforcement, exposing the latter to the direct action of the fire.

With the amount of cover of concrete ordinarily allowed in design it is somewhat doubtful whether the question of heat conductivity of the concrete is of primary importance. This spalling action will, in many cases, occur long before the temperature of the steel can have risen to the degree which is dangerous. One of the writers has had opportunities of observing tests of large size slabs under fire conditions, in which spalling nearly always, if not always, preceded failure. The structure will fail due to the steel being heated to a point at which its strength is seriously affected, but this will usually happen by direct contact with the fire, and not by the heat conducted by the concrete. If a concrete which will not spall can be discovered the conductivity will be the only, and not by any means such a serious, menace.

This action will be seen to be most serious at the under side of beams and the sides of columns. It might be possible to counteract this effect by increasing the cover, but without actual large scale experiments it is not possible to say. Probably a type of burnt clay cover separated from the concrete by an air space or slag wool packed layer might be a solution, but again full scale experiments are required. It can now be said that the small scale experiments have shown, as anticipated by one of the authors, that much money has been wasted in large scale experiments which were carried out in an empirical manner without any real knowledge of the fundamentals of the problem.

Attention has been drawn to the fact that the specimens used in the experiments were all tested for strength within a few hours of heating. By accident on one occasion a specimen was left for about a week before testing. It was found to have lost strength quite out of proportion to the amount of heating. On leaving a previously heated concrete block exposed to the ordinary laboratory atmosphere for some days, the following is noticed :—

Though on removal from the furnace no cracks are apparent on the surface yet quite soon these appear, and after some days longer the block may crumble to pieces. It has not been possible to get the temperature accurately, but a lower limit for the previous furnace heating is about 400 deg. C.

The explanation of this phenomenon can be found in the fact that one of the chief products of hydration of Portland cement (as previously stated) is calcium hydrate. This dissociates into quick lime and water at about 400 deg. C.

$$Ca(OH)_2 \rightleftarrows CaO + H_2O$$

It must be realized that this is accompanied (as already shown) by a contraction of the concrete. Concrete is porous and the air getting in will carry moisture with it. This moisture will hydrate the quick lime again, and the product of hydration ($Ca(OH)_2$) occupies a considerably greater volume and hence causes the concrete to crack, split and ultimately to crumble. A definite example is given under.

A set of 4 in. cubes (about six months old), composed of 1 part cement, 2 parts sand (Leighton Buzzard) and 4 parts Rowley Rag, were heated to 700 deg. C. The strength unheated was about 3,000 lb. per sq. in. Specimens dropped in water immediately after heating flew to pieces. The strength immediately after cooling was about 900 lb. per sq. in. The specimens were stored in the hydraulic laboratory and two days later the strength was above 780 lb. per sq. in. Six days after heating some had crumbled to pieces and could not be picked up, whilst two had an average strength of 535 lb. per sq. in. None of these blocks had any cracks on the surface immediately after cooling down; yet they made their appearance six days later.

The importance of this "after effect of fire" cannot be over estimated. Even although it might be possible to make a concrete by using burnt clay products or dolerites, which will stand its full load at the time of the conflagration, yet when the question has to be faced as to whether the building is afterwards safe, and if not how much of it should be demolished and rebuilt, the answer would appear to be not very encouraging.

In view of the very large number of buildings already erected in reinforced concrete, the problem cannot safely be left at this point, but in the opinion of the writers the next work should be done on full-size specimens. The fundamental scientific principles on which an answer must depend have been outlined above, but the form of the answer for practical conditions of work depends upon one or two further factors which cannot satisfactorily be reproduced under laboratory conditions of the ordinary type.

If money is available for further rather expensive work, very useful data could be obatined of primary importance to the community.

As far as the present results are concerned, it is submitted that reinforced concrete as at present carried out in practice is anything but fire-resisting and the temperature of primary importance is a comparatively low one, probably about 400 deg. C., this being the approximate temperature of the dissociation of calcium hydrate.

But as important a point as the resistance during fire is that of the after effects. It is suggested that extremely careful and very skilful examination of reinforced concrete structures after a fire is required, and it is highly probable that the original factor of safety can never be replaced in the building structure except by complete reconstruction.

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* For strength of steel at various temperatures see paper by F. C. Lea, Brit. Assoc., 1920.

Lectures in Architecture and Building

Northern Polytechnic Institute

The following special lectures on building problems and materials are to be given at the School of Architecture, Surveying, and Building, Northern Polytechnic Institute during the ensuing session :—

October 5.—The Development of Building Estates.—B. W. Adkin, F.S.I.

October 26.—The Manufacture of Portland Cement.—T. J. Clark. Concrete Utilities Bureau.

November 16.—The Organization of Building Works.—F. J. Gayer. President Institute of Builders.

December 7.—Composition and Jointless Flooring.—R. R. Butler, D.Sc., A.C.I., F.C.S.

January 11.—The Purchase and Selection of Timber.—Montague L. Meyer.

February 1. — The Manufacture of Bricks.—Arthur H. Brown, B.Sc.

February 22.—Decorative Plasterwork.—E. F. Jackson, of Messrs. G. Jackson & Sons, Ltd., Rathbone Place.

March 15.—Painters' and Decorators' Materials.

Special lectures on "Architecture and Construction," by T. P. Bennett, F.R.I.B.A. October 16.—Introduction. Principles of Proportion. November 13.—Rules of Composition. December 11.—Walls. January 22.—Doors and Windows. February 19.—The Orders of Architecture. March 19.—Roofs.

The Head of the department is T. P. Bennett, F.R.I.B.A.; the Chief Lecturer and Assistant to Head is H. J. Axten, A.R.I.B.A., and the educational staff is as follows :—

Art Masters : J. C. Stephenson, R.C.A. Slade, etc. (*Silver and Bronze Medallist*), C. F. Filbey, B.Chrom. Architectural Design : T. P. Bennett, F.R.I.B.A., R. A. Duncan, F.R.I.B.A. History of Architecture: H. Parker (*Hons. City and Guilds*), T. E. Scott, A.R.I.B.A. Perspective and Rendered Drawings : J. C. Stephenson, R.C.A. Slade. Construction of Buildings and Geometry : H. J. Axten, A.R.I.B.A., H. Parker (*Hons. City and Guilds*), T. E. Scott, A.R.I.B.A. Working Drawings and Full-size Details : G. A. Gardner, M.C.I., M. Maths. Assoc. Graphic Statics : R. G. Keevil, A.M.I.M.E., M.C.I. Valuation and Estate Agency : A. Hunnings, F.S.I. Land Surveying and Levelling : H. A. Newman, F.S.I., A.M.I.C.E., Major A. E. Gayer, M.I.M.E., P.A.S.I. Quantities : H. H. Holmes. Estimating : A. Sicklemore. Arbitrations, Valuations, Copyholds, Surveyors, Law, etc. : E. R. Canham, O.B.E., P.A.S.I. (*Surveyors' Inst. Silver Medallist and Driver Prizeman*). London Building Act, Public Health Act, Local By-laws : H. Kenchington, A.R.I.B.A., E. Alexander Young, A.R.I.B.A. (District Surveyor under the London Building Acts). English Subjects, Maths., etc. : F. G. Munday, A.T. Flight. Chemistry Applied to Building : R. R. Butler, M.Sc., A.I.C., F.C.S. Physics : J. Charlesworth, M.Sc. (Man.), S. C. F. Gibbins, B.Sc. (Lond.). Specifications and Building Materials : Henry C. Adams M.Inst.C.E., F.R.S.I., M.I.Mech.E. Drainage and Sanitation : A. C. Martin, R.P., A.R.San.I. (*First Class Hons., City and Guilds*). Carpentry and Joinery : H. T. Deacon (*Hons. Silver Medallist, City and Guilds and Carpenters' Co.*), assisted by H. W. Grainger (*First Class Hons., City and Guilds, Silver Medal Carpenters' Co.*), A. Hewitt (*First Class Hons. City and Guilds, First Class Carpenters' Co.*), F. A. Adams. Plumbing and Sanitation : A. C. Martin, R.P., A.R.San.I. (*First Class Hons. City and Guilds*), assisted by F. J. Fox, R.P., Edwin Willis, R.P., A.R.San.I. (*Hons. City and Guilds*), H. Lumley. Decorating and Painting : C. H. Eaton, F.I.B.D. (*First Class Hons. Prize, City and Guilds*), assisted by W. Quirk. Masonry and Letter Cutting : H. W. Palliser. Physical Training : Staff Sergt.-Major Mills.

A prospectus of the day and evening classes may be obtained from the Northern Polytechnic Institute, Holloway, N.7.

Lectures by Sir Banister Fletcher

On Wednesday evenings at 6 p.m. Sir Banister Fletcher, F.R.I.B.A., will deliver a course of twenty-four University Extension Lectures on "The History of Architecture (Part III, Renaissance and Modern)" at the Central School of Arts and Crafts, Southampton Row, W.C. The lectures will include a consideration of the Renaissance architecture of England, France, Germany, Belgium, Holland, Italy, and Spain, and will be fully illustrated by special lantern slides, photographs, diagrams, and models. The introductory lecture, which was open to the public without tickets, was held on September 27.

Public Lectures on Architecture

A special course of illustrated lectures will be given by Mr. Joseph Addison, A.R.I.B.A., Head of the Department of Architecture and Civic Design, in the "Lecture Theatre," Leeds School of Art, throughout the present term, on "How to Appreciate Architecture." The object of the course is to enable the public to appreciate the beauty of architecture. The lectures are arranged on an historical basis tracing the development of the art from the earliest times. The fee for the course of twelve lectures is 10s. The lectures will be given on Monday evenings from 7.0 to 8.0 p.m.

Extending Scope of Leeds Technical School

Arrangements have been made for a two years' senior day course to prepare students for the following examinations : The Institution of Civil Engineers; the Institution of Mechanical Engineers; the Institution of Electrical Engineers; the Institution of Automobile Engineers; the Institution of Naval Architects; the Institution of Marine Architects; the Iron and Steel Institute; and the Concrete Institute.

Instruction will, in fact, be given in all branches of the engineering industry except pattern making and foundry work, and it is hoped that these will be added shortly.

The head of the Engineering Department (Mr. H. C. Newall) says that he hopes that students, owing to their practical workshop training being taken in the school, will be able to take responsible places in the profession at a much earlier age than heretofore.

Liverpool's £6,000,000 Housing Scheme

"The Housing Committee had spent in the last couple of years something in the neighbourhood of £6,000,000 in their efforts to allay the acuteness of the post-war housing shortage," said Dr. John Utting, Chairman of the Finance Committee of the City of Liverpool, when speaking at a luncheon to members of the City Council. The luncheon was held in connection with an inspection of the housing schemes upon which the Liverpool City Council have been engaged since obtaining powers under the Act of 1919.

Between Walton, one of the most northern ward-districts of Liverpool, and Allerton, a district in the south-east of the city, the outermost boundaries of which are seven miles apart, on a straight line, five distinct housing schemes are now far advanced towards completion. Under the Act of 1919, 1,258 acres of land were scheduled for the work. This, it was considered, would serve for the erection of 13,000 to 15,000 dwellings. The corporation had, however, to be content with aiming, for the time, at the utilization of only a large part of the total area. Contracts were entered into for the making of necessary roads and for the erection of 5,818 houses. Of these 4,340 have been finished, and 880 others are nearing completion. Generally the areas of the new building schemes form a flat bow-line or curve, extending from a point in the Walton area in the north, to a point of Allerton, in the south-east, the bend, or convexity, of the "bow" being towards the open country.

Following this line from the north, one strikes the Walton scheme or area, the Cherry Lane scheme, the Larkhill scheme, the Edge Lane Drive scheme, and the Allerton Estate scheme.

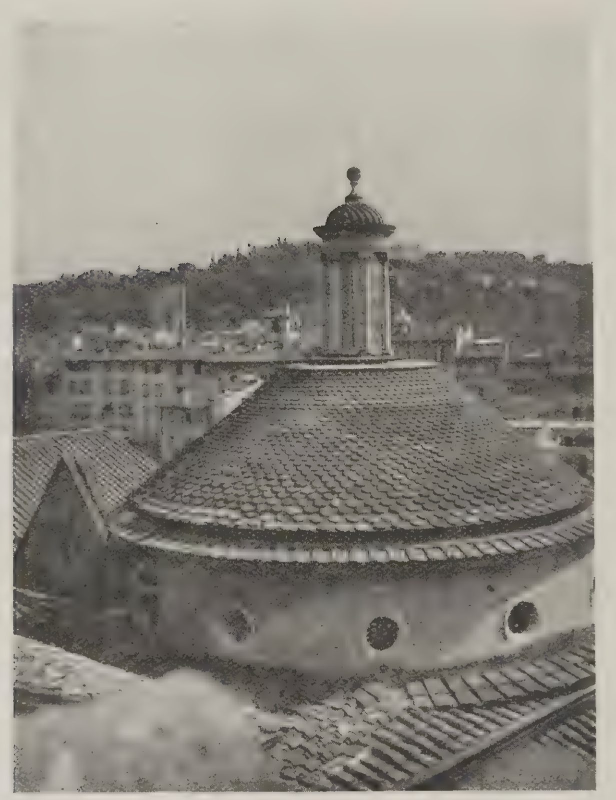
In proceeding from north to south-east, as indicated, one would strike the area of another important Liverpool housing scheme, that of the Liverpool Garden City or Suburb, on the Liverpool side of the River Mersey. This was organized and carried out on 180 acres of land by the Liverpool Garden Suburb Tenants' Ltd., on an area partly in Wavertree and partly in Childwall, rural townships to the south-east of Liverpool. This pioneer undertaking was of the nature of a co-partnership, and entirely distinct from undertakings of a municipal kind.

The scheme on the Larkhill Estate occupies a site of about 3¾ miles north-east of the Liverpool Town Hall. Many of the blocks of houses have a depth of the wall surface below the roof gutter line, at the front "rough cast"; others have an equal expanse "pebble dashed." The use of concrete with colour variations was introduced into the scheme by Mr. F. E. G. Badger, A.M.I.C.E., Director of Housing for the Corporation of Liverpool. At the present date there are 2,041 houses on the Larkhill Estate. A large amount of work on the housing scheme has been done partly by contract and partly by "direct labour." A party of architects from the United States, after visiting the various housing schemes at Liverpool, declared that they had seen nothing in England or America to touch the work which Liverpool had done.

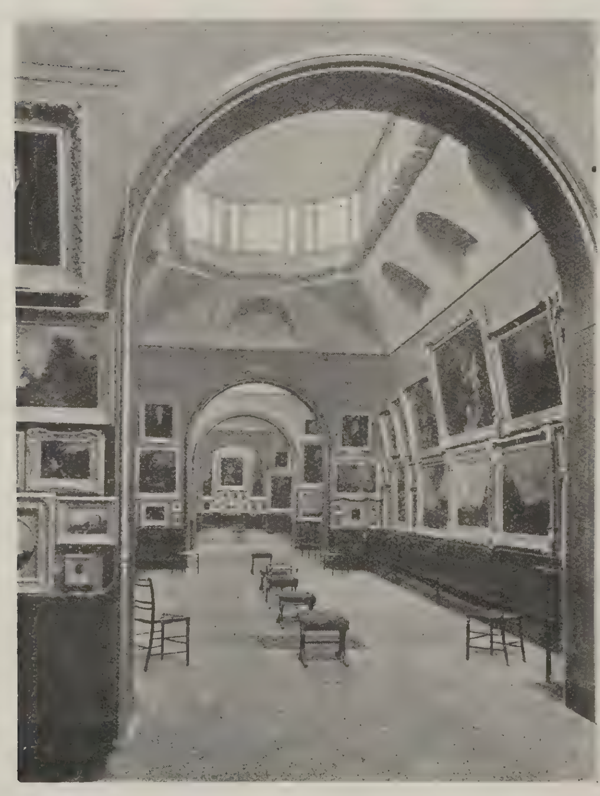
A Pictorial Review

Illustrations of Topical, Practical, or Curious Interest

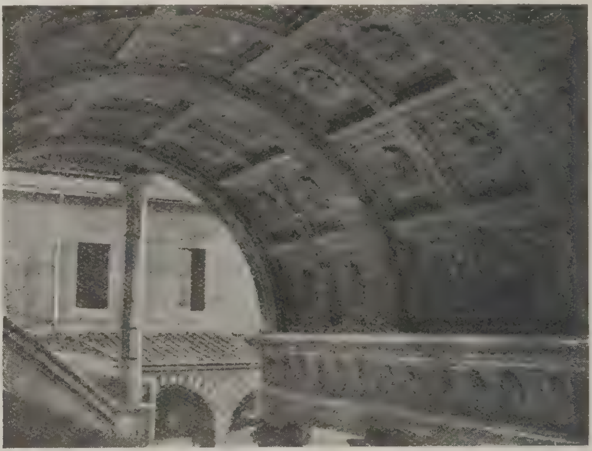
Readers are invited to send in sketches and photographs for publication in these pages. A fee of 2s. 6d. will be paid for each illustration accepted. Contributions should be accompanied by short explanatory notes.



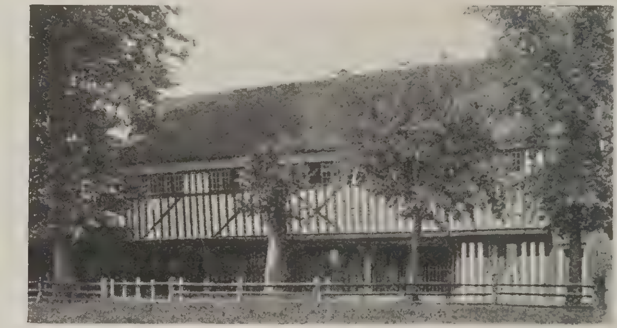
Two photographs of portions of Brunelleschi's Capella Pazzi which stands in the cloisters of Santa Croce at Florence. The one above was taken from the roof of the south aisle of the church, and shows the external treatment of the dome, in many courses of diminishing tiles, which terminate admirably in the charming little lantern.—H. D. A.



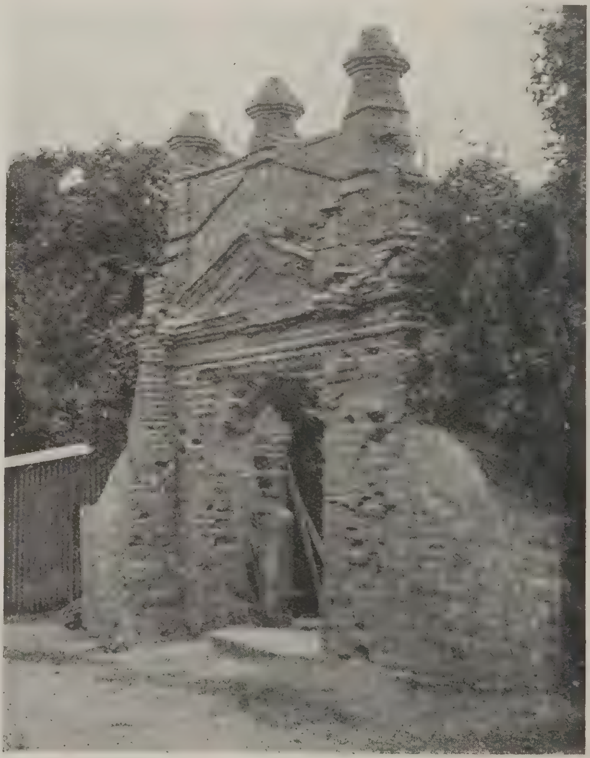
This illustration shows the excellent clerestory system introduced by Sir John Soane for the top lighting of galleries. The Dulwich Gallery, with the adjoining mausoleum, was designed in 1812 for Sir Francis Bourgeois. It is of interest to note that Soane's pupils paid great attention to the products of their master's inventive mind; for example, Basevi, who designed the Fitzwilliam Museum at Cambridge, adopted a similar scheme of lighting in those galleries.—ANON.



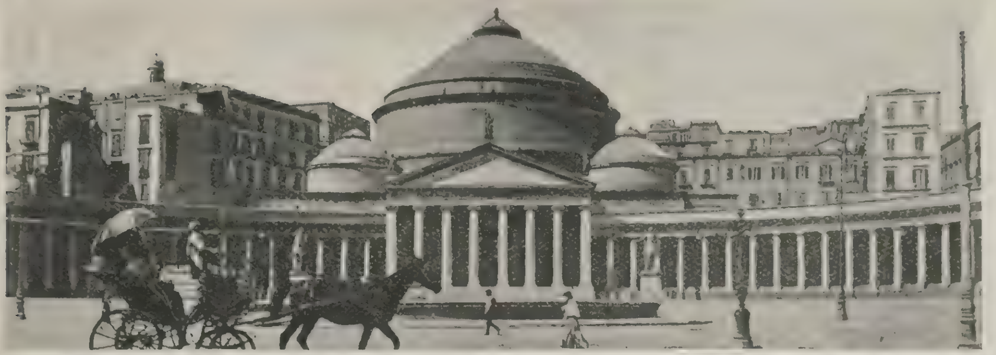
Another view in the Pazzi Chapel showing the wagon vault of the loggia with its beautiful detail.—H. D. A.



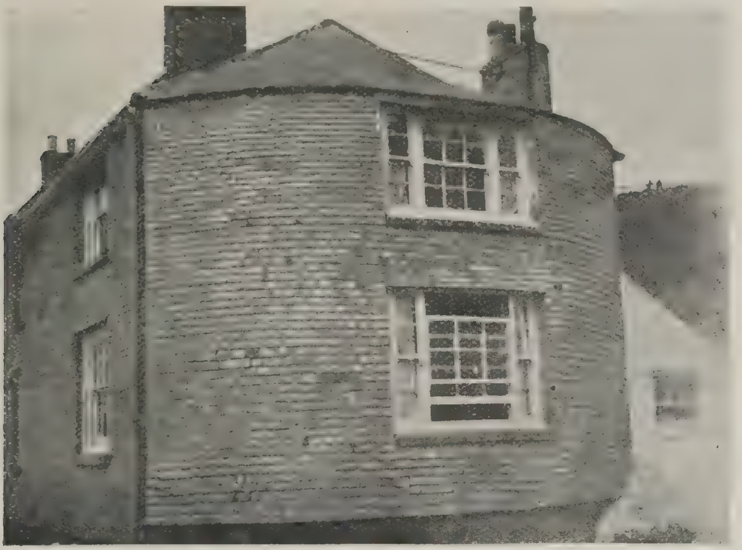
The Masonic Hall, Faversham, once the old Grammar School, a fit object for an architectural pillory. It is a fine old building, weather-boarded on its upper stories, but some curious philistine has painted lines across it to represent half-timbering. What is the idea of playing such an absurd practical joke with a building which possesses human and architectural value?—BERNARD FURNISS.



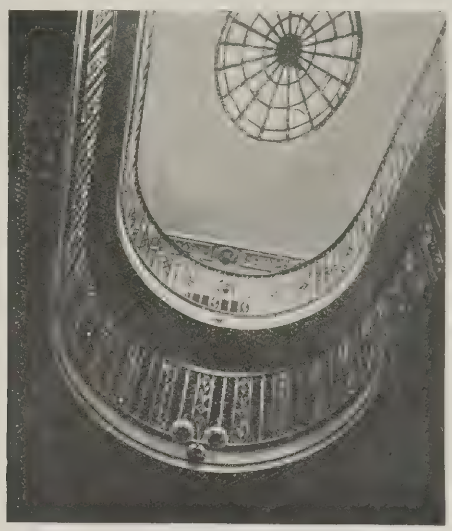
An old brick doorway to Brooke Farm, situated between Reculver and Marshside, Kent. Brooke Farm is said to have been owned by Sir Thomas Brooke, who built the gateway and part of the existing farmhouse in the days of Queen Elizabeth. Locally it is said that Queen Elizabeth was entertained there.—W. M. H.



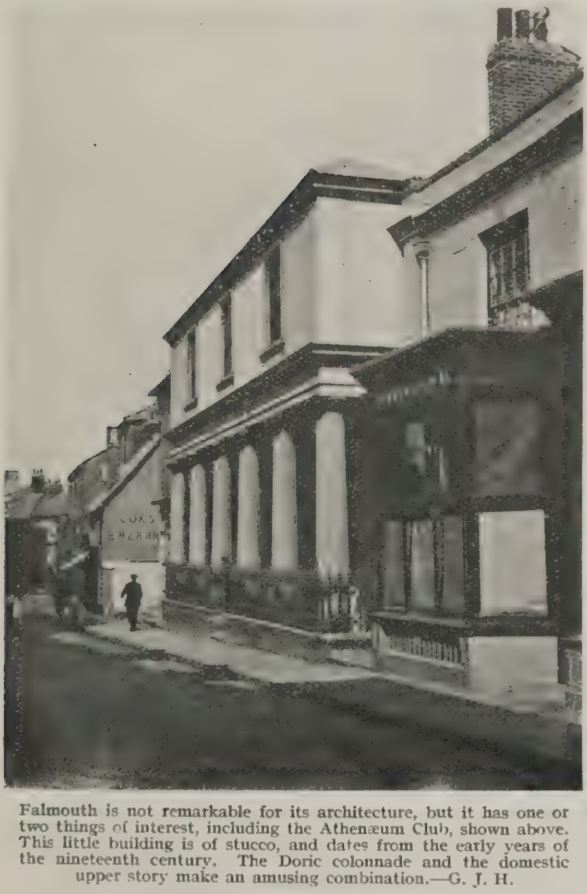
The remarkable church of S. Francesco da Paola at Naples with its bold domical treatment. The pediment does superhuman work in holding the design together, but the two baby domes on each side, when contrasted with the big parent dome in the centre, seem to me to illustrate once more the old truth that no design can be satisfactory when motives of a similar nature, but different scale, are used in proximity to one another.—J. L. JEEVES.



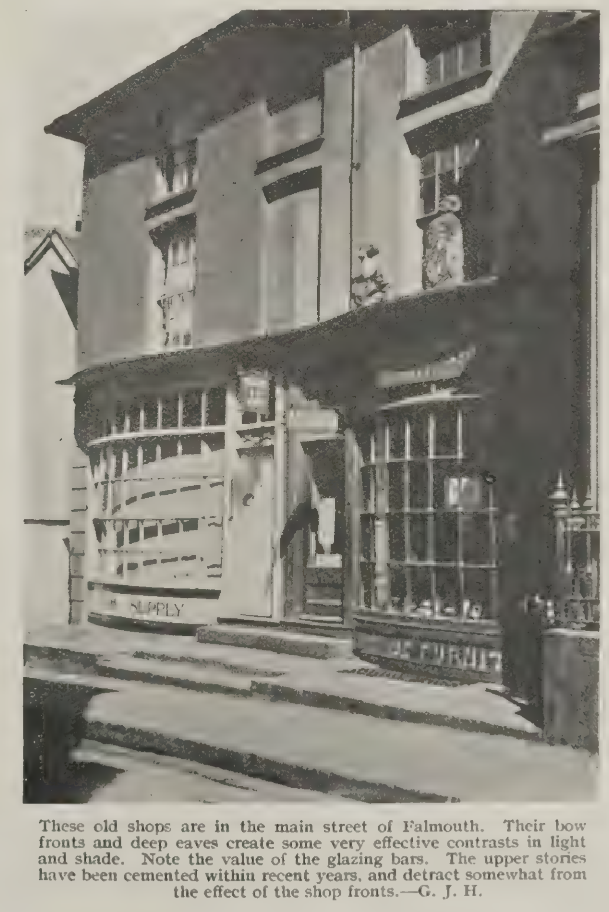
Vertical slate hanging is a striking peculiarity of Cornish vernacular work, and it is often used to cover entire elevations. The above small house, a typical example of this local building tradition, is picturesquely situated on the quay at Flushing, a small village overlooking Falmouth Harbour.—G. J. H.



The Royal Hotel, Falmouth, a hostelry dating apparently from the latter part of the eighteenth century, contains the above rather interesting example of a cantilever staircase. Running through three stories, the sweeping lines of its continuous balustrade are very effective. It is lighted by a domical top light of "cobweb" design.—G. J. H.



Falmouth is not remarkable for its architecture, but it has one or two things of interest, including the Athenæum Club, shown above. This little building is of stucco, and dates from the early years of the nineteenth century. The Doric colonnade and the domestic upper story make an amusing combination.—G. J. H.



These old shops are in the main street of Falmouth. Their bow fronts and deep eaves create some very effective contrasts in light and shade. Note the value of the glazing bars. The upper stories have been cemented within recent years, and detract somewhat from the effect of the shop fronts.—G. J. H.

Competition News

A Small General Hospital.

A competition open to all architects has been organized by "The Modern Hospital"—"to obtain for the typical small community in America a hospital building which is at the same time efficient in arrangement and creditable in architecture." Three cash awards of $500, $300, and $200, and two honourable mentions are to be given.

The Illinois Chapter of the American Institute of Architects, to which the general programme of the competition was submitted, has approved it as to form and method of procedure. Mr. Richard E. Schmidt of the firm of Richard E. Schmidt, Garden and Martin, of Chicago, is the architectural adviser. The jury of award is to be composed of two architects, two hospital superintendents, and a graduate nurse who has had experience as superintendent of a small general hospital. The prize-winning drawings, according to the rules of the contest, become the property of the publishing company, but the author is not prohibited from making any individual use of his designs.

The competition calls for a set of plans of a general hospital of from thirty to forty beds. Registration for the competition must take place on or before November 15, 1922, and the final date for submitting designs is January 15, 1923.

Requirements of the hospital (the capacity shall not be less than 30 or more than 40 beds) :—

(*a*) *Rooms and Wards.*

Private and semi-private rooms (single and - double rooms, some with private baths and water closets), 16 to 20 beds; women's ward, 4, 5, or 6 beds; men's ward, 4, 5, or 6 beds; maternity ward; one or two 2-bed or one 4-bed; children's ward, one 4-bed; at least two 1-bed rooms accessible to the wards for recovery and segregation.

The number of private rooms may be more than sixteen but not more than twenty; the capacity of the women's and men's wards may be four, five, or six beds, or one or more additional four-bed wards may be introduced.

There shall be at least 80 sq. ft. (all areas stipulated in this programme are expressed in feet and are mandatory minima) of area per bed in the wards for adult patients, and not less than 60 sq. ft. in the children's ward.

(*b*) *Services.*

There shall be separate services for private and ward patients, and at least one complement on each floor designed for the use of patients; charting space; medicine closet and sink; pantry, 130 to 160 sq. ft.; utility room, not less than 120 sq. ft.; linen closets not less than 50 sq. ft., or linen room not less than 100 sq. ft.; janitor's closet; supply closet; additional conveniences optional.

(*c*) *Verandas.*

There shall be at least three separate veranda spaces—for ward patients, private patients, and children.

(*d*) *Operating Department.*

Operating room not less than 15 ft. wide and 15 ft. long; sterilizing room, 180 sq. ft.; doctors' scrub-up room, 65 sq. ft. (may be combined with doctors' dressing-room); doctors' dressing-room with lockers and toilet, 100 sq. ft.; nurses' dressing-room with lockers and toilet, 100 sq. ft.; nurses' workroom, 180 sq. ft.; anesthesia room, 100 sq. ft.; minor operating room planned to serve as an emergency or delivery room, suitable also for dental, eye, ear, nose, and throat, and for cystoscopic work, not less than 14 ft. wide and 15 ft. long; accident receiving and surgical dressing-room; birth room, not less than 14 ft. wide and 15 ft. long; nursery, 180 sq. ft.; X-ray room, 225 sq. ft.; dark room; small dressing-room; plate storage room; clinical laboratory, 225 sq. ft.

(*e*) *In General.*

Drug room, 150 sq. ft.; waiting-room for out-patients; treatment room for out-patients; clinical record room (may be combined with office or visiting doctors' consultation room); office; reception room; visiting doctors' consultation room, 150 sq. ft.; locker and dressing-room with bath for graduate nurses, 150 sq. ft.; kitchen, including facilities for the preparation of special diets; cold storage room; storage for groceries; officers' dining-room; nurses' dining-room; helps' dining-room; resident physician's bedroom and bath, 120 sq. ft.; superintendent's bedroom and bath; two bedrooms for male help, with bathroom; two bedrooms for female help, with bathroom; laundry; clean linen room; boiler-room (but not lighting or power plant) and coal bin; storage rooms for miscellaneous supplies; lavatories and toilets, as required.

The buildings should be planned to admit of expansion and the drawings should indicate the direction of this expansion.

It is assumed that the nursing staff will be accommodated outside the hospital.

For the care of contagious diseases the hospital contemplates building a small isolation cottage. Its inclusion on the plan is optional.

Inasmuch as it is the purpose of the competition to bring out new thought, competitors are free to introduce into the plan elements which they regard as desirable, which are not specifically included in the programme.

Obviously, provisions should be made for such necessary parts as elevators, stairs, dumb waiters, soiled linen chute, boiler flue, etc., etc.

The conditions of the competition may be obtained from The Modern Hospital Publishing Co., Inc., 22 E. Ontario Street, Chicago, Ill.

War Memorial for Port Said, Egypt.

Designs for a monument to be erected at Port Said, Egypt, to the memory of soldiers of the Australian and New Zealand forces who fell in Egypt, Palestine, and Syria during the years 1916, 1917, and 1918, are invited by the Australian Department of Defence acting for the Commonwealth Government and the representatives of the forces named. Designs must be the work of sculptors and architects of British nationality permanently resident in Australia or New Zealand, and Australian and New Zealand sculptors and architects residing in other countries.

A statue, or group of statuary in marble or bronze, with granite for the pedestal, or an approved hardstone, will form the main feature of the monument. The design must embrace in its composition sculpture typifying both Australian and New Zealand horsemen; its character otherwise will be left to the designer.

Each design or model must be accompanied by a sealed opaque envelope containing the name and address of the author, together with a declaration that the design or model is the personal work of the competitor or joint competitors, and that the drawings or models have been prepared under his or their own supervision. The cost of the monument is to be limited to £11,000, of which £7,500 is to be allocated to sculpture, and £3,500 is to be allocated to the pedestal, base, and steps. Designs must be delivered, free of all charges, to the Secretary, Department of Defence, Melbourne, Victoria, on or before 12 noon of Saturday, March 31, next.

Premiums of two hundred and fifty guineas, one hundred guineas, and fifty guineas respectively, will be paid for the designs placed first, second, and third in order of merit by the assessors appointed by the Department of Defence, Major-General Sir J. Talbot Hobbs (architect); Mr. G. V. F. Mann, Director of the National Art Gallery, Sydney; and Mr. G. Sydney Jones, A.R.I.B.A. The award of the assessors will be binding on all concerned. The design placed first will become the property of the Commonwealth Government.

Further particulars, including the conditions of the competition in full, a plan and photographs of the site of the proposed monument, and a sketch of its surroundings, may be had on application at the office of the High Commissioner for Australia, Australia House, Strand, W.C.

A. & S.A.P.U. Essay Competition.

The Architects' and Surveyors' Assistants' Professional Union is offering a prize of Five Guineas for a short essay on "The true function of the Technical Assistant in the Building Industry."

The conditions are as follows :—

The competition is open to all professional and technical workers associated with the building industry.

Essays must not exceed 1,000 words in length, must be on foolscap paper, and written on one side of the page only.

Essays must not bear any mark which might identify the writer, but must be accompanied by a sealed envelope containing the name, address, and occupation of the competitor, and the business address of his firm or employer.

All essays and sealed envelopes must be forwarded, under cover, marked "Competition" on the outside, to the Secretary, Architects' and Surveyors' Assistants' Professional Union, 36 Victoria Street, London, S.W.1, not later than October 31, 1922. The winners of the competition will be announced in THE JOURNAL in due course.

The Week's News

Leicester Town Hall Extension.

The Estates Committee have submitted a scheme of extensions to the Town Hall, the cost of which is estimated at £30,000.

Women's Club for Eastbourne.

The late Mr. Charles Jewell has left £10,000 for the formation and equipment of a working women's club.

£235,000 Loan for Liverpool.

Liverpool City Council's application to borrow £235,000 for the purchase of the site of St. Peter's Church has been sanctioned by the Ministry of Health.

The Cheam Cottage.

Cheam's Old Cottage, in the Epsom Rural Council's area—reputed to be 600 years old—is being pulled down, and will be rebuilt on a site a few yards away.

Major George C. Lowbridge.

Major George C. Lowbridge, of Stafford, who had been assistant architect, has been appointed architect and surveyor to the Staffordshire Education Committee.

Plymouth Winter Garden Proposal.

An effort will probably be made to secure for Plymouth a part of the ancient citadel which stands at the eastern end of the Hoe and to turn it into a winter garden.

Housing at Brighton.

To provide work for the unemployed and relieve the pressure on house accommodation it is proposed to sanction a further outlay of £56,000 on the Queen's Park housing scheme.

Shrewsbury Developments.

The Council is endeavouring to improve its bridge approaches, and the town is spanning the Severn with a suspension bridge that in design is in keeping with the surroundings.

Preservation of Netley Abbey.

Netley Abbey has been handed over to the Commissioners of Works, under the Ancient Monuments Consolidation Act, by its owner, and preservation has begun. It is estimated that the work will be spread over four or five years.

New Artery for South-west London.

Battersea, Fulham, and Wandsworth Councils are approaching the Ministry of Transport to urge the construction of an arterial road from Fulham to Streatham. It will involve the reconstruction and widening of Wandsworth Bridge.

New Appointment for Sir L. Weaver.

Sir Lawrence Weaver will shortly relinquish the post of second secretary and director-general of land settlement at the Ministry of Agriculture in order to take up the appointment of director of the art section and the agriculture section of the British Empire Exhibition, 1924.

Rubber Road for Holborn.

An experiment with rubber paving is to be made by the Holborn Borough Council. It is intended to lay a section of the road at Upper St. Martin's Lane with concrete blocks superimposed with rubber pads about a quarter of an inch thick.

Nottingham Improvements.

Sir Jesse Boot has given land for a park and recreation ground on the bank of the River Trent at Nottingham, and as a suitable war memorial the City Council are considering the erection of an imposing gateway at the entrance at a cost of £17,400.

Church House, Westminster.

The alterations and renovations which are being made in the Church House, Westminster, have led to the discovery of a serious settlement on the west side of the houses forming the Dean's Yard front. This settlement, it is stated, will have to be dealt with immediately.

Cambridge University School of Architecture.

Mr. Theodore Fyfe will take up the Mastership of the Cambridge University School of Architecture on October 10. His business address in future will be The University School of Architecture, 75 Trumpington Street, Cambridge. Telephone : Cambridge 237.

Bournemouth Pavilion Scheme.

The tobacconists' section of the Chamber of Trade have expressed their opinion that the proposed pavilion scheme should be proceeded with by the Town Council at as early a date as possible. This is the sixth section of the Chamber which has supported the proposal.

Stowe House as Public School.

Stowe House, Buckinghamshire, for many years the home of the Dukes of Buckingham, has been bought by a committee of which Lord Gisborough is the head. It is the intention to open it as a public school next Easter, if it is possible to complete the preparations by that time.

New Bank of England.

The rebuilding of the Bank of England is not likely to begin before next year. Before the rebuilding a portion of the existing structure will have to be demolished and temporary accommodation found for a number of the staff. It is expected that the work will take several years.

Changes of Address.

Messrs. Pite, Son, and Fairweather have removed from 116 Jermyn Street, Piccadilly, to 12 Carteret Street, Queen Anne's Gate, Westminster, S.W.1. The telephone number is Victoria 8854.

Mr. Geoffrey Denham, architect and surveyor, has removed his offices from Easton, Winchester, to 41 Jewry Street, Winchester. Tel. No. 38. He has also opened branch offices at High Street, New Milton, Lymington, Hants. Mr. Denham began practice on his own account in 1903.

Gift of Furniture to Victoria and Albert Museum.

A number of interesting pieces of English furniture recently presented by Mr. Douglas Eyre have been placed on exhibition in Room 56 of the Woodwork Galleries of the Victoria and Albert Museum. These pieces of furniture date from the latter part of the seventeenth century to the middle of the eighteenth century.

New Market for Brixton.

The levelling of the ground has now begun in connection with the new market which is to be established in Brixton Road. The site will house nearly fifty stalls. An extension of the market will consist of an arcade through the present shops to another market square abutting on to Electric Lane.

The Cleaning of St. Paul's.

The work of cleaning and repairing the top of St. Paul's Cathedral has now been completed and the scaffolding is being dismantled. Those portions of the stonework which had perished badly have been renewed, the leadwork repaired, the projecting cornices asphalted, and the golden cross and ball washed.

Whitgift Hospital.

By thirty votes to twelve the Croydon Borough Council have decided to promote a Bill in Parliament to complete the widening of North End, Croydon, by the demolition of the ancient Whitgift Hospital. This has been a matter of intermittent controversy for quite twenty-five years. A similar decision was reached in September, 1919, but owing to the opposition aroused it was not followed up.

Rothesay War Memorial.

The war memorial at Rothesay has been formally unveiled by the Marquis of Bute. The design is by Messrs. Charles E. Tweedie and Sons, architects, Edinburgh, and was selected in open competition, the assessor being Mr. John Keppie, A.R.S.A., architect, Glasgow. Of grey Aberdeen granite, with bronze panels, the memorial is surmounted by the figure of an angel in bronze.

Hammersmith's New Church.

The foundation stone has been laid of the church to be erected at Hammersmith to take the place of St. Catherine Coleman, Fenchurch Street. The erection of the new church, necessitated by the demolition of the old City building, the site of which will be sold for business purposes, will cost about £14,000, and it is designed to accommodate 500 persons. The new building will contain the pulpit, Communion rails, doors, and two bells from the ancient church.

New Partnership.

Mr. Percy B. Tubbs, F.R.I.B.A., PP.S.A., has taken into partnership his son, Mr. Grahame Burnell Tubbs, A.R.I.B.A., who has been in his office for the past five years, and Mr. R. A. Duncan, A.R.I.B.A., who was until recently engaged on the teaching staff of the Architectural Association Schools, Bedford Square, W.C. In future the firm will be known as Percy Tubbs, Son, and Duncan, and will continue to practise architecture and surveying at 10 Gray's Inn Square, London, W.C.1.

Rates of Wages in the Building Trades*

The following table, which is published in the first issue of THE JOURNAL for each month, shows the rates of wages of craftsmen (bricklayers, masons, carpenters and joiners, woodcutting machinists, slaters. plumbers,* plasterers, painters †) and labourers in the building industry. The labour rates for London are given in the Table of Current Prices on pages **xxi**, **xxii**.

District.	Grade A.		Grade B.		Grade C.		Grade D.	
	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
North East Coast	1 8	1 3	—	—	—	—	—	—
Yorkshire	1 8	1 3	1 6½	1 2	1 4½	1 0½	—	—
North Western Counties‡	1 8	1 3	1 6½	1 2	1 4½	1 0½	1 4	1 0
Midland Counties	1 8	1 3	1 6½	1 2	1 5	1 0¾	1 4	1 0
Eastern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
Southern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
South Western Counties	1 8	1 3	1 6	1 1½	1 4½	1 0½	1 3½	0 11¾
South Wales	1 8	1 3	1 4	1 0	—	—	—	—
Scotland§	1 8‖	—¶	1 7	—¶	1 6	—¶	—	—

* In the case of towns printed in *italic type* below, the rates shown in the Table for craftsmen do not apply to plumbers.
† Except in Scotland, where painters are not included within the scope of the area grading scheme.
‡ Excluding Liverpool and Birkenhead, where the rates are 1s. 11d. for plumbers, 1s. 10d. for other craftsmen, and 1s. 5d. for labourers.
§ Excluding Aberdeen, where the rates remain unaltered at 1s. 7½d. for masons, joiners, and plasterers, 1s. 8d. for slaters, and 1s. 9d. for plumbers.
‖ It is reported that the Plasterers' Union in Scotland has not accepted the national reduction in June.
¶ In Scotland, labourers are not included in the general grading scheme.

Grading of Towns.

The localities in which the above rates have been reported to be in operation are as follows. In the case of localities printed in *italic type*, the rates shown in the above Table for craftsmen do not apply to plumbers.

NORTH EAST COAST :—

Annfield Plain, *Birtley*, Bishop Auckland, *Blackhill*, *Blyth*, *Chester-le-Street*, *Consett*, *Darlington*, *Durham*, *Ebchester*, *Gateshead*, *Hartlepools*, *Hebburn*, *Hexham*, *Jarrow*, *Lanchester*, *Leadgate*, Medomsley, *Middlesbrough*, *Morpeth*, *Newcastle*, *North and South Shields*, *Seaham Harbour*, *Stanley*, *Stockton*, *Sunderland*, *Thornaby*, *Tynemouth*, *Wallsend*, *Whitburn*, and *Whitley Bay*.

YORKSHIRE :—

Grade A.—*Altofts*, *Barnsley*, *Batley*, *Bingley*, *Birstall*, *Bradford*, *Brighouse*, Calder Valley, Castleford, *Cleckheaton*, *Colne Valley*, *Crosshills*, *Dewsbury*, *Doncaster*, *Gomersal*, Grimsby, *Guiseley*, *Halifax*, *Harrogate*, *Hebden Bridge*, *Heckmondwike*, Holmfirth, *Horbury*, *Hoyland*, Huddersfield, Hull. *Ilkley*, Immingham, *Keighley*, *Knottingley*, *Leeds*, *Liversedge*, *Mexborough*, *Mirfield*, *Morley*, *Normanton*, *Ossett*, *Penistone*, Pontefract, Pudsey, *Rawdon*, *Rotherham*, Scunthorpe, *Selby*, *Sheffield*, *Shipley*, *Sowerby Bridge*, *Stocksbridge*, *Wakefield*, *Wombwell*, *and Yeadon*.

Grade B.—Barnoldswick, Beverley, Bridlington, Goole, Hornsea, Scarborough, Skipton, *Whitby* (plumbers 1s. 7d.) and York.

Grade C.—Driffield, Kirby Moorside, Malton, Norton, Pickering, and Wetherby.

NORTH WESTERN COUNTIES :—

Grade A.—*Accrington*, Adlington, *Alderley Edge*, *Altrincham*, *Ashton-under-Lyne*, *Atherton*, *Bacup*, Barrow, Birkdale, Bispham, *Blackburn*, Blackpool, Blackrod, *Bolton*, Broughton (Flints), *Burnley*, *Bury*, Carlisle, Chester, Chorley, *Church*, Cleveleys, *Clitheroe*, *Colne*, Connahs Quay, Dalton-in-Furness, *Darwen*, *Denton*, *Droylesden*, *Eccles*, *Farnworth*, Fleetwood, Frodsham, *Glossop*, *Great Harwood*, *Haslingden*, Hawarden, Helsby, *Heywood*, Higher Kinnerton, *Horwich*, *Hyde*, Lancaster, *Leigh*, Leyland, *Littleborough*, Longridge, Lymm, Lytham, *Manchester*, *Middleton*, Morecambe, *Mossley*, *Nelson*. *Ormskirk*, *Oswaldtwistle*, *Oldham*, *Padiham*, *Pendlebury*, Poulton, *Preston*, *Prestwich*, Queensferry, *Radcliffe*, *Ramsbottom*, *Rawtenstall*, *Rishton*, *Rochdale*, Runcorn, St. Anne's-on-the-Sea, St. Helens, *Saddleworth*, *Sale*, *Salford*, *Shaw*, Shotton, Southport, *Stalybridge*, *Stockport*, *Swinton*, Thornton, *Todmorden*, *Tyldesley*, *Walkden*, *Warrington*, Westhoughton, *Whalley*, *Whitefield*, Widnes, Wigan, and *Wilmslow*.

Grade B.—Askam, Broughton, Buxton, Cleator Moor, Congleton, Coniston, Crewe, Distington, Egremont, Grange-over-Sands, Harrington, Knutsford, *Macclesfield*, Maryport, Market Drayton, Middlewich, Millom, Mold, Nantwich, *New Mills*, Northwich, Sandbach, Tarporley, Ulverston, Winsford and Over, Whitehaven, Workington, and Wrexham.

Grade C.—Ambleside, Bala, Bangor, Bowness-on-Windermere, Carnarvon, Colwyn Bay, Conway, Grasmere, Holyhead, Holywell, Kendal, Langdale, Llandudno, Llandudno Junction, Mostyn, Penrith, Prestatyn, Rhos, Rhyl, and Windermere.

MIDLAND COUNTIES :—

Grade A.—Alfreton, *Belper*, Bilston, *Birmingham*, *Blackheath*, *Burslem*, *Cheadle*, *Chesterfield*, Coalville, Coventry, *Derby*, *Hanley*, Heanor, Hinckley, *Ilkeston*, Kenilworth, *Leicester*, Lincoln, *Long Eaton*, *Loughborough*, *Mansfield*, Newcastle-under-Lyme, *Nottingham*, *Nuneaton*, Oldbury, Ripley, Stoke-on-Trent, *Sutton Coldfield*, *Sutton-in-Ashfield*, West Bromwich, Willenhall, and Wolverhampton. (Plumbers employed by the Birmingham Master Plumbers' Association within 8 miles of Birmingham, 1s. 9d.)

Grade B.—Atherstone, Bewdley, Boston, Brierley Hill, Bromsgrove, Burton-on-Trent, Cannock, Coseley, *Darlaston* (plumbers 1s. 7½d.), Dudley, Gainsborough, Gornal, Grantham, Halesowen, Hednesford, Kidderminster, Knowle, Leamington, *Leek*, Lichfield, Louth, Malvern, Market Harborough, *Matlock*, Melton Mowbray, *Newark*, Northampton, Oakengates, Old Hill, Peterborough, Redditch, Retford, Rugby, *Rugeley* (plumbers 1s. 7½d.), Sedgley, Shifnal, Shrewsbury, Skegness, Sleaford, Solihull, Southwell, *Stafford*, Stamford, Stourbridge, Stourport, Stratford-on-Avon, Swadlincote, Swanwick, Tamworth, *Walsall* (plumbers 1s. 7½d.), Warwick, Wednesbury, Wellington, Worcester, and Worksop.

Grade C.—Ashbourne, Bridgnorth, Church Stretton, *Horncastle*, Kettering, Ludlow, Newport, Oakham, Oundle, Raunds, Rushden, Spalding, Thrapston, Uttoxeter, Wellingborough, and Wirksworth.

Grade D.—Buckden, Eaton Socon, Huntingdon, St. Ives, and St. Neots.

EASTERN COUNTIES :—

Grade A.—Baldock, Bedford, Berkhamsted, Biggleswade, Braintree, Brentwood, Chelmsford, Cambridge, Colchester, Halstead, Hatfield, Harpenden, Hemel Hempstead, Henlow, Hertford, Hitchin, Hoddesdon, Ingatestone, Ipswich, Letchworth, Luton, Norwich, Ongar, St. Albans, Sandy, Sawbridgeworth, Stevenage, Stotfold, Ware, Welwyn, and Witham.

Grade B.—Aldeburgh, Ampthill, Attleborough, Aylsham, Braughing, Chatteris, Cromer, Dovercourt, Dunstable, Ely, Fakenham, Felixstowe, Frinton, Gorleston, Halesworth, Harwich, King's Lynn, Leighton Buzzard, Leiston, Lowestoft, March, Much Hadham, Newmarket, North Walsham, Puckeridge, Renthem, Saxmundham, Southwold, Standon, Stowmarket, Walton-on-the-Naze, Wickham Market, Wisbech, Woodbridge, Wymondham, and Yarmouth.

Grade C.—Bungay, Coltishall, East Dereham, Royston, Saffron Walden, and Tring.

[N.B.—Bury St. Edmunds :—bricklayers, masons, carpenters and joiners, slaters, plumbers and plasterers, 1s. 4½d. ; painters, 1s. 2d. ; labourers, 11d.]

SOUTHERN COUNTIES :—

Grade A.—Abingdon, Addlestone, Amersham, Ascot, Ashford (Middlesex), Banbury, Beaconsfield, Bournemouth, Bracknell, Brighton, Byfleet, Chalfont, Chesham, Christchurch, Cremborne, Eastbourne, Eastleigh, Egham, Eton, Gerrard's Cross, Goring, Gosport, Gravesend, Guildford, Henley, Hove, Laleham, Maidenhead, Marlow, Northfleet, Oxford, Poole, Portsmouth, Reading, Southampton, Staines, Stanwell, Sunningdale, Sunninghill, Tilehurst, Tonbridge, Tunbridge Wells, Wallingford, Windsor, Winkfield, Woking, Wokingham, and Wycombe.

Grade B.—Arundel, Ashford (Kent), Aylesbury, Bagshot, Basingstoke, Bexhill, Bicester, Bletchley, Bognor, Bosham, Broadstairs, Brockenhurst, Buckingham, Burgess Hill, Camberley, Canterbury, Chatham, Chichester, Chipping Norton, Cranleigh, Deal, Dorking (plumbers 1s. 5d.), Dover, Fareham, Faringdon, Faversham, Fenny Stratford, Folkestone, Gillingham, Godalming, Hailsham, Haslemere, Hastings, Havant, Herne Bay, Horsham, Hythe, Lambourn, Liphook, Littlehampton, Lymington, Maidstone, Margate, Midhurst, Milford, Milton Regis, Newbury, New Milton, Newport Pagnell, Oxted, Pangbourne, Petworth, Ramsgate, Redhill, Reigate, Rochester Sandgate, St. Leonards, Sevenoaks, Sittingbourne, Strood, Stony Stratford, Stow-on-the-Wold, Thame, Walmer, Wantage, Wendover, Westerham, Westgate, Whitstable, Winchester, Winslow, Witney, Wolverton, Woodstock, and Worthing.

Grade C.—Andover, Ardingley, Farnham, Godstone, Hawkhurst, Hartley Wintney,* Haywards Heath, Horley, Isle of Wight, Liss, Petersfield, Rye, Smallfield, Staplehurst, Steep, Turners Hill, and Uckfield.

[N.B.—Leatherhead :—painters, 1s. 5½d. ; plumbers, 1s. 6½d. ; other tradesmen, 1s. 6d. ; labourers, 1s. 1½d.]

SOUTH WESTERN COUNTIES :—

Grade I.—Bristol.

Grade II.—Plymouth * and Devonport.*

Grade III.—Dartmouth,* Exeter,* Kingswear,* Newton Abbot, Paignton, Portishead, Stroud,† Taunton, and Torquay.

Grade IV.—Barnstaple, Beaminster, Povey Tracey, Bradford-on-Avon,* Bridgwater, Bridport,* Brixham, Bruton, Burnham-on-Sea, Calne,* Castle Cary, Cheddar,* Cirencester,* Clevedon, Coleford,* Corsham,* Crewkerne,* Dawlish, Dorchester,* Exmouth, Fairford,* Frome,* Glastonbury, Lydney,* Melksham,* Midsomer Norton, Minehead,* Radstock, Shepton Mallet, Street, Swanage,* Teignmouth,* Tetbury,* Thornbury,* Totnes,† Trowbridge,* Wells, Westbury,* Weston-super-Mare, Weymouth,* and Yeovil.*

[N.B.—Bath, Cheltenham, Gloucester* (except painters), Hereford,* and Swindon* :—tradesmen, 1s. 5d. ; labourers, 1s. 0¾d.]

SOUTH WALES AND MONMOUTHSHIRE :—

Grade A.—Aberavon, Aberdare, Abergavenny, Ammanford, Barry, Bridgend, Briton Ferry, Brynmawr, Cardiff (plumbers, 1s. 8½d.), Chepstow, Duffryn Valley, Ebbw Vale, East Glamorganshire and Monmouthshire Valleys, Garw Valley, Gorseinon, Llanelly, Maesteg, Merthyr, Mountain Ash, Neath, Newport, Ogmore Vale, Pontardulais, Pontypool, Pontypridd, Porthcawl, Port Talbot, Rhondda and Rhymney Valleys, Sirhowy Valley, Swansea, and Tredegar.

Grade B.—Haverfordwest, Pembroke and Pembroke Dock.

[N.B.—Brecon and Carmarthen :—tradesmen, 1s. 6d. ; labourers, 1s. 1½d. Llandrindod Wells :—tradesmen, 1s. 5d. ; labourers, 1s. 0¾d.]

SCOTLAND :—

Grade A.—Airdrie, Alloa, Alva, Armadale, Ayr, Bathgate, Bellshill, Bridge of Weir, Buckhaven, Burntisland, Clydebank, Coatbridge, Dumbarton, *Dundee*, Dunfermline, Edinburgh, Falkirk, Glasgow, *Gourock*, Grangemouth, *Greenock*, Haddington, Hamilton, Harthill, Irvine, Kennoway, Kilmarnock, Kirkcaldy, Larbert, Largs, Leith, Leslie, Leven, Markinch, Methil, Motherwell, Neilston, Newmains, Paisley, Pencaitland, Perth, *Port Glasgow*, Renfrew, Stenhousemuir, Stirling, Uddingston, Uphall, Wemyss, Whitburn, Windygates, and Wishaw.

Grade B.—Arbroath, Montrose, and Peebles.

Grade C.—*Dumfries*, Galashiels, Hawick, and *Maxwelltown*. (Plumbers at Dumfries and Galloway, 1s. 6d. ; and at Inverness, 1s. 7d.)

[Douglas and District (Isle of Man :—Bricklayers, masons, carpenters and joiners, plumbers, plasterers, and painters, 1s. 4½d. ; labourers, 1s. 0½d.]

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* The rate for painters is 1d. per hour less than that shown for craftsmen in the above table.
† The rate for painters is ½d. per hour less than that shown for craftsmen in the above table.

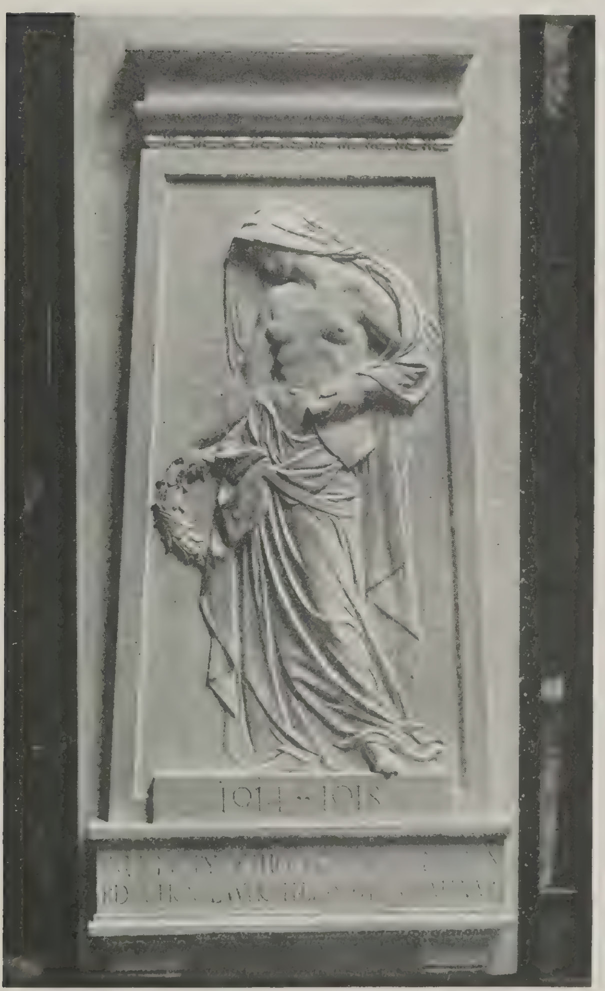
* From "The Labour Gazette."

Wednesday, October 11, 1922

Vol. LVI. No. 1449

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."



A WAR MEMORIAL TABLET

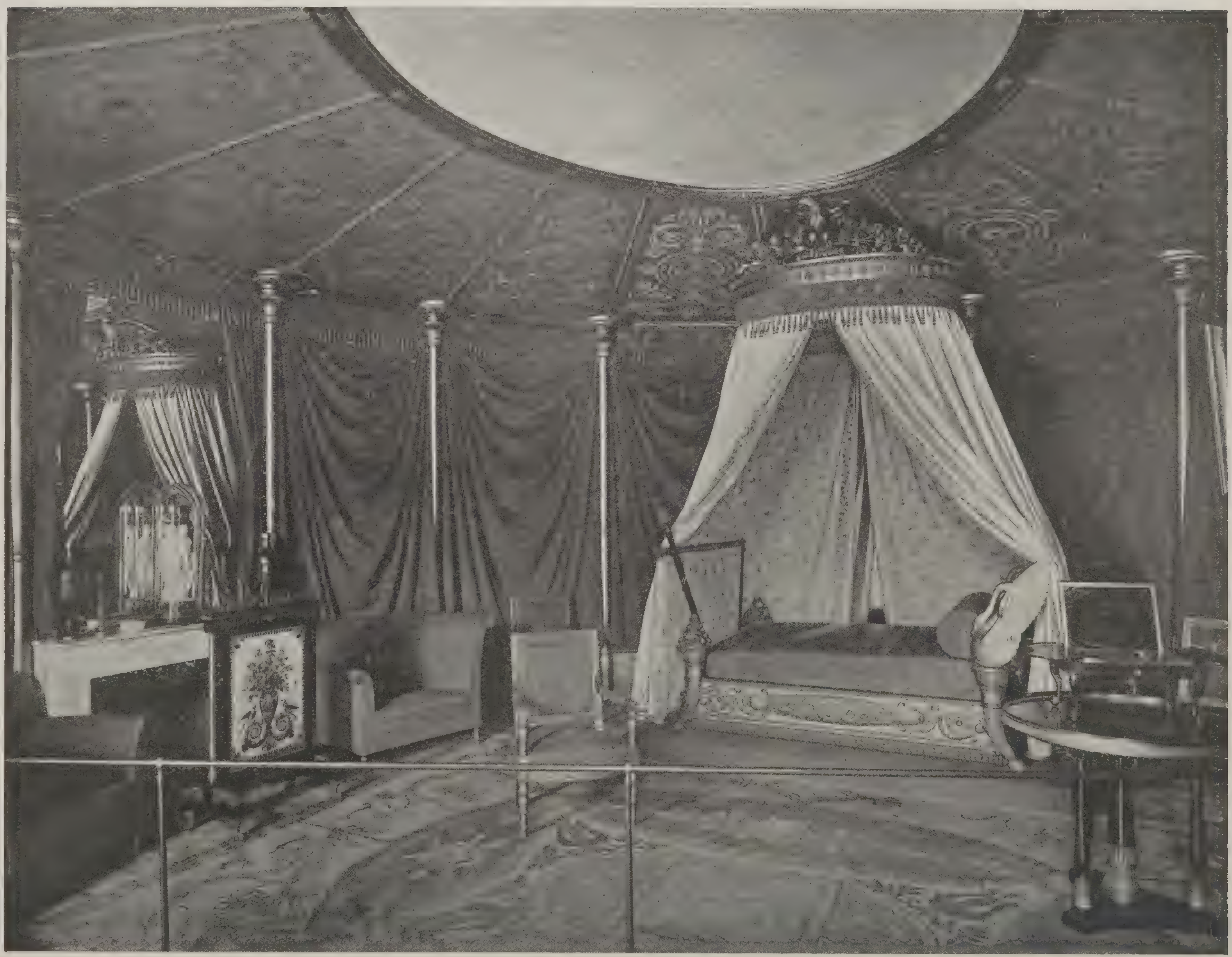
DESIGNED AND CARVED BY FRANCIS R. CLARIDGE.

The figure of this memorial is carried out in white Sicilian marble on a background of dark green Tenos marble. The above is a reproduction of the plaster model.

27-29 Tothill Street, Westminster, S.W.1.

The Bedroom of the Empress Josephine, Château de Malmaison

Percier and Fontaine, Architects



The Château de Malmaison, the country house of the Empress Josephine, was bought by her in 1798. Napoleon decided to have it converted into a palace worthy of the Head of the State, and entrusted the work of reconstruction and decoration to Percier and Fontaine, who had been introduced to him by the painter David. This was their first commission of importance, and so successful was their work that they became architects to the Emperor. They were closely associated with the creation and development of the Empire style of decoration.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, October 11, 1922 Volume LVI. No. 1449

Town Planning Administration

It is no unusual thing in these days for a Government department to have its publicity agents; but fortunate indeed is the department which has the loyal, unceasing, and voluntary support of a well-informed and active body. Yet this, in fact, is the relationship which exists between the National Housing and Town Planning Council and the Ministry of Health. We do not mean to say that the *raison d'être* of the Council is to support and help the Government—its scope is far wider and its activities more important; but, incidentally, it has assisted the Government in the preparation of its housing scheme; it has educated public opinion before, during the passage, and since the passing of the 1919 Act; it has organized lectures and arranged conferences among local authorities with the object of helping them to extract the maximum benefit from the powers conferred upon them under the Act; it has acted as a tactful intermediary between the harassed and often bewildered municipality and the obdurate government department; and when the sudden reversal of policy occurred in the summer of last year it poured oil on troubled waters, and endeavoured to find a *via media* between a continuation of the then extravagant procedure of building costly houses at an enormous loss and abandoning all attempts at a national housing scheme.

The latest evidence of its activities, in the cause of national housing, appears in the form of a publication * by Mr. Aldridge on the duties in connection with town planning, which it is now becoming incumbent upon many local authorities to perform. The volume forms a supplement to "The Case for Town Planning," a larger publication of the Council which appeared in 1915.

Hitherto the activities of local authorities have, for the most part, been confined to part III of the Act which deals with the provision of new houses. Now, however, their attention will be directed towards parts I and II, for during the three years subsequent to January 1923 all local authorities with a population, according to the last census, of 20,000 or over, are compelled to prepare and submit a town-planning scheme. During the passage of the 1919 Act, Section 46, which imposes this obligation, was fiercely contested, and after passing the House of Commons, was deleted by the House of Lords, owing chiefly to the efforts of Lord Downham, late President of the Local Government Board. It was, however, reinstated by the House of Commons, and eventually found its way to the Statute Book. At the time considerable discussion turned upon Section 47, which gives the Ministry power to compel an authority to prepare a scheme. In view of Section 46 this appeared unnecessary. The wisdom of its insertion and retention in face of opposition is now apparent, for without it regional planning would have been impossible.

To prepare a comprehensive scheme it is often necessary for several contiguous authorities to combine. Without Section 47, however, an authority with a population of over 20,000 would be powerless to secure the co-operation of a neighbour whose population was below that figure, and so the whole district would suffer. Now, however, the smaller authority can be compelled to make its contribution to the common welfare.

Another important section of the Act is that which removes the necessity for a local authority to obtain the Ministry's consent before preparing or adopting a town-planning scheme. Previously the position had been an anomalous one for the local authority, as it was necessary for it, in preparing its case for submission to the Ministry, to consider many of the problems which would only require solution if the consent were obtained, and to worry many persons unnecessarily to give evidence concerning an entirely hypothetical proposition.

Mr. Aldridge, in his book, gives the scope and character of the Act, and then passes on to the various documents relative to the Act which have been published from time to time by the Ministry of Health. Some of these, as, for instance, a statement issued in August 1921, which emphasizes the desirability of authorities obtaining the opinions of the various local organizations—professional bodies, chambers of commerce, and the like—as to the proposed method of development, are full of sound advice. The somewhat complicated procedure is then explained with the utmost clarity. This is a chapter which will appeal particularly to the municipal official. Chapter V deals with the administration of the compulsory sections of the Act, and gives a summary of the now famous South Wales Regional Survey: the most important survey that has hitherto been undertaken in the kingdom.

The National Council, however, is not concerned only with existing legislation and its administration, and in some of the subsequent chapters will be found interesting suggestions as to the lines which future legislation should take. The Act, as it exists, enables authorities, with a few exceptions, to deal only with vacant land. Obviously town planning implies something more than this. A town is a living and growing organism, for ever casting off dead tissue, in which the existing and the projected must be considered as a whole. England hitherto has been too prone to consider the claims of the individual to the disadvantage of the community, with the result that our towns are worse planned than any in Europe or America.

This spirit of individualism must not be allowed to interfere either with the amenities or with the health of the community. In this book will be found suggestions as to how best to reconcile the conflicting claims of the individual landowner with those of the community. Finally, there are interesting chapters on zoning in America and town-planning legislation in France. We cannot too highly recommend this book, as a plain statement of the present position and a wise forecast for the future, to every enlightened citizen and certainly to every architect whose business it is to be familiar with an Act which so intimately affects his profession and the nation's welfare.

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* The Administration of the Town Planning Duties of Local Authorities. By Henry R. Aldridge. Published by The National Housing and Town Planning Council, 41 Russell Square, W.C.1. 8s. 6d. net.

Disappointment at Delhi

The "might-have-beens" of architects are more numerous and, as a rule, less easily remediable than those of any other artist. Even so well-beloved a favourite of fortune as Sir Edwin Lutyens has not been wholly spared such chastenings of spirit. He also, even at Delhi, has been constrained to make sacrifices to Economy, that ugly and tyrannical fetish, who has ordained that he may not build all the important palaces of so expensive a material as white marble. Some, it would appear, he is fain to finish in white plaster—no despicable finish either, when properly applied and brought to a fine surface *secundum artem*. Sir Edwin may console himself with the reflection that the early Greeks and Romans were often reduced to the same expedient, and could not always command the use of the marble veneer with which, failing solid blocks, they liked to cover their walls. Everyone will fully sympathize with Sir Edwin, however, in his very natural disappointment that in some few instances the use of the nobler material has been denied him, for the opportunities to build palaces of white marble do not customarily crowd in upon an English architect, whatever may be the case in America. But Sir Edwin, being a true artist, yet peculiarly free from all taint of personal vanity, the "lasting regret" anticipated for him by a newspaper writer will be purely æsthetic, even if it is strong enough to survive the passage home. By the way, Sir Edwin has now left England for India on board the "Kashmir." *Bon voyage!* and all possible success in the building of the new Delhi!

Herod the Great's Colonnade

A "Times" "Special Correspondent in Palestine" contributes rather thrilling accounts of the archæological spadework there. Philistine and pre-Philistine levels have been reached, "adding to our information as to the arts of the Philistines, and as to the Mediterranean relations of their predecessors, and furnishing new clues for the guidance of future excavators." Unhappily, the excavations at Ascalon by the Palestine Restoration Fund have been stopped through lack of money, to the great loss of English prestige. At Ascalon two seasons' work disclosed the ruins of the Boulouterion, "the meeting-place of the local senate or city council, with its sumptuous colonnaded approach, attributed to Herod the Great [tetrarch of Judæa 40 B.C.], its statuary and sculptures—the indications, in fact, of a classical building without parallel, thus far, in Palestine." At Beisan, the University of Pennsylvania diggers, unhampered by lack of funds, continue to make important discoveries, including a monumental inscription attributed to Rameses II (*circa* 1270 B.C.), besides many interesting traces of the Roman occupation.

The Menace to Whitgift Hospital

It has been very often suggested, sometimes playfully, sometimes in all seriousness, that architects are more keenly interested in new buildings than in old. This is an utter fallacy as regards the "compleat architect," who goes to Italy and Greece for the express purpose of admiring the noble work of his spiritual ancestors, as well as to America to study the buildings that are being put up by the most successful exponents of classical or neo-classical design. But the architect makes full use of his trained power to appreciate beauty in any building, old or new, or, in fact, in any object in which it is revealed. Hence it is that architects everywhere are expressing strong indignation at the proposal to tamper with the Whitgift Hospital at Croydon, and may be counted upon to use their influence for the preservation of this rare gem of architecture as it was practised in the days of Elizabeth. In an article, which appears on a later page, it is suggested that if the Croydon Corporation feel unable to cope with the street-widening difficulty, which they say that the Whitgift Hospital presents, they should call in the aid of skilful town-planners, who could no doubt solve the problem and save the Hospital. As to the proposed Bill authorizing ill-treatment of that beautiful old building, the R.I.B.A. will, no doubt, raise once more its powerful protest against so ominous an incursion of crude commercialism into the domain of art. Parliament should really not need to be reminded of the course it should take with respect to this Bill, yet the Institute may very properly remind it that the Whitgift Hospital is not simply the private property of Croydon, but is an heirloom belonging to England and to Art.

Early British Brickwork

Mention of the early brickwork at Temple Newsam, the fine old mansion which Leeds Corporation has had the courage to acquire for £35,000, has revived a vexed question as to the antiquity of brick-making in England. The Rev. J. Kestell Floyer, M.A., F.S.A., begins his paper on "English Brick Buildings of the Fifteenth Century" (read before the Royal Archæological Institute in March, 1913) with a denial of the statement that no brick was made in England from Roman times until the fifteenth century. The building accounts of the Beverley Bar Gate (1409–10) seem to show that bricks of native manufacture were then available; while Little Wenham Hall, Suffolk, and Coggeshall Abbey, Essex, were both built of brick in the thirteenth century; and Thornton Abbey Gatehouse, Lincolnshire, which was built about 1382, is also apparently of native bricks. It will be suspected that in such early instances Roman bricks may have been used; but Mr. Floyer thinks that there is abundant evidence to show that brick was made in England throughout the later middle ages. "Full details of working the corporation brickyard at Hull appear in the Hull Chamberlain's rolls from 1303 onwards." Mr. Floyer's paper was published in the "Archæological Journal" of June, 1913 (vol. lxx, No. 278).

Pre-Tudor Bricks

St. Peter's Chapel-of-Ease, in Palace Street, Westminster, was one of those outstanding buildings which, for some reason or other, impress a district with their character, forming a "landmark," as the popular term has it. Built in the middle of the eighteenth century, partly out of the thousand pounds won in a lottery by the eloquent but extravagant Dr. Dodd, who was the last person but one to be hanged for forgery (1777), it was, with its tall gable and rusticated-stucco front, very characteristic of its period; it not only dominated the district, but dated it. It had, however, outgrown its original utility as an aristocratic chapel, and is now in course of transformation into a cinema. Its old familiar aspect will be greatly missed by those who had come to regard it as almost integral with that part of Westminster. It is recorded in "The Daily News" that the workmen engaged in the alterations have made a rather puzzling discovery. "Two feet below the flooring of the old vault another floor, of strong wooden beams extending the whole length and breadth of the building, has been found. How the beams came to be there is a puzzle . . . and the discovery of some broken pottery and a few red bricks below the beams have further complicated matters. The pottery, unfortunately, has been carted away with demolition debris, but the bricks are in care of the architect. They are half the standard thickness regulated by the statute of 1623. Thus there is a chance that the bricks are genuine "pre-Tudor." They should certainly find their way into the London Museum.

Simpler Building Regulations

The new building regulations which have just been circulated by the Ministry of Health, and are reproduced in full on a later page of our present issue, will doubtless be minutely analysed by all to whom they are of practical concern. They will be approved or condemned as they affect various and (occasionally) conflicting interests. A just verdict awaits experience of their actual operation; but it is not premature to express the opinion that on the whole they seem to substitute common-sense elasticity for unnecessary rigour, and are adaptable and accommodating rather than arbitrarily Procrustean.

RACINE'S "PHÈDRE," AS PRODUCED AT THE KAMERNY THEATRE, MOSCOW.
An example of advanced methods. Note the stage's various levels.

Rebuilding Soviet Russia

By HUNTLY CARTER

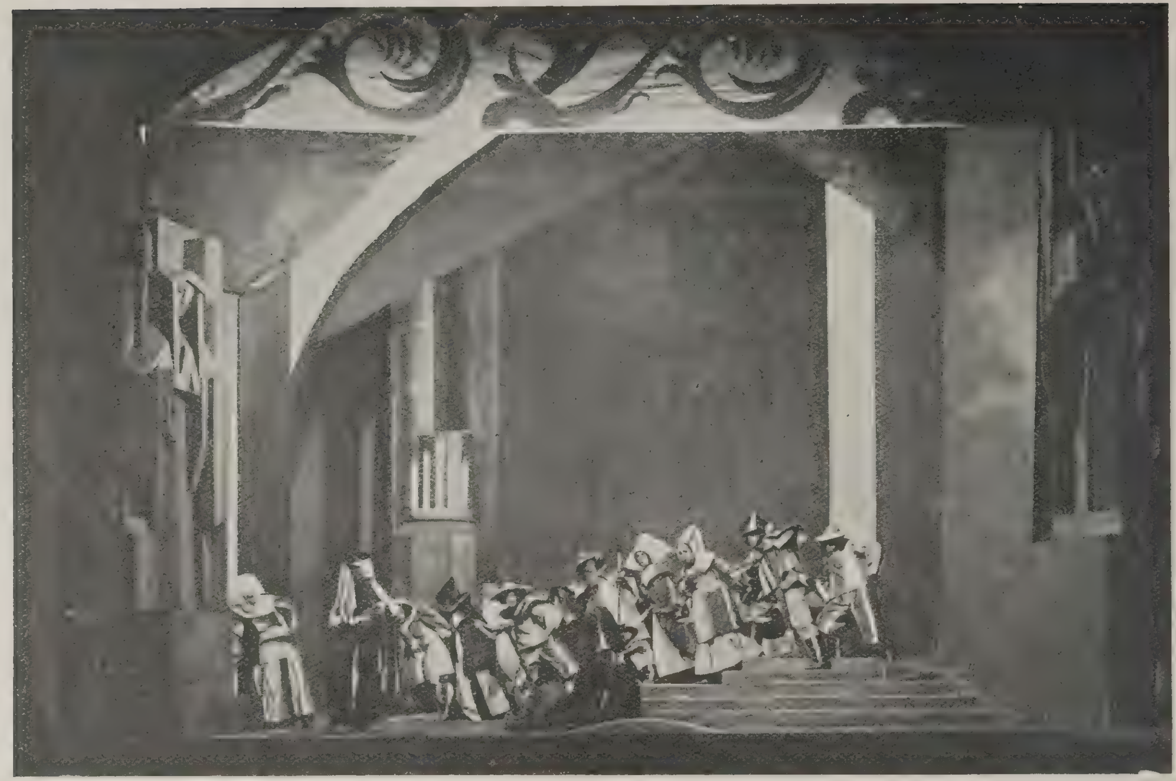
5. The Art of the Theatre

NO one can visit Soviet Russia without being struck by the extraordinary interest which both the Soviet Government and the people attach to the Theatre. Indeed, since the revolution the Theatre in Russia has entered upon a course of development which promises to affect all outside Russia who have the slightest concern with its form and function. If the present development continues, and there is no reason why it should not, for the theatrical movement in Russia is springing rather from the inner necessity of the people than from any political compulsion, we shall see in a few years a very strong added impulse to architectural enterprise. Already Russian theorists are proposing new forms of theatres. There is, for instance, M. Kergentsev with his plans for a Creative Theatre designed to place the spectator where the deputy actor too long has been.

For the moment, however, the subject of architecture and the Theatre is one that leads to a consideration of the present deplorable condition of the playhouses, and of the peculiar use that is being made of architectural backgrounds, especially in plays, some of them written, and all of them produced, by the workers.

I need not go into the matter of the new conception and organization of the Russian Theatre under the soviets. Anyone who wishes to know something about this can do so by referring to the article I contributed to the "Fortnightly Review" early this year. Since the revolution the Theatre has been made a definite branch of the Educational

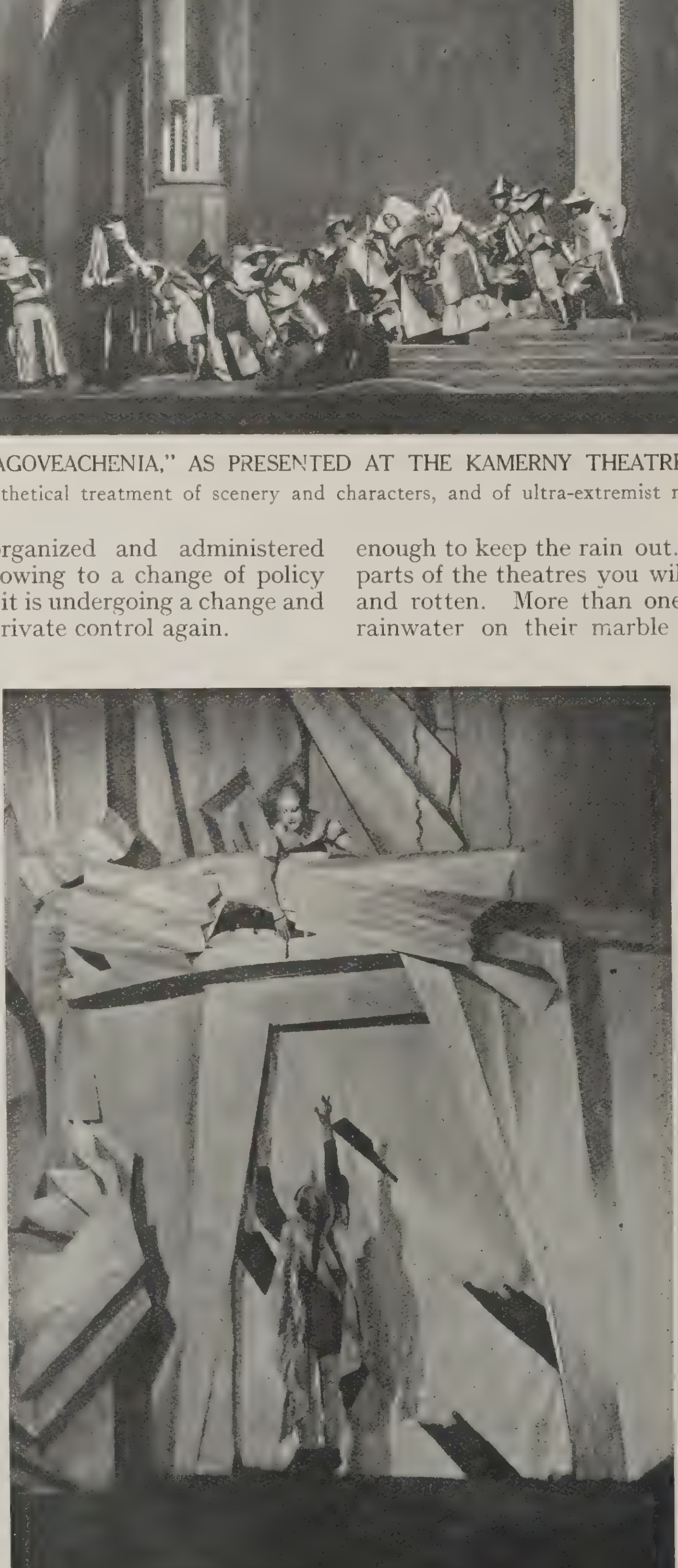
A REVOLUTIONARY PLAY BY RENAL, PRODUCED AT THE PROLETARIAN THEATRE.
Note crude extemporised scenery, consisting of cut cloths.



"BLAGOVEACHENIA," AS PRESENTED AT THE KAMERNY THEATRE, 1922.

An example of the synthetical treatment of scenery and characters, and of ultra-extremist methods of representation.

Department and has been organized and administered accordingly. Now, however, owing to a change of policy on the part of the Government it is undergoing a change and passing from Government to private control again.

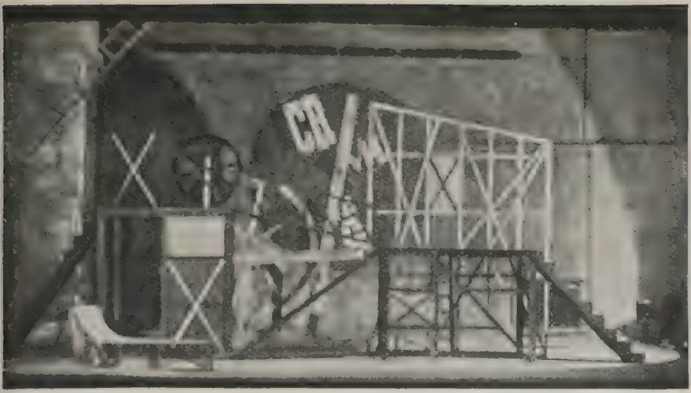


"ROMEO AND JULIET" AT THE KAMERNY THEATRE, 1922.

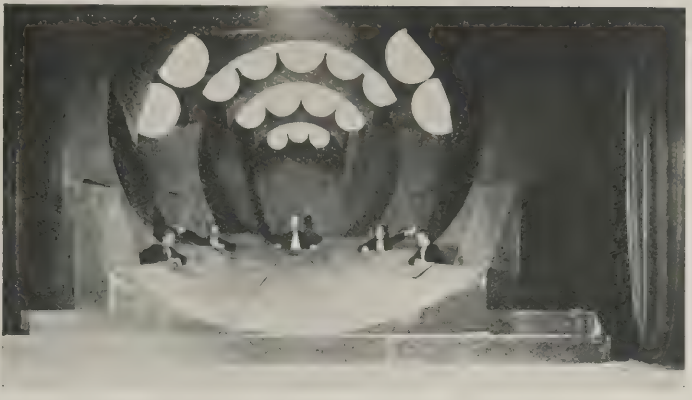
A new conception of the balcony scene.

It cannot be said that the new private owners or previous owners to whom theatrical property has been restored, are altogether in luck's way. The state of the playhouses and cinemas is not one to make them rejoice — rather the other way about. Ten years or more of being trampled on, hacked about, transferred from owner to owner, and put to every purpose, including some wrong ones, has left them looking the picture of extreme old age and chronic melancholia. Even the best theatres have sad features that leave you gasping for breath. Exteriors are indescribably dirty and crumbling away. Some of them bear the faded remains of propaganda inscriptions and other mural "decorations," which add to your excitement, but not to your pleasure. When you enter you find corridors and auditoriums dark, dingy, and gasping for renovation. Here and there the plaster is mouldering away in great patches. Above your head there is a large hole in the ceiling which has been filled up in a rough-and-ready way, but not rough-and-ready enough to keep the rain out. In the vestibules and othe parts of the theatres you will notice fine frescoes mildewy and rotten. More than one of the lounges have pools of rainwater on their marble floors. The auditoriums are dimly lit. In one large auditorium I counted just two lights during the intervals. Most of the electric fittings are out of order. The upholstery is faded and torn, the box curtains missing. The seats are very old, sometimes a queer mixture of odd chairs and wooden benches, the chairs being secured to each other by bits of string. The floors of the auditoriums, corridors, and offices are bare. The cloak rooms are unused—just a collection of empty pegs. In some auditoriums, for instance at the Hermitage Theatre, there are huge propaganda inscriptions stretching across the proscenium opening about two feet in front of the curtain. These exhort the spectators to do one thing while the play exhorts them to do another. There are no attendants and no refreshments, no programmes —no nothing, as Poor Jo might say.

The sorrows of the cinemas are much too numerous to relate. Suffice it to say that picture-palaces which once upon a time were fashionable palaces-de-luxe now look like penny gaffs that have wandered out of dreary slums.



BUILDING UP THE NEW STATE BY MEANS OF SYMBOLS.



"LENA," ACT I. THE WORKERS' IDEA OF DECORATION.

SCENERY AT THE PROLETARIAN THEATRE.

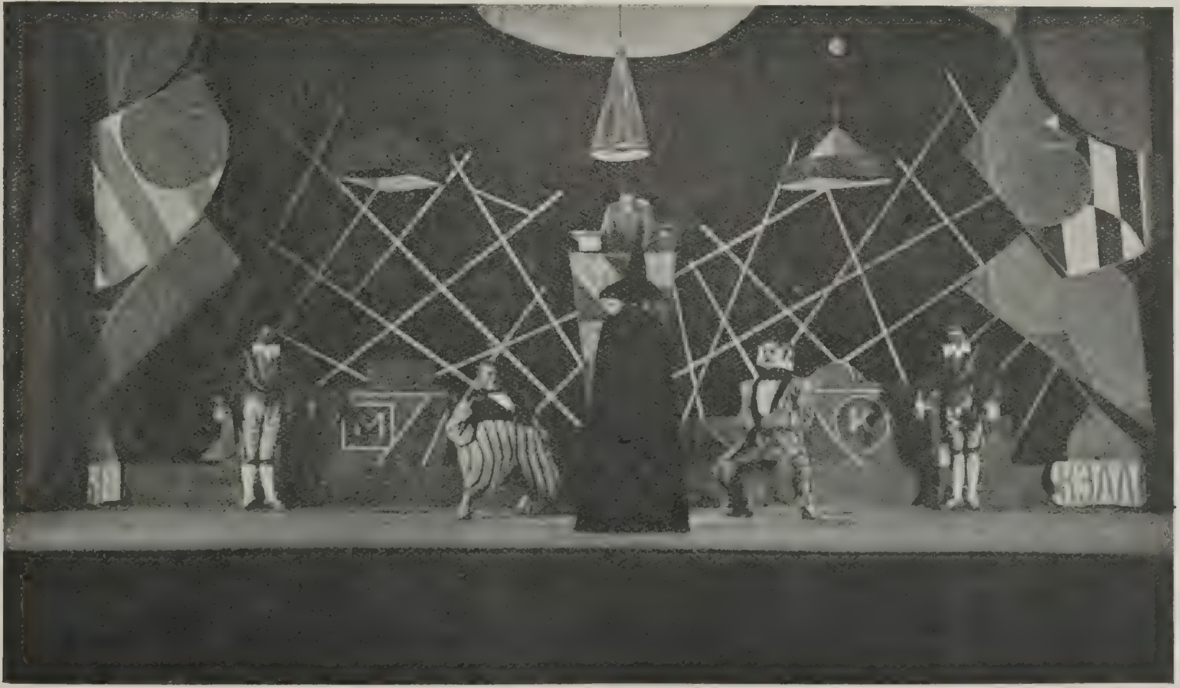
They are, in fact, dangerously filthy and lousy. Their walls are patched with plain timber, the bits of drapery are shabby and pestiferous. Cracked mirrors, crumbling ornamentation, rudimentary seating, partial lighting, emergency and worn-out cinema apparatus and films, such are a few of the descriptive details.

On the whole, then, the theatrical property is also a reflection of the utterly worn-out condition of things. Of course, the stock scenery takes part in the appeal for a general renewal. For the most part it is old and very dilapidated and quite unsuited to the purposes to which it is now put. It was originally made for bourgeois plays, but now it has to play the ridiculous part of trying to assume a fierce proletarian look. As the theatre hangings have disappeared from various causes, one of them being an outburst of looting, serious deficiencies are everywhere noticeable. A prominent one is the absence of side curtains to the proscenium opening necessary to screen the empty stage at each side of the scene.

Perhaps the unhappy condition of the old scenery does not matter. Except in the case of a repertory theatre, like the Moscow Art Theatre, there is no great need of its services. The famous Moscow Art Theatre has built up a world-wide reputation with its pre-war productions, which, together with their settings, have become classics. These settings introduced certain scenic reforms in the direction of a synthesis of form, colour, and movement which took hold of the theatres of Europe and America, and they have become so much part and parcel of the representative and interpretative machinery of the Moscow Art Theatre that they can be no more separated from it than certain perfumes from certain brands of soap.

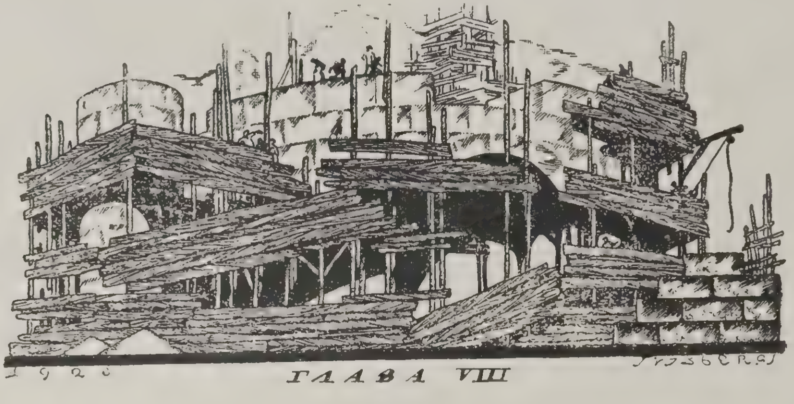
With other theatres it is somewhat different. While the Moscow Art Theatre has clung tenaciously to its old stock of plays and scenery, elsewhere plays and ballets have been born or disinterred by order of the soviets, suitable for instructing the public in the meaning of their new communistic surroundings, in the significance of the communist life, and how it is to be lived. Such plays called for new or adapted settings. As a result a tendency has arisen towards the elimination of the old bourgeois screens and properties and the production of architectural scenery symbolizing the proletarian ambitions. In short, the tendency set up by making the theatre a communistic interpreter is to clear the stage of all the old bourgeois lumber and to fill the space with symbols of the communistic state.

This movement towards new interpretative scenery is particularly noticeable in the proletarian or workers' theatres, of which there are a great number in Russia to-day. In such theatres one finds the working-class actors and actresses busy with the new conception of the State as

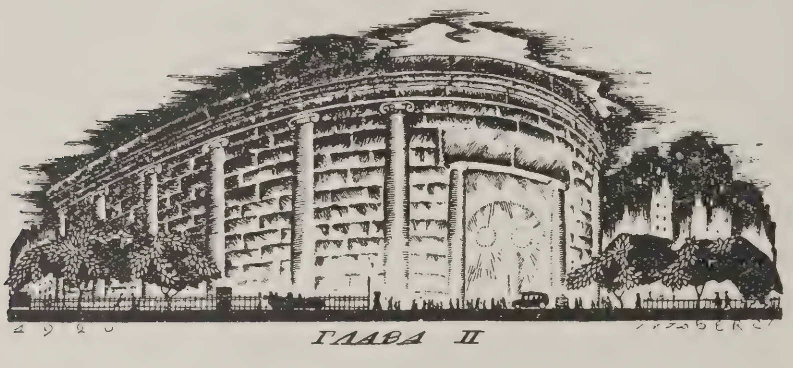


"THE MEXICAN," BY JACK LONDON, ACT II. PRODUCED AT THE PROLETARIAN THEATRE, MOSCOW, 1922.

A good example of the workers' conception of futurist scenery and costumes.



BUILDING THE NEW MASS THEATRE.

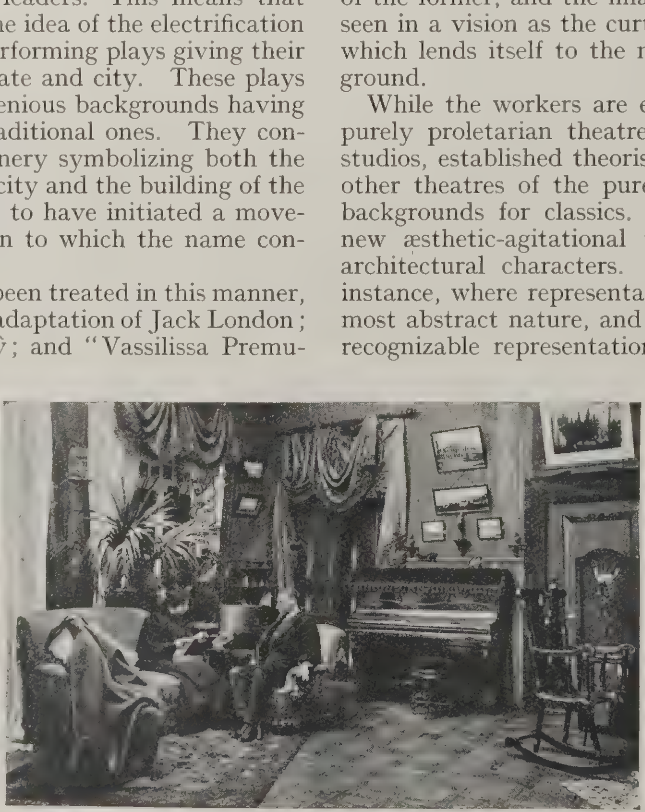


THE NEW MASS THEATRE OF THE SOVIET.

(*From "The Creative Theatre," by M. Kergentsev.*)

formulated by the Communist leaders. This means that the workers have caught on to the idea of the electrification of Russia and are writing and performing plays giving their own version of the electrified State and city. These plays are represented by means of ingenious backgrounds having nothing in common with the traditional ones. They consist of futurist architectural scenery symbolizing both the destruction of the old State and city and the building of the new. This scenery may be said to have initiated a movement in theatrical representation to which the name constructivism has been given.

Several important plays have been treated in this manner, among them "The Mexican," an adaptation of Jack London; "The Lena," a play by Pletnev; and "Vassilissa Premudraya," by Lunacharsky. A very important play, Mayakovsky's "Mysteria Bouffe," fully illustrating the method of constructivism, was given not long ago at the Zon Theatre—the largest theatre in Moscow. The opening performance was attended by the leading representatives of the Soviet Government. Subsequently vigorous attempts were made to introduce it to the widest public. The theme was the destruction of the earth by a flood (the revolution); the struggle for supremacy between the survivors — (the pure) proletarians and (the impure) bourgeoisie; the triumph of the former, and the final coming of the "Electric City" seen in a vision as the curtain falls. Such, briefly, is a plot which lends itself to the new order of architectural background.



IBSEN'S "NORA," PRODUCED AT THE MOSCOW ART THEATRE.

Banned by the Soviet Government on account of its bourgeois setting.

While the workers are engaged with their new ideas in purely proletarian theatres and an enormous number of studios, established theorists and practitioners are busy in other theatres of the purely cultural class, evolving new backgrounds for classics. These backgrounds are of the new æsthetic-agitational type, and contain conspicuous architectural characters. At the Kamerny Theatre, for instance, where representation and interpretation is of the most abstract nature, and the utmost is done to eliminate recognizable representational settings, there is an almost excessive use of stages at different levels and different angles.

A further use of architecture in plays is seen in certain mass performances in the open air of the political mystery-plays. Thus "The Taking of the Winter Palace" is played before the Winter Palace, and another mass play in which over 100,000 persons, mostly the untrained public, take part, is performed before the Bourse. Other instances could be cited, but sufficient has been said to show that architecture plays an increasingly important part in play representation in Soviet Russia.

Dutch Architecture, Old and New

Some Impressions of the A.A. Visit to Holland

With Photographs by F. R. Yerbury

THE A.A. annual excursion was revived this year for the first time since the war; Holland was the country chosen. The party, which numbered about thirty, made its headquarters at Amsterdam, a convenient base from which to visit most of the places of interest in the country. One week was too short a time to gain more than a general impression, but it was long enough to inspire all with the wish to return for a longer stay at the earliest opportunity.

The whole visit was an unqualified success, for which thanks are due both to Mr. Keppler and Mr. Versteeg, who so ably arranged the daily trips, and to all those architects who gave up so much of their valuable time to show the party round the various places visited.

The party arrived at Amsterdam on the morning of September 23, and were met at the station by Mr. Keppler, who took them to the American Hotel. After lunch the Amsterdam Exchange was visited, where the party met Dr. Berlage, who kindly showed them all over the building. The Exchange was built between 1899 and 1903, and is considered to be the first building in Holland inspired with the freedom of modern feeling. It was interesting to have seen it before viewing the more recent work of the modern school, which was seen later in the afternoon.

The work of Mr. De Klerk has been much illustrated in the English architectural press, but it is quite impossible to gain any correct impression of those buildings from photographs. The effect of the Dammernplantseon housing scheme is exceedingly fine, but is largely due to the beautiful texture of the Dutch brickwork and to the extraordinary craftsmanship displayed throughout. The architecture itself is striking and interesting.

The following day, Sunday, September 24, was spent at Haarlem, where the party was met by Mr. Weissman and Mr. Von Loghen. The Franz Hals Museum was first visited, and afterwards the Groote Kerke, which, as the views on page 479 show, is an imposing Gothic church of the fifteenth century. The scale and dignity of this church are certainly emphasized by the small houses and shops which are built close against its walls. The interior, like all Dutch churches, is whitewashed, and the effect is somewhat cold and unsympathetic, but the general proportions and sense of space are very pleasing. The vaulting here is made of cedar wood to imitate stone, and dates from 1530. A late Gothic screen, separating the nave from the choir, is supposed to be some of the finest woodwork in Holland. The decorative paintings on the piers, which date from the end of the sixteenth century, can be seen in the photograph.

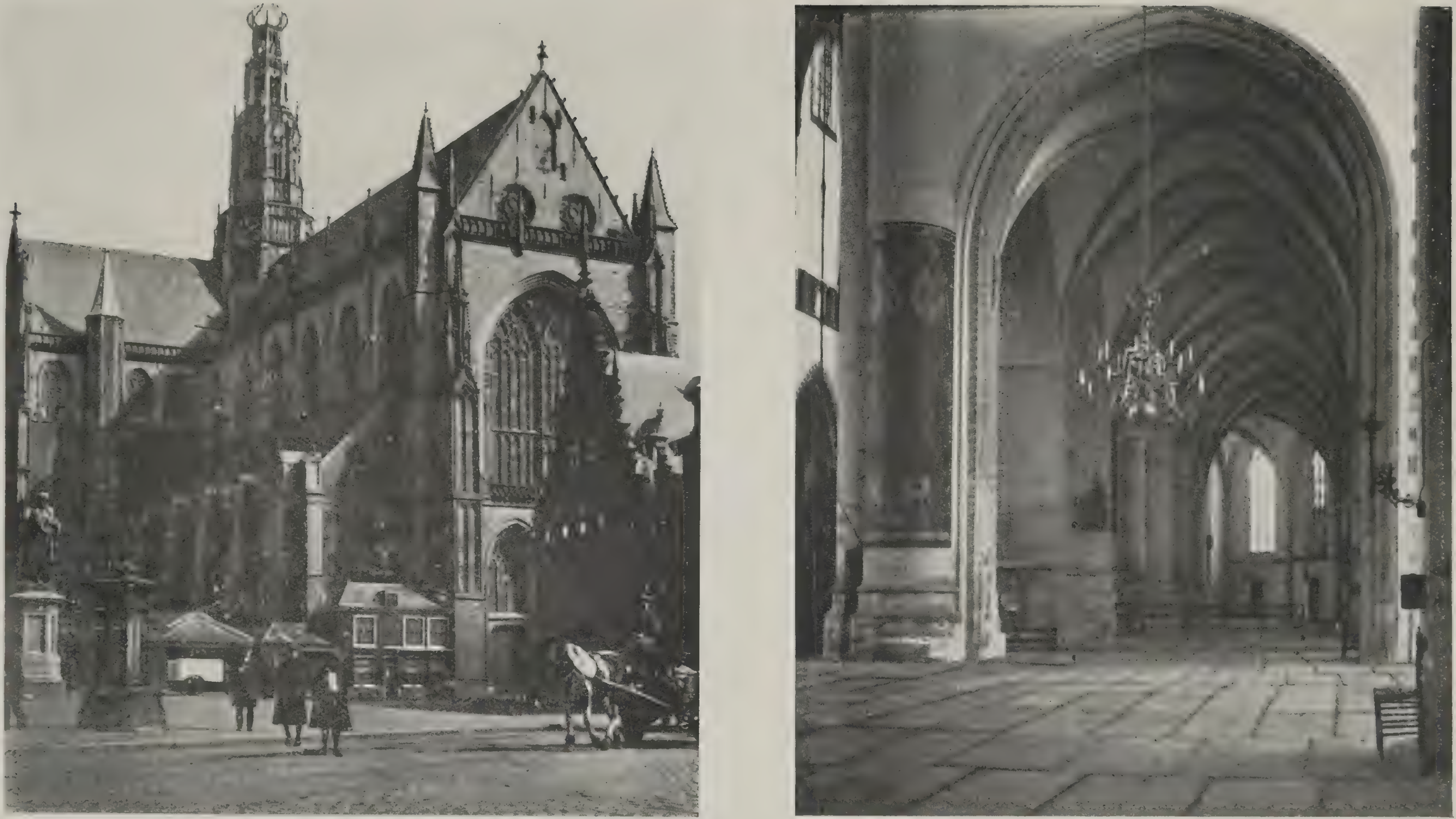
Leaving Old Haarlem, the party went with Mr. Von Loghen to see his housing scheme at Tuinwyk. One of the attractions of this scheme is the successful use of colour on all the external woodwork. The lay-out consists of two

A BRIDGE IN EDAM.

THE OLD QUARTER, AMSTERDAM.

THE TOWER OF THE NIEUWE KERKE, DELFT

THE MUSEUM AT EDAM.



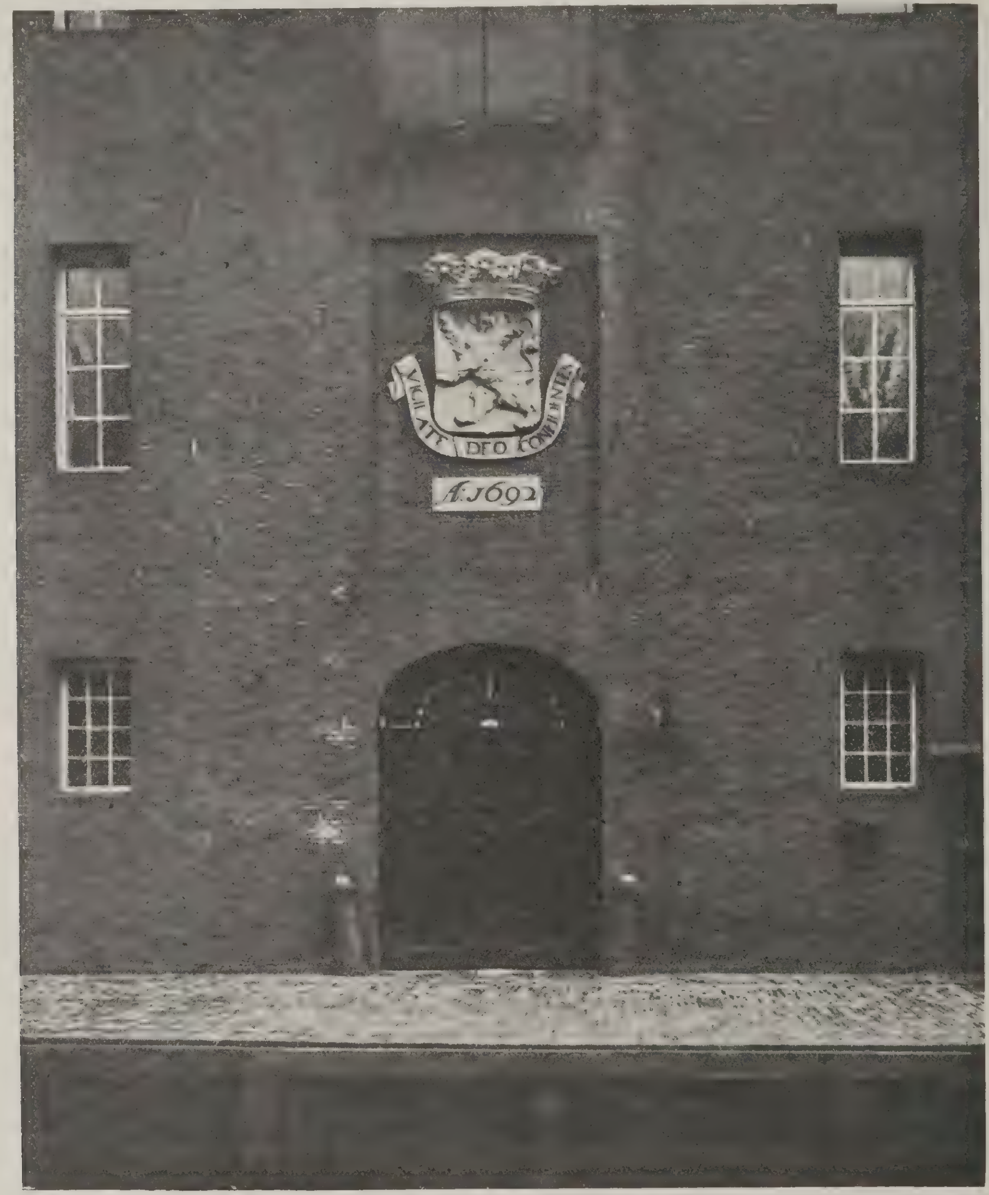
AN EXTERNAL VIEW.

THE AMBULATORY.

THE GROOTE KERKE, HAARLEM.

quadrangles, separated by a wide roadway. The backs of the houses look on to communal gardens within each quadrangle. Through the kindness of a friend of Mr. Von Loghen the party were able to see the inside of one of these houses, the interior arrangements of which are certainly some of the best in Holland. These houses were not built for the working-classes, their rental being about £80 a year.

On Monday the party went to Delft, where they met Professor Sluytermann, who took them to the art school of which he is the principal. The school building is a fine example of eighteenth-century Dutch architecture, and the studios seem to fill the double rôle of atelier and museum. The Nieuwe Kerk, which stands at one end of the Groote Markt, was afterwards visited. This church has a very fine tower, which can be seen in the photograph on page 478. The meat market and the arsenal are also illustrated; the latter, standing near the Rotterdam Gate, bears the old arms of the Dutch Republic and the date of 1692 (see above and opposite).



THE ARSENAL, DELFT.

The third photograph of Delft gives some idea of the charm of the old houses of which there are many in the town. Perhaps the most interesting thing seen in Delft was the glass factory where old stained glass is restored and new designed. The principal, Mr. Schonten, described how the work was done, and explained the difficulty which arises in restoring the old glass to the churches in Holland. Owing to the excessive whiteness of the interior, the contrast of the highly-coloured windows to the whitewashed walls causes a difference in value too sudden to be pleasing. In the evening the party were entertained at the American Hotel by the Bond of Netherland Architects, and Mr. Slothower gave a very interesting historical summary of Dutch architecture, which was much appreciated.

On Tuesday morning Mr. Jan de Meijer conducted the party round Old Amsterdam. After walking through the most interesting part of the city, they returned to the Industrielle Club, where they were entertained to lunch by the Municipality of Amsterdam, being received by Mr. Krannenburg. Here were met Mr. De Klerk and Mr. Kramer, who both went with the party afterwards to see their most recent housing schemes. The elevations were interesting, but the interiors on the whole were disappointing, most of the rooms being too small to be comfortable, and the staircases in many cases too steep. Taking the schemes as a whole, however, there was a great deal to be learnt from them, both in design and the use of material.

Next morning the party left Amsterdam in motor-cars to visit Utrecht, accompanied by Mr. Slothower and Mr. Versteeg. On the way a stop was made at Hilversum, where the acquaintance was made of Mr. Dudok, the architect of the housing scheme and several public buildings there. The communal bath-house, the first building visited, is, as will be seen from the photograph on page 482, a striking architectural composition in which the use of

AN OLD HOUSE IN DELFT.

different coloured bricks and painted woodwork plays a large part. The plan is a square, the baths being arranged on three sides, the fourth side consisting of waiting-rooms. Each bathroom has a tiled floor and dado, and the baths themselves are of granolithic composition. Three schools were also visited, one of which is illustrated (page 482). The square tower seen in the photograph is the stair hall. The light and cheerful interior of this school is particularly charming. Hilversum is one of the many places where the party would have liked to have more time, but they still had to see the cathedral at Utrecht, which Mr. Slothower is restoring.

The tower of Utrecht Cathedral stands apart from the choir, the nave having been blown down in 1674. Mr. Slothower has discovered recently two altar paintings which have been bricked over for some considerable time. These are being cleaned and preserved.

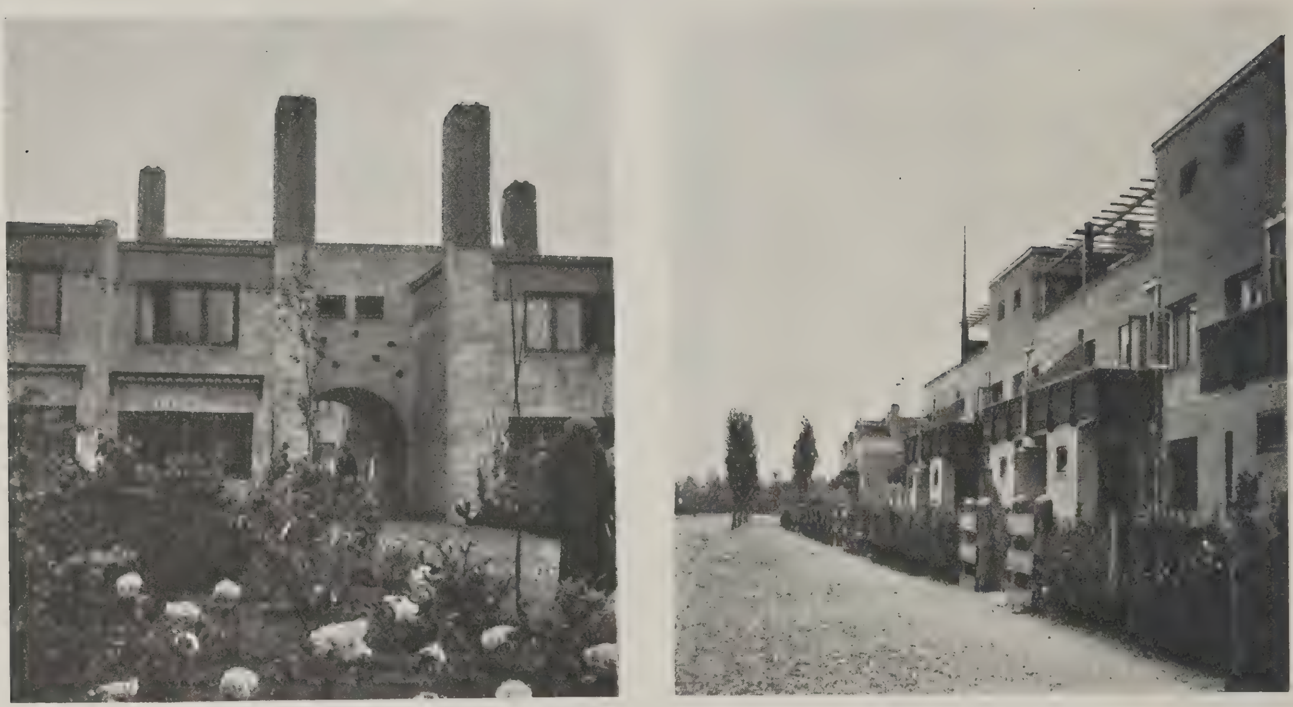
Returning to Amsterdam along the river Vecht, the party stopped at the castle of Zuilen, which was restored by the late Dr. Cuypers, and is a very interesting example of modern Gothic. On Thursday Mr. Krannenburg and Mr. Jonser, members of the Holland-England Society, very kindly escorted the party on a delightful trip to Edam and Volendam. The whole journey was by steam tram, a stop being made at Edam, where a visit was paid to the Old Museum, which is a typical Dutch house with a red-brick, crow-stepped gable. (See page 478).

Volendam is a picturesque old town with a fairly large fishing harbour. The inhabitants all wear national costume, which adds a good deal of charm to the place. On the way back a halt was made at Monnickendam, where there is an old red-brick church. In the evening the party were entertained at the Pavilijoen Vondelpark by the members of the Holland-England Society, where they met all those in Amsterdam who are interested in the friendly relations between the two countries.

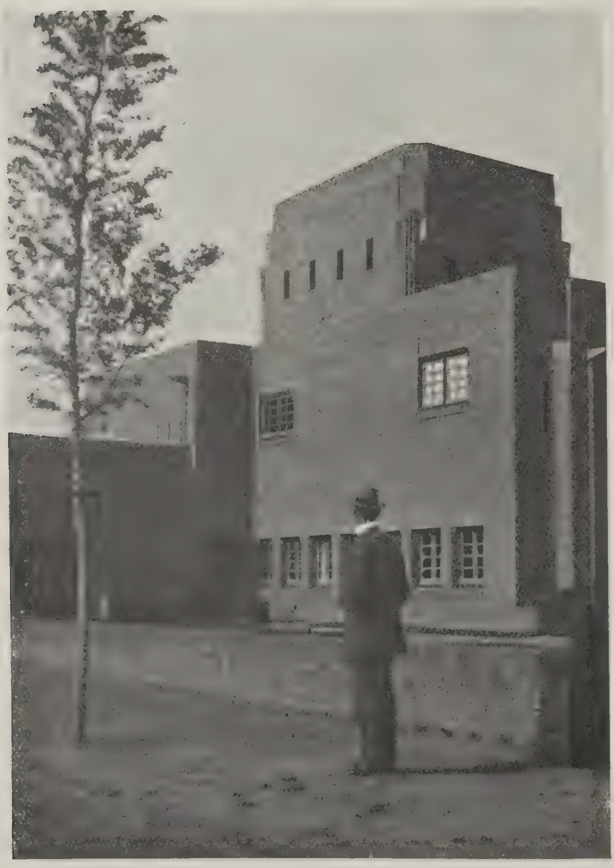
Friday being the last whole day of the stay, the party went with Mr. Jan de Meijer by boat to Alkmaar.

It was with many regrets that Amsterdam was left on Saturday. The stay had been so pleasant and the various hosts so hospitable that all members of the party wished they could have prolonged their visit to study and enjoy more fully the architectural delights of Holland. I. M. C.

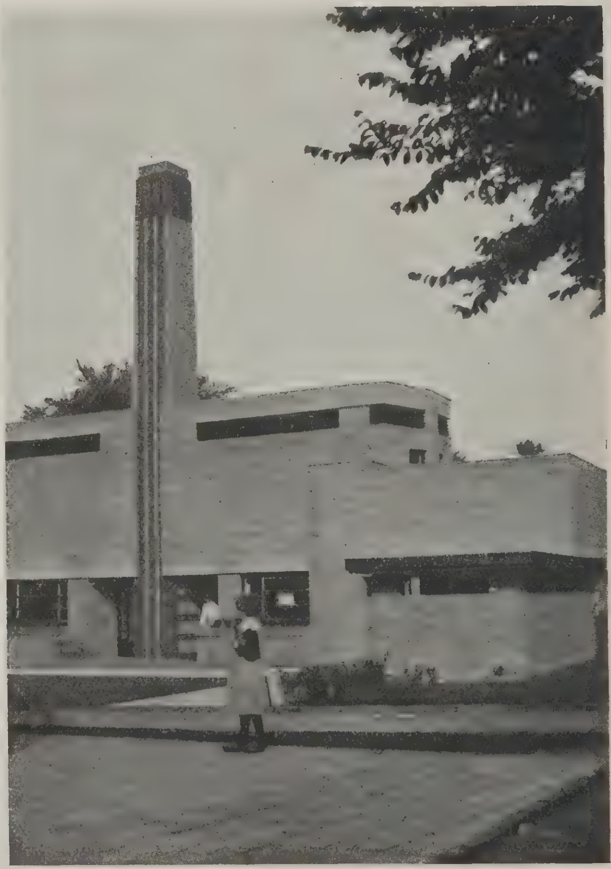
THE MARKET HOUSE DELFT.



THE TUINWYK HOUSING SCHEME, HAARLEM. VON LOGHEN, ARCHITECT.



A SCHOOL BY DUDOK, AT HILVERSUM.



COMMUNAL BATH-HOUSE, HILVERSUM, BY DUDOK

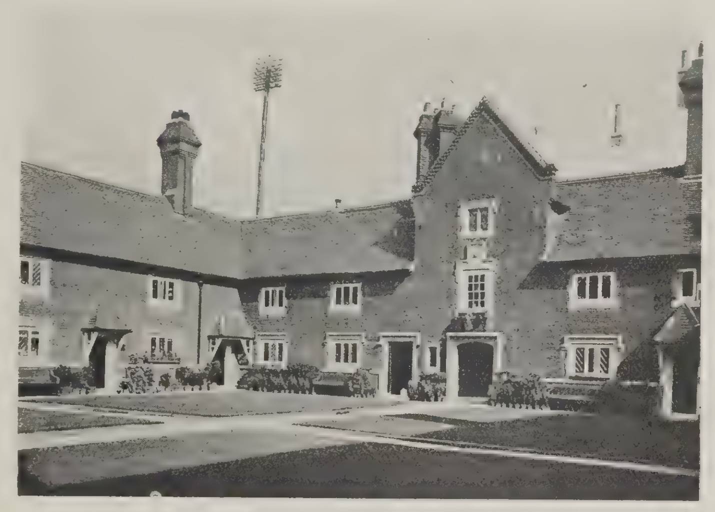
The Whitgift Hospital Difficulty, and How to Solve It

BEING more than seventy years old when he founded the almshouses at Croydon which keep his memory green, Archbishop Whitgift was in a position to appreciate the value of this "Harbour of Refuge" and rest for the aged. The figure of speech "Harbour of Refuge" is, of course, the title of Fred Walker's picture now hanging in the Tate, to the edification of thousands of simple souls who like to have their gentle emotions gently stirred; and the almshouses Walker depicted are at Bray.

Almshouses never fail to excite sympathy for the aged and infirm, who might chance to be homeless were it not for the tender compassion of the pious founders; let us call it that, even though the actual motive of the founder may have been, in some instances, less disinterested.

It may, indeed, be safely concluded that, in the majority of instances, the innumerable buildings of almshouse character that are scattered over the kingdom are so many monuments of the genuinely tender feelings of those who wished rather to manifest their love of their aged fellow-pilgrims than either to win for themselves "credit and renown" here below, or to reap hereafter the rewards of their charitable deeds.

Almshouses — whether they were called by that name or by any of the various titles of hospital, guest - house, infirmary, bede-house, religious house, "maison Dieu," God's house, or what-not—seem to have come into being in this country almost simultaneously with the introduction of Christianity; although few actual buildings of the kind have come down to us from much earlier than Tudor times.


A VIEW IN THE QUADRANGLE.

Even so, they are mostly very venerable and very deeply interesting examples of early domestic architecture, and, as such, would be well worth the cherishing even if this were all—even if the almshouses did not afford so striking a testimony to the ancient and enduring love of man for his fellows. Is it more than mere fancy that tender compassion is expressed in the gracious design, the peculiar charm with which almshouses are almost invariably invested?

In country places almshouses are comparatively safe from molestation. On the other hand, towns always envy them the space they occupy. It is as if the fussy, hustling citizen resented their silent rebuke of his noisy restlessness and sordid aims. The almshouse, mellow with age, centuries in arrears of the raw and garish buildings of to-day; its slow and ancient folk feebly pottering about among their old-fashioned flowers, or lolling dreamily, lazily, on their benches or in their arm-chairs; the quiet quadrangle, with the tiny chapel in one of its corners; the languidly chiming clock; the quaint old gables and the lichen-covered red-tiled roof—these things in combination create for the "business man" an alien and an enervating atmosphere, which he thinks deadly lethargic. They are all completely "out of date," and they remind him rather poignantly of whither he too is tending at express speed, of what, after all, may be the final pitiful result of all his strenuous activities and ceaseless anxieties. They remind him too pointedly that "getting on in life" has two distinct and rather opposite meanings.

He does not like these gentle reminders of impending feebleness and inevitable decay. Away with the almshouses! The chimes from their turret clock are out of harmony with the spirit of the times, and infect him with their drawling languor. Each time the clock speaks, it tells him that he has fewer hours to live and strive!

It is unfortunate that so very often the old almshouses abut upon the highway. Their situation attracts to them the undesirable attentions of the enterprising trader, who thinks so prominent a site should be "utilized"—his own horrible word—"to much greater advantage"—his own fearsome phrase. "Advantage" and "utility" are idols that are blindly worshipped by the profiteering person.

Appraising and covetous looks have been for generations cast on the Whitgift Hospital of the Trinity, which has the dual misfortune to occupy the best site in the High Street, Croydon, and to "stand in the way of improvements." Fatal combination of offences! At length the covetous eyes and itching palms have prevailed. A majority of the Croydon Corporation have resolved to promote a Parliamentary Bill for the widening of the High Street, which can only be effected by mutilating the fine old almshouses—the Whitgift Hospital of the Trinity—or, what is really a more merciful crime, by removing them altogether, and thus, as it were, putting them out of their misery.

Either to destroy or to mutilate this rare gem and priceless heirloom, this "haunt of ancient peace," this monument to piety and pity, would be sheer sacrilege. Wantonly and unnecessarily to destroy what cannot be restored is an act that can seldom or never be condoned; and the Croydon Corporation are deliberately proposing to demolish, or deface, or transplant, or transport—it does not appear that they greatly care what becomes of it, so long as they get rid of it somehow—a building that should be the joy and pride of every right-minded citizen, and is certainly venerated by every decent denizen of Croydon.

Stepping out of the narrow, noisy, and rather crooked High Street into the spacious and quiet quadrangle of the Whitgift Hospital, is comparable to passing from the turmoil of dusty Fleet Street into the serenity of the Temple, or out of the High at Oxford into some venerable college "quad." The sudden hush, the leisurely atmosphere, are, for a moment, almost startling in their intensity. Anyone less callous than a Croydon councillor of the iconoclastic majority would shrink with horror from the bare idea of profaning such an earthly paradise.

But the danger of destruction or mutilation of the Whitgift Hospital is imminent; for unhappily these hard-headed and hard-hearted men of business can point to hard facts that plausibly seem to support their high-handed action.

The first and principal of these "hard facts" that "daurna be disputit" is that the High Street of Croydon is neither so straight nor so wide as it should be, and these defects become hourly more apparent with the continuous increase of motor traffic of every conceivable kind.

But why interfere with the almshouses? Why not widen and straighten the street by setting back the unlovely buildings that vulgarize its opposite side? Why not, indeed? There is a reason that the ordinary map does not make clear. These "business premises" are built on the crest of a hill—perhaps the "Croiedune," or Chalk Down, from which the town is supposed to have got its name—and at their rear the hill slopes down rather sharply, so that to set back the shops would be to transfer them from a hill—or at all events from a plateau—to a hollow. What is worse, the consequent widening of the street would not be a simple process. Obviously, one side of the street would be aslant, and the cost of making it uniformly level would be somewhat heavy.

Nor would the trouble end there; for the street, however level it might be made, would still be a little crooked, because it happens to be the almshouses that make it so.

A visit to the spot confirms at a single glance the eulogies that have been lavished on the Whitgift Hospital, and also explains the ruthless but feebly conceived demand for its removal or mutilation, which would be the worst possible solution, or rather evasion, of an admitted difficulty.

In spite of almost irrepressible emotion, indignation, and regret, we have endeavoured to make a perfectly fair and impartial statement of the difficulties that have to be overcome. Nobody, therefore, can justly bring against us the deadly charge of sentimental bias.

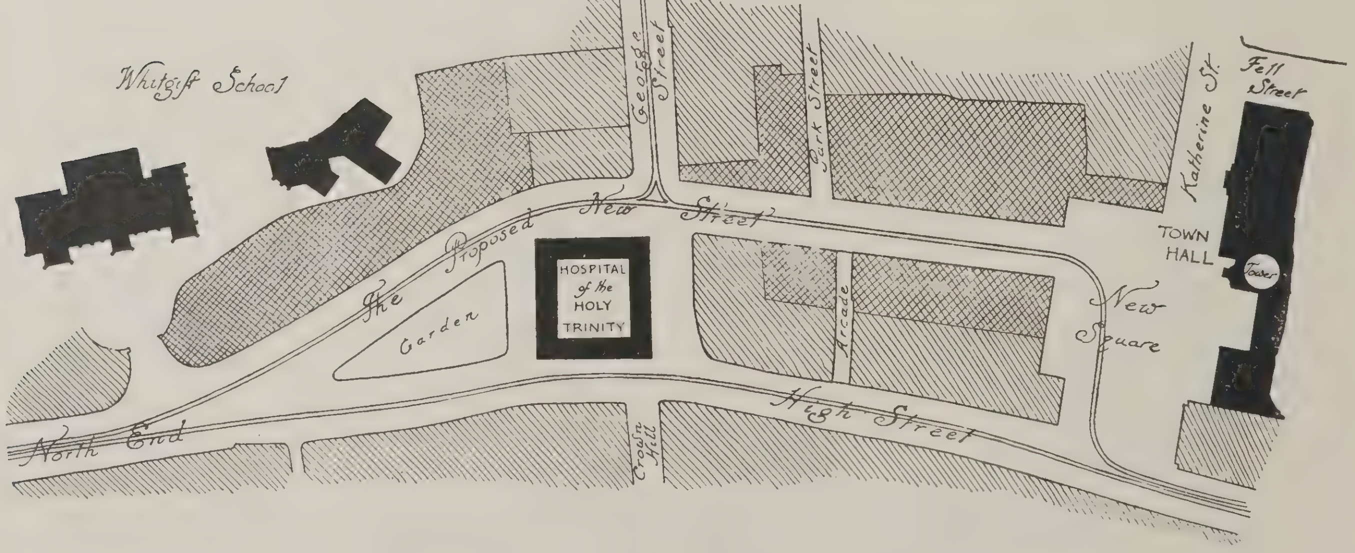
Difficulties there certainly are in this matter of the Whitgift Hospital; but Englishmen are never daunted by difficulties, especially not by civil engineering difficulties. It is by overcoming them that the Englishman's superlative civil engineering skill and ingenuity have been developed to such an extraordinary degree.

Then, consider the high degree of accomplishment to which our town-planners have now attained. Surely the Croydon case offers but a simple problem for them to tackle. We do not for a single moment believe, and we most emphatically refuse to admit, that it is necessary to destroy, or to mutilate, or to remove, the venerable and beautiful Whitgift Hospital of the Trinity. Against the town councillors who would commit this insensate folly it were futile as well as indecorous to use harsh words. Doubtless they are to be credited with an honest desire to do what they think is best for the well-being of their town; but they have adopted a mistaken policy, and one that, so far from advancing the best interests of Croydon, will go far to bring discredit on it as a town whose governors are lacking in civic pride, and who share in rather an uncommon degree the common deficiency in civic sense. We do not use the word at all opprobriously; for civic sense is, indeed, a scarce commodity in the land. We may rest assured, however, that there is enough of it in Parliament to secure the instant and emphatic rejection of this ill-advised private Bill, the passage of which would be but a Pyrrhic victory for Croydon. May it be spared a "success" that would surely brand it with unforgettable ignominy.

Appended is a plan that shows very convincingly that the Whitgift Hospital problem is by no means insoluble. We are convinced that town-planning ingenuity, backed up by a fair degree of civic courage, would, in combination, be easily equal to a completely satisfactory solution of the supposedly insuperable difficulty of which the destruction of the almshouses would be no solution, but merely a shamefully weak evasion.

Let us conclude with a practical suggestion which ought to have occurred to corporate wisdom before wasting money on a Parliamentary Bill that, if it meet with its deserts, will most certainly be summarily thrown out. Let the corporation, which would seem to have "money to burn," refrain from throwing it away on a scandalously discreditable Parliamentary Bill, and promote with it a town-planning competition, the results of which will, we are confident, solve the street difficulty, save the almshouses, and redound to the credit of a corporation that for the moment is incontinently coquetting with indelible disgrace.

J. F.

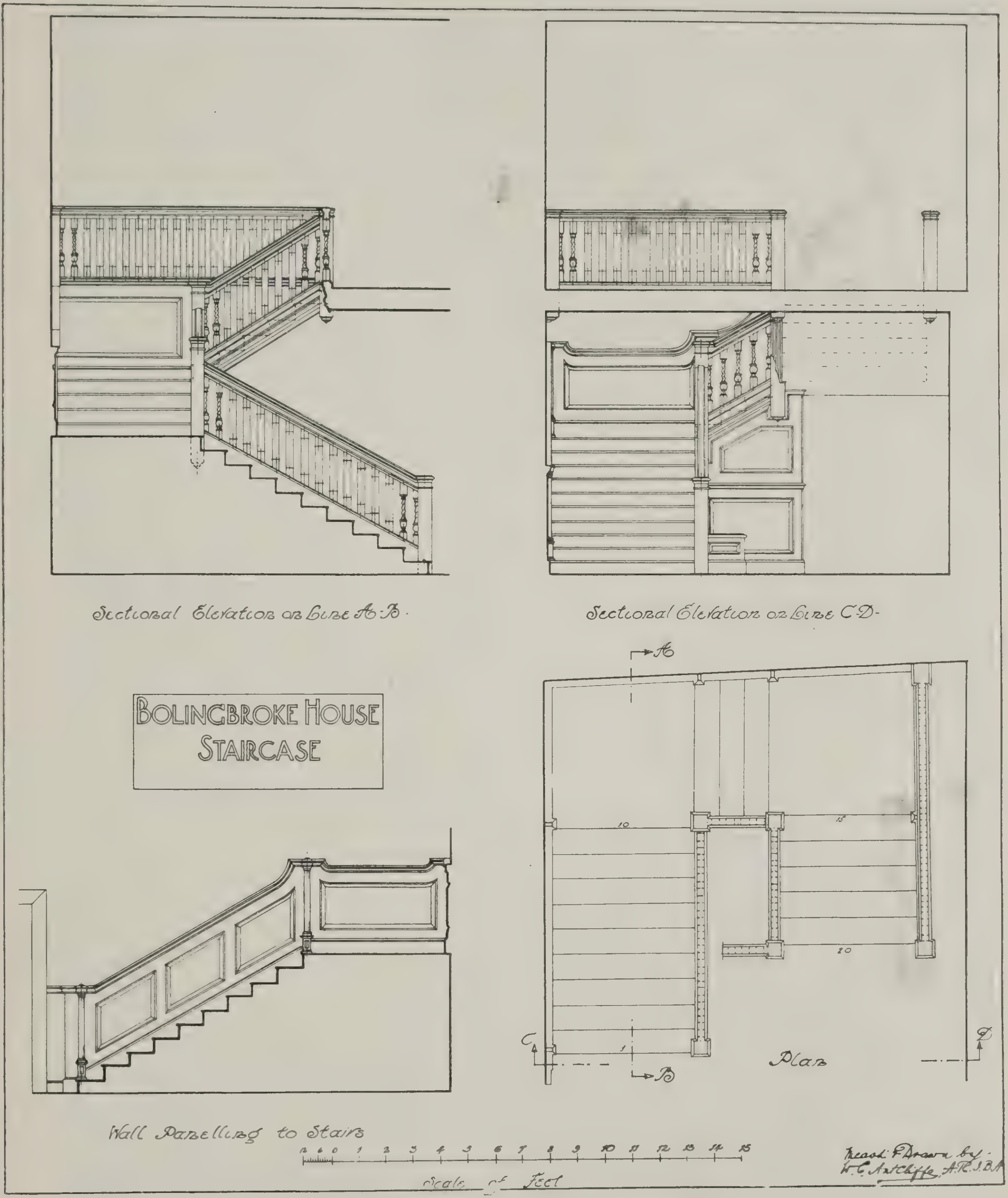


A SCHEME FOR SOLVING THE CROYDON TRAFFIC PROBLEM WITHOUT DESTROYING THE WHITGIFT HOSPITAL.

BY HAROLD WILLIAMS.

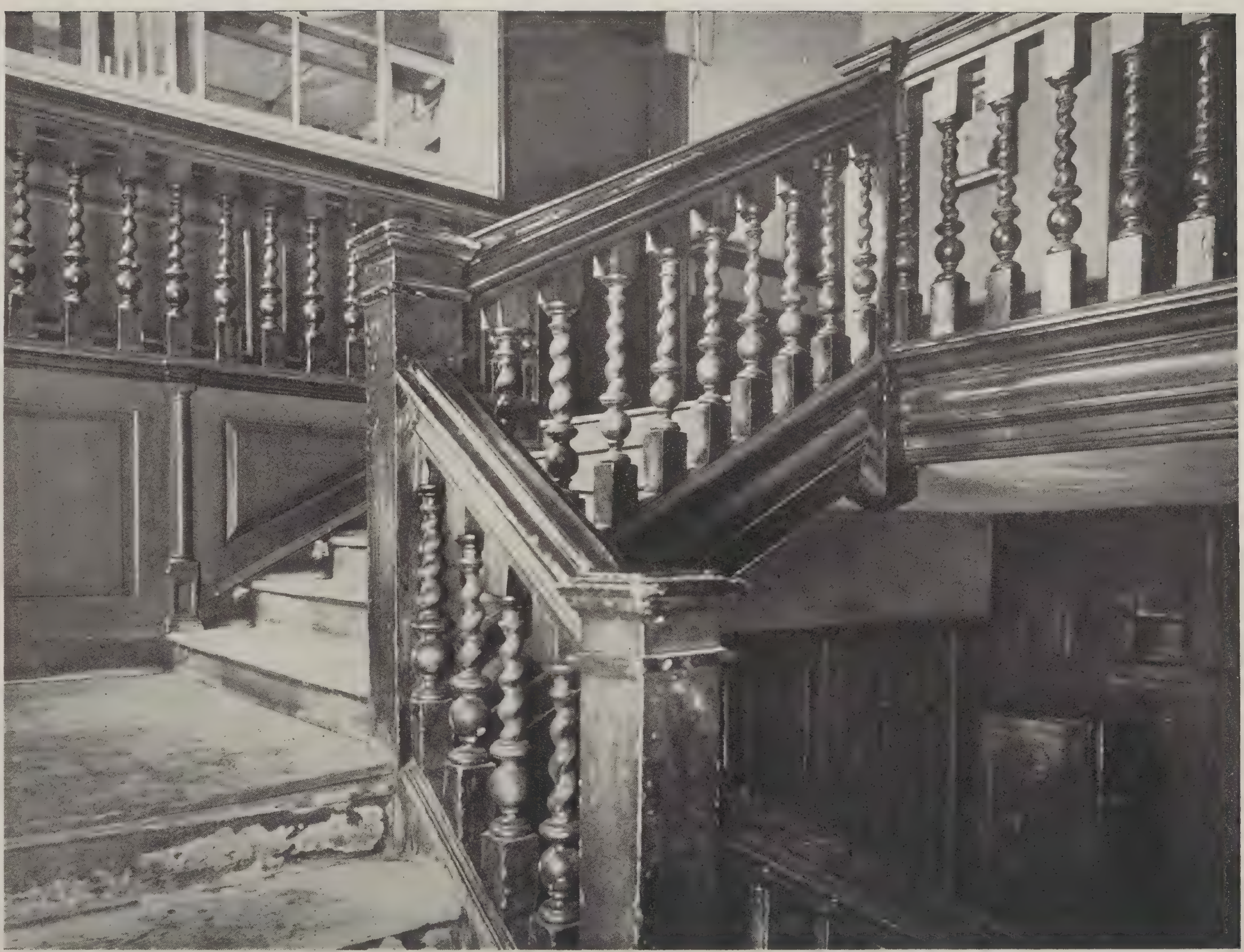
Measured Drawings. 16.—The Staircase at Bolingbroke House, Battersea.

Measured and Drawn by W. C. Antcliffe, A.R.I.B.A.



Bolingbroke House, as we have already recorded in these pages, is to be demolished, and there is reason to fear that the staircase which it contains—a remarkably fine specimen of early Renaissance design and craftsmanship—may disappear with it. We have therefore taken occasion to have the accompanying measured drawings prepared as a record.

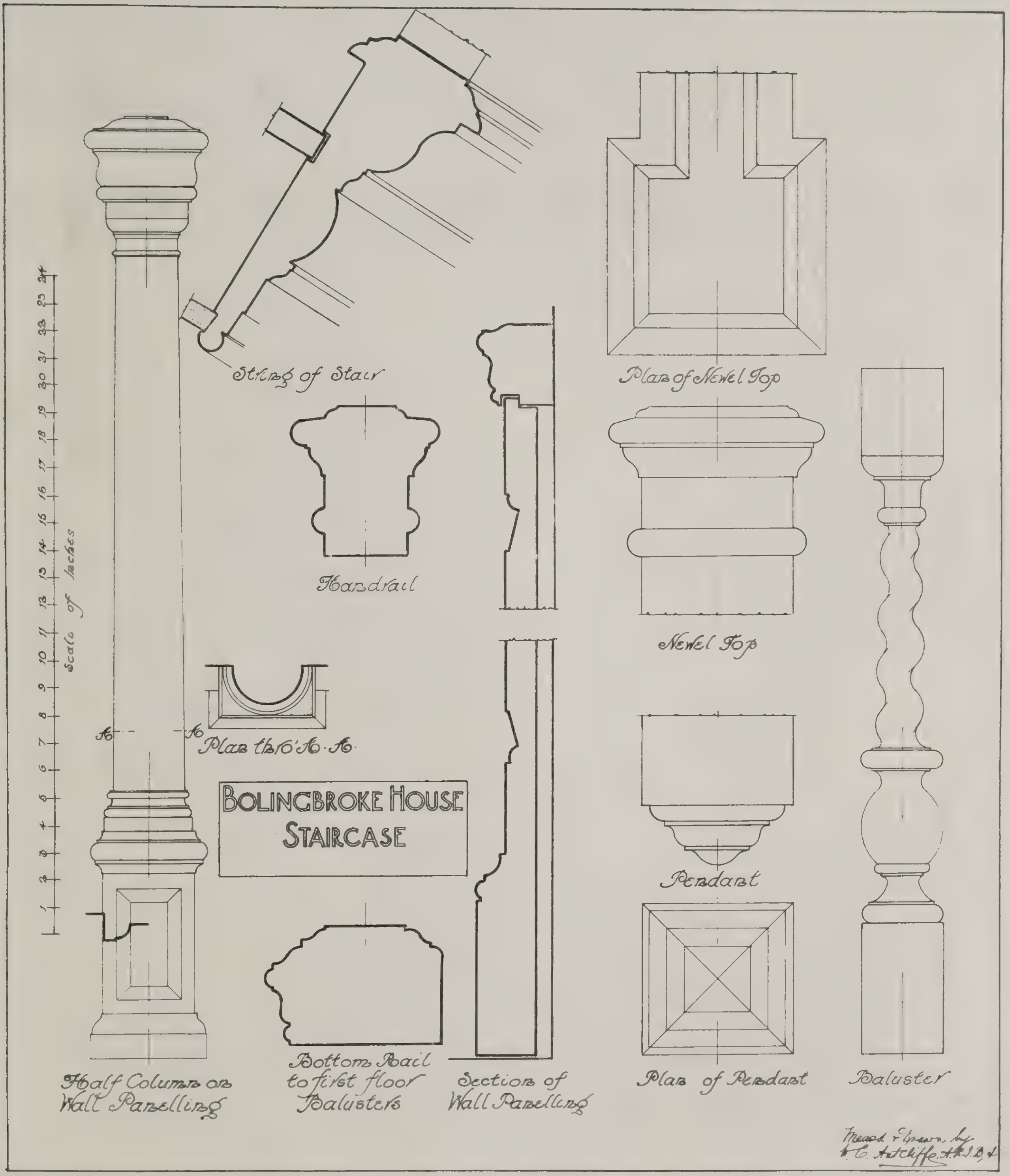
(*See also pages* 486, 487).



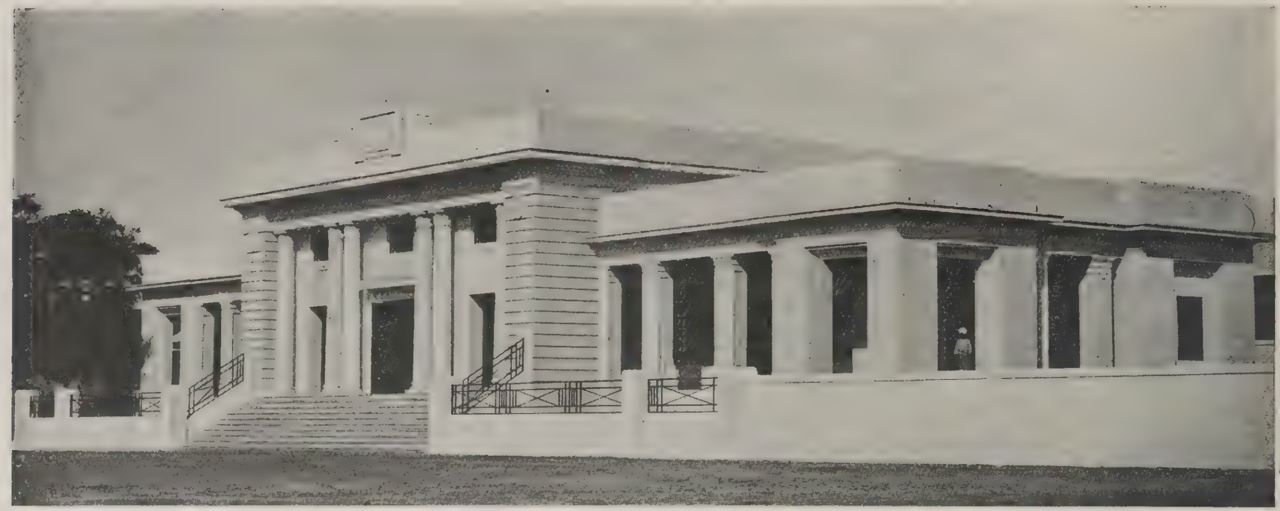
THE STAIRCASE AT BOLINGBROKE HOUSE, BATTERSEA.

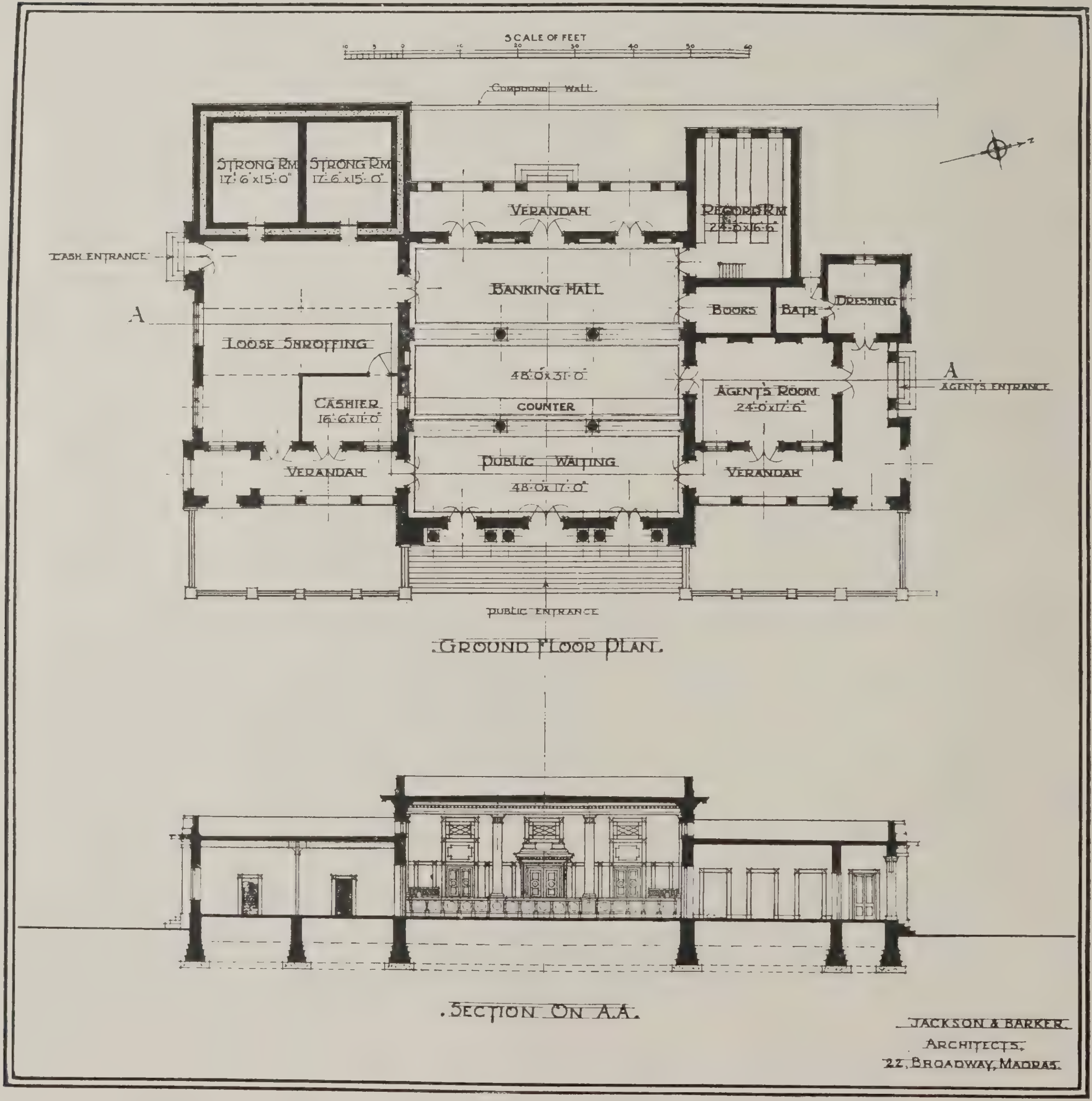
Measured Drawings. 17.—The Staircase at Bolingbroke House, Battersea : Details

Measured and Drawn by W. C. Antcliffe, A.R.I.B.A.



(*See opposite and also page* 485.)

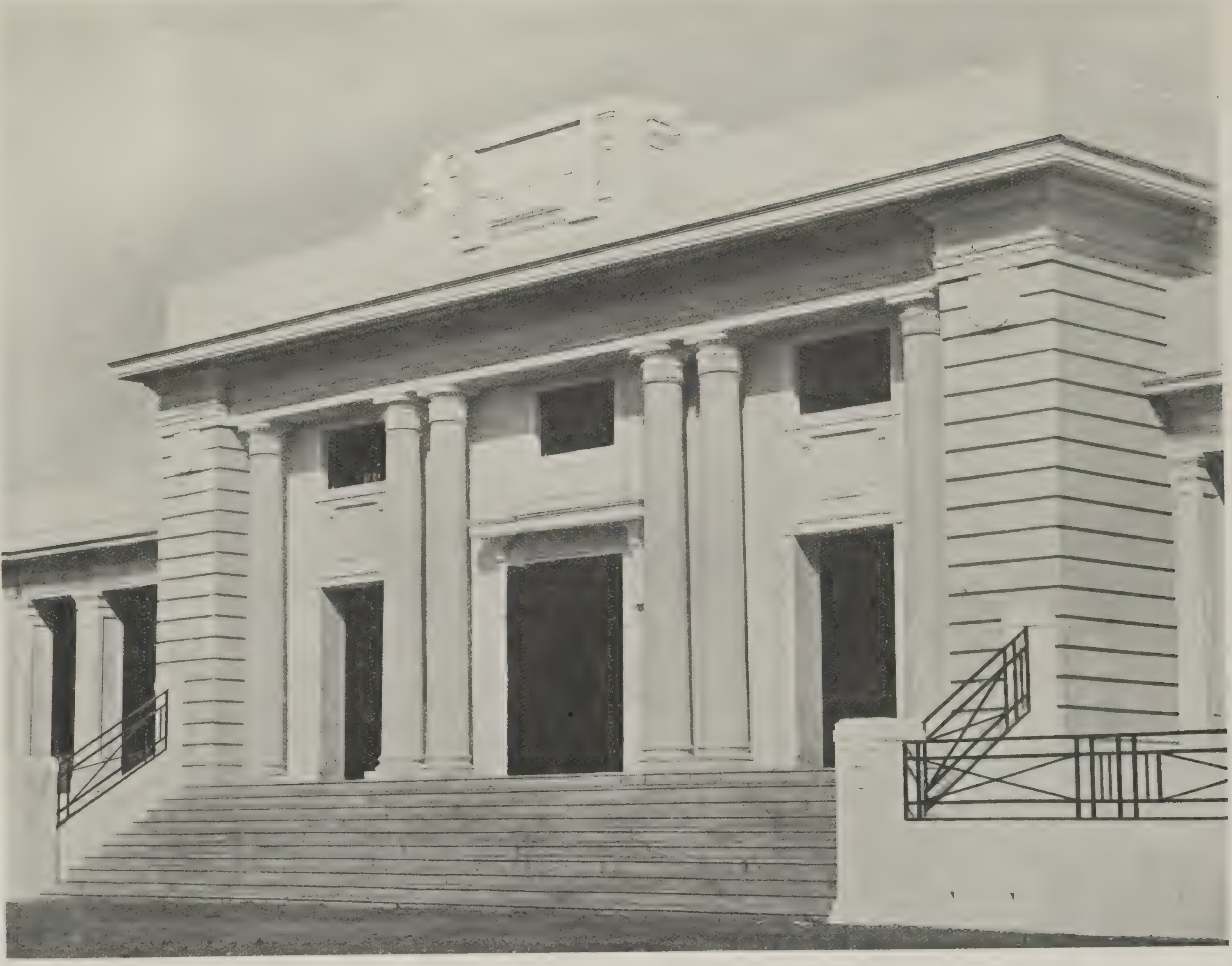




NEW OFFICES FOR THE IMPERIAL BANK OF INDIA, CUDDALORE. JACKSON AND BARKER, ARCHITECTS.

Current Architecture. 166.—New Offices for the Imperial Bank of India, Cuddalore

Jackson and Barker, Architects



This building, which has just been completed, consists of a central block containing the banking hall, with wings on either side providing accommodation for the administrative staff. The walls are constructed of brickwork faced externally and internally with fine polished Madras plaster. Some further particulars are given on page 498.

The Relaxation of Building By-Laws

IN view of the fact that the powers of local authorities under Section 25 of the Housing, Town Planning, etc., Act, 1919, have been extended by the Expiring Laws Act, 1922, to December 31, 1923, the Minister of Health has made fresh regulations with regard to the relaxation of building by-laws. Appended is the full text of the new regulations :—

These regulations may be cited as the Ministry of Health (Temporary Relaxation of Building By-laws) Regulations, 1922.

A local authority, notwithstanding the provisions of any building by-laws,[*] may, during the period for which Section 25 of the Housing, Town Planning, etc., Act, 1919, as extended by the Expiring Laws Act, 1922,[†] and by any subsequent enactments may be in operation, consent to the erection and use for human habitation of any building erected or proposed to be erected, which complies with the conditions set out in the schedule hereto.

The deposit to be received from a person appealing to the Minister of Health against the neglect or refusal of a local authority to give such consent as aforesaid, or against the conditions on which such consent is given, or against the decision of the local authority as to the period for which the building may be allowed to be used for human habitation, shall be the sum of ten pounds : provided that the Minister of Health may in any case, if he thinks fit, require a deposit of less than ten pounds or may dispense with a deposit.

The Interpretation Act, 1889,[‡] applies to the interpretation of these Regulations as it applies to the interpretation of an Act of Parliament.

Schedule.

CONDITIONS.

1. The whole ground or site of the building within the external walls shall, wherever the dampness of the site or the nature of the soil renders this precaution necessary, be covered with a layer of good cement concrete at least 4 in. thick finished shovel face.

2. (1) Each external wall of the building shall either

(*a*) to a height of not less than 6 in. above the surface of the ground adjoining the wall, be constructed of good cement concrete not less than 6 in. thick, or of brickwork composed of good whole bricks or stonework, all brickwork or stonework in the wall to be properly bonded and solidly put together with good lime or cement mortar and to be not less than 4½ in. thick ; or

(*b*) be carried at a height not less than 6 in. above the surface of the adjoining ground upon sufficient piers constructed of good brick, stone, or other hard and suitable materials properly bonded and put together, or of good cement concrete, or in the case of a building erected before the 13th October, 1919, and not subsequently re-erected, upon wooden piles or other supports of sufficient strength and in good condition.

(2) Each external wall or pier of the building shall rest on concrete or on some other solid and sufficient foundation.

(3) Every wall or pier of the building shall be provided with a proper damp-proof course of asphalt or slates laid in cement, or of some other durable material impervious to moisture, beneath the level of the lowest floor and of the lowest timbers, and at a height of not less than 6 in. above the surface of the ground adjoining the wall :

Provided that where application is made to a Local Authority for their consent to the use for human habitation of a building of a permanent nature existing at the time when the application is made and there are no signs of dampness in the walls and the soil is dry, the provision of a damp-proof course shall not be required if the following conditions are satisfied, namely :—

An impervious paving shall be provided outside the house at the ground level and adjoining all the external walls. This paving shall extend for a distance of at least 3 ft. from the walls, and shall be continuous with a skirting of impervious material carried up on the exterior walls for a distance of at least 6 in., and shall be sloped so as effectually to carry away all rain and waste water that may fall thereon from the walls of the house.

3. Every external wall of the building shall be constructed of good and suitable material and so as to be of sufficient stability and weatherproof.

4. The roof of the building shall be so constructed and supported as to be of sufficient stability and shall be covered externally with suitable fire-resisting and weather-proofing material.

Provided that it shall not be necessary to cover the roof with fire-resisting material if the following conditions are observed, namely :—

(*a*) The building shall not be of more than two stories in height and shall not comprise or form part of a block of more than four separate dwellings under one roof.

(*b*) (1) The building shall be distant

(i) at least 10 ft. from the boundary of its curtilage except at any point where its curtilage adjoins that of a dwelling-house forming part of the same block ;

(ii) at least 20 ft. from the nearest building, other than an outbuilding standing in the same curtilage, or a dwelling-house forming part of the same block ;

(iii) at least 30 ft. from the nearest public carriageway used or likely to be used for through traffic ;

(iv) at least 60 ft. from the nearest boundary of any railway on which steam engines are used.

(2) Every block of four dwelling-houses having a roof not covered with fire-resisting material shall be isolated by a distance of 60 ft. from any other dwelling-house having a roof not covered with fire-resisting material.

(3) Every group of four dwelling-houses having roofs not covered with fire-resisting material shall be isolated by a distance of at least 60 ft., every group of 24 such dwelling-houses by a distance of at least 180 ft., and every group of 96 such dwelling-houses by a distance of at least 540 ft., from any other such dwelling-house.

In this rule :—

A "group of four dwelling-houses" means any four dwelling-houses the buildings comprising which are so situated that there can be drawn, passing through all the buildings, a line on which the distance between one building and the next in succession is in every case less than 60 ft.

A "group of 24 dwelling-houses" means any 24 dwelling-houses the buildings comprising which are so situated that there can be drawn, passing through all the buildings, a line on which the distance between one building and the next in succession is in every case less than 180 ft.

A "group of 96 dwelling-houses" means any 96 dwelling-houses the buildings comprising which are so situated that there can be drawn, passing through all the buildings, a line on which the distance between one building and the next in succession is in every case less than 540 ft.

(4) For the purposes of this proviso all distances shall be measured horizontally to the nearest part of the building, other than the eaves or verge of the roof.

(*c*) Every chimney of the building shall be carried up to a height of not less than 5 ft. above the ridge of the roof in brickwork or other solid incombustible material, which, where the chimney passes through the material forming the roof, shall be not less than 9 in. thick and rendered externally.

5. Where the building is intended to form two or more dwellings, the dwellings shall be separated by solid partitions of incombustible material not less than 3 in. thick, carried up to the under side of the roof-covering and resting throughout their entire length on solid continuous walls which as regards construction and damp-proof course shall comply with the provisions of paragraph 3 of this Schedule :

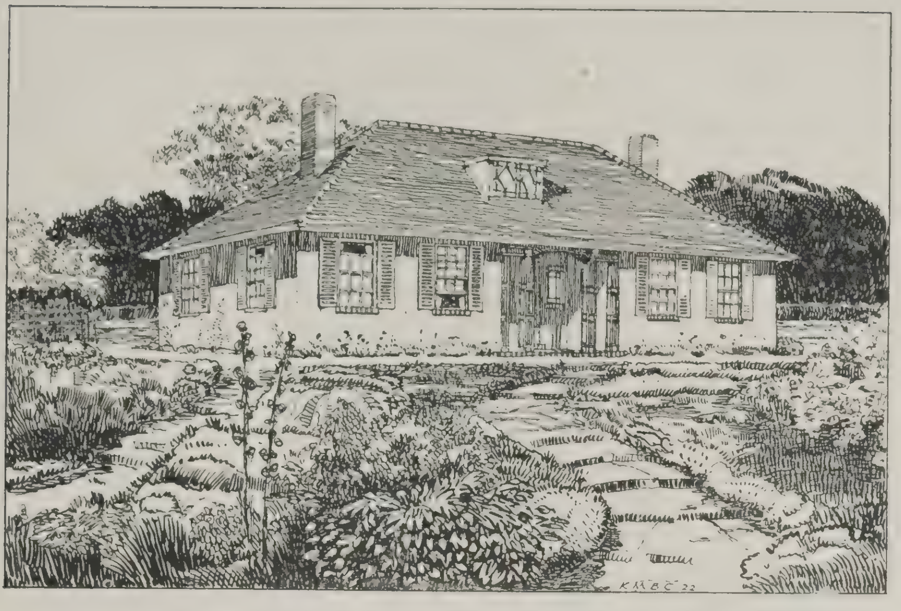
Provided that where any such partition is over an open passage between two dwellings it may rest on a sufficient arch or bressummer of fire-resisting material.

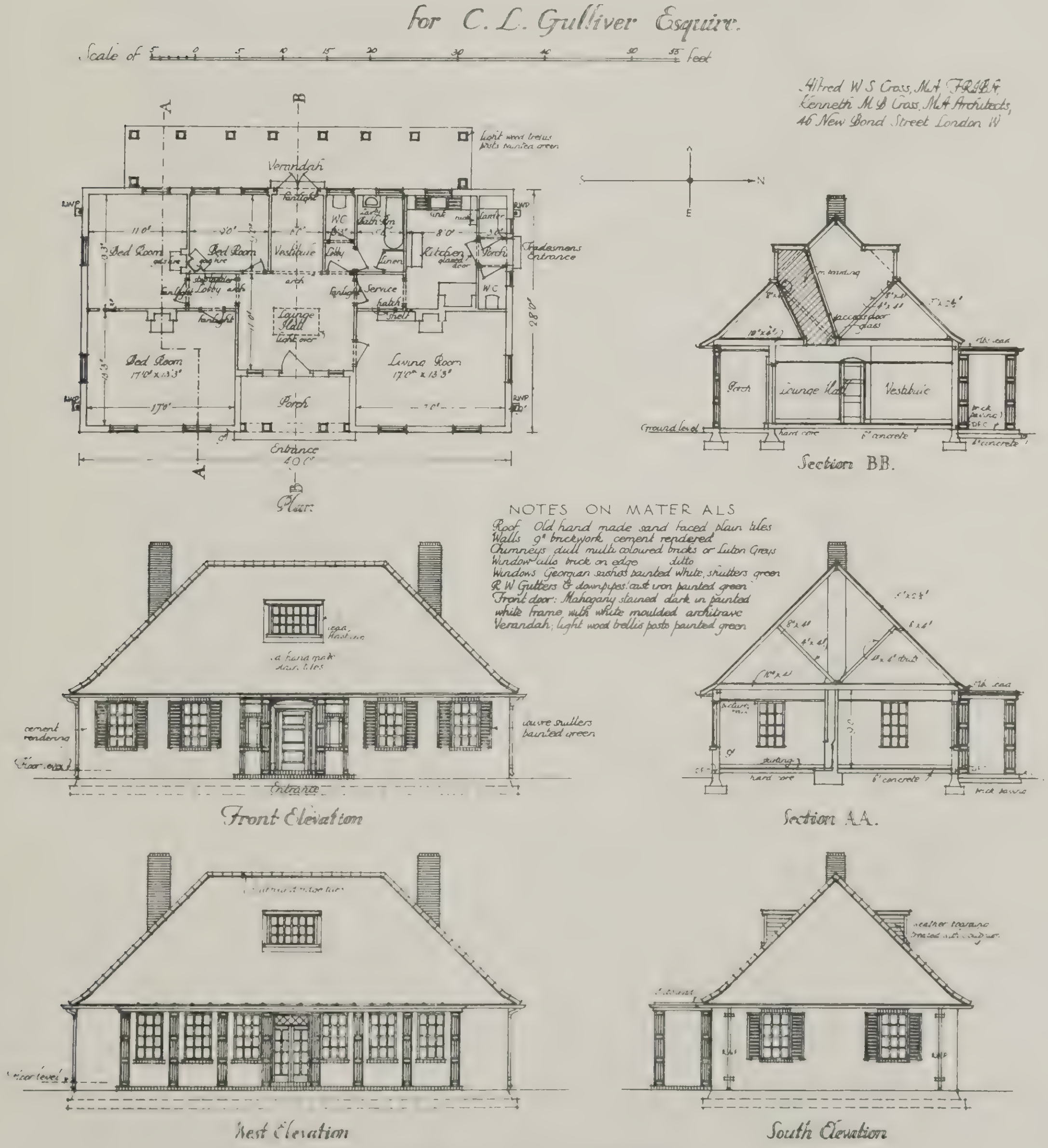
---

[*] Section 40 of the Housing, Town Planning, etc., Act, 1919, enacts that, for the purposes of Part I of the Act, the expression "Building by-laws" includes by-laws made by any local authority under section one hundred and fifty-seven of the Public Health Act, 1875, as amended by any subsequent enactment, with respect to new buildings including the drainage thereof and new streets, and any enactments in any local Acts dealing with the construction and drainage of new buildings and the laying-out and construction of new streets, and any by-laws made with respect to such matters under any such local Act.

[†] The Expiring Laws Act, 1922, extends the operation of this Section to December 31, 1923.

[‡] 52–3 V. c. 63





Alfred W S Cross, M.A. F.R.I.B.A.
Kenneth M B Cross, M.A. Architects,
46 New Bond Street London W

NOTES ON MATERIALS
Roof Old hand made sand faced plain tiles
Walls 9" brickwork cement rendered
Chimneys dull multi coloured bricks or Luton Greys
Window cills brick on edge ditto
Windows Georgian sashes painted white, shutters green
R W Gutters & downpipes: cast iron painted green
Front door: Mahogany stained dark in painted white frame with white moulded architrave
Verandah; light wood trellis posts painted green

A BUNGALOW AT BOXMOOR.

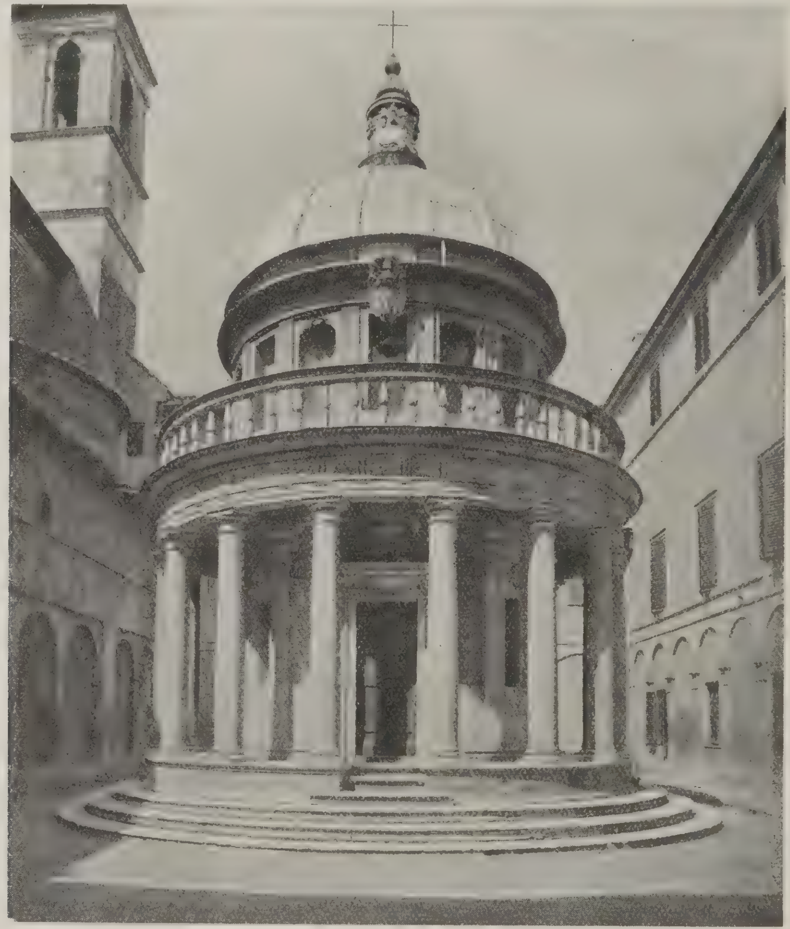
A. W. S. CROSS, M.A., F.R.I.B.A., AND KENNETH M. B. CROSS, M.A., ARCHITECTS.

STUDENTS' SECTION

The Orders and their Application by the Italian Masters

By CHARLES GOURLAY, B.Sc., A.R.I.B.A., F.S.A. (Scot.), Professor of Architecture and Building, The Royal Technical College, Glasgow

DURING the revival of learning in the fifteenth and the following centuries in Italy, several architects —Alberti, Vignola, Palladio, and others— generally known as the Italian Masters, began to appreciate Classic Roman architecture. They travelled to Rome, diligently sketched and measured the Classic buildings there, and, with the object of advancing architecture by disseminating a knowledge of the Orders which formed the groundwork of Roman architectural design, they wrote books in which drawings of the Orders were included, giving definite proportions for their successors to follow.



TEMPIETTO OF SAN PIETRO IN MONTORIO, ROME (1502).
BRAMANTE, ARCHITECT.

Although, for a time, these fixed proportions were largely accepted, yet such usage could not continue for any lengthened period, and for two reasons; first, because the human mind cannot be bound down to exact proportions and details, and secondly, because the proportions and details of each Order must be varied to suit the nature of the design.

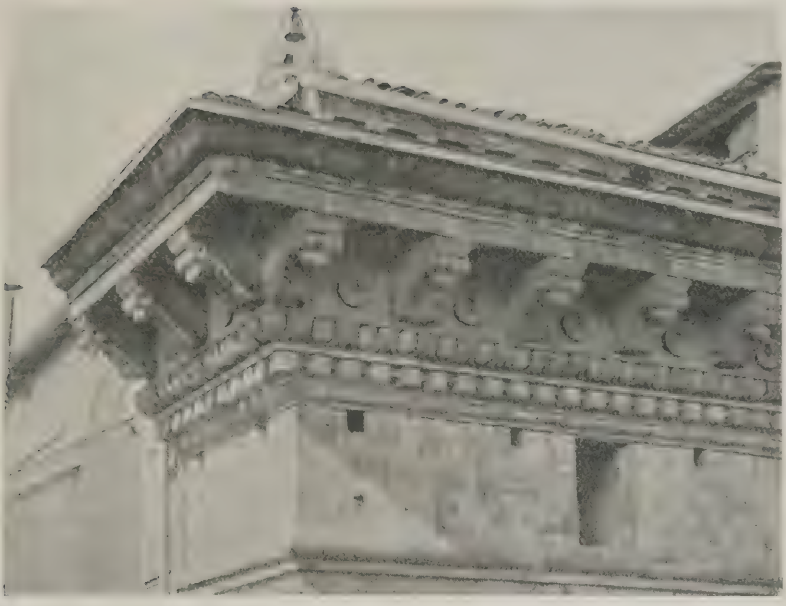
The true use of proportions and details of the Orders, as generally delineated in books, is for the training of the beginner in the sense of style, proportion, scale, and harmonious detailing, so that, possessing this knowledge as a groundwork, he may then proceed to the adaptation of the Orders to modern work under the guidance of his own sense of design.

The employment of an Order as a detached column set up as a memorial is a special application of the Order not dealt with in this article, the object of which is rather to emphasize the fundamental fact that the Orders should not be studied apart from buildings, because their application to buildings is the important point in the correct estimation of their value by architectural students.

The Tuscan Order is strong and bold in appearance, while the Doric is employed where an effect of strength and grandeur is desired. It is much richer than the Tuscan Order in that its shaft may be fluted, while its frieze is ornamented with triglyphs and guttæ, the metopes between the triglyphs being sometimes carved, although they are generally left plain in modern work.

The theatre of Marcellus, Rome, built about 23 B.C., is a design in which the Doric and Ionic Orders are applied decoratively to an arch system of construction. The Italian Masters, especially Vignola, based their Doric and Ionic Orders chiefly upon those in this building. Indeed, the bay design of this theatre influenced the development of the Orders during the Renaissance probably more than any other Classic building; and, because of the dignity of its design and the beauty of its details, still exerts a powerful influence in the design of large public buildings.

The Ionic is a more delicate Order than the Doric. While being graceful in its general form, it has a majestic effect when employed on a large scale on a façade. A fine example of its use is the Temple of Fortuna Virilis, Rome, dating from about 100 B.C. The weakness of the design of the capital of the Ionic Order consists in that its volutes



AN EARLY RENAISSANCE CORNICE, PALAZZO DEL GOVERNO, SIENA (1469–1500).
BERNARDO ROSSELLINO, ARCHITECT.

show only on front and back of the capital, its sides having bolster-shaped features, which do not always harmonize with the volutes. Hence the best way to use the Ionic Order is to place it between pilasters which have moulded capitals, for under such circumstances the side of the capital is seen in composition with that of the pilaster, and a successful result is attainable.

Owing to the difficulty of obtaining a satisfactory design by the use of the Ionic capital, efforts have been repeatedly made to execute a capital having its four sides all similar. This is done when, in plan, the central lines of the volutes project at the four corners at the 45 deg. angle, and as this type was preferred by the Italian Master, Scamozzi, it is generally called after him.

The portico of the Pantheon, Rome, dating from about 27 B.C., though re-erected in the second century of our era as it now stands, is one of the finest examples of the Roman Corinthian Order, and must have greatly influenced the work of the Italian Masters. The Corinthian Order is the most slender and delicate, also the finest in composition, of all the Orders. Only the capital of this Order may be carved, but the Order is generally employed with many of its other members ornamented, in which case a remarkably rich effect is produced.

The Arch of Titus, Rome, dates from A.D. 81, and is one of the earliest examples of the Composite Order, which is so-called chiefly because its capital is composed of the lower part of the Corinthian capital crowned by the Scamozzi type of Ionic capital. Its general proportions are similar to those of the Corinthian, below which it is placed by Chambers and some other authors, because its parts are fewer and its general effect bolder. But it is just because of these characteristics that it should rather be placed above the Corinthian, for it is then higher up and further from the eye at ground level, where a less refined detailing is required, and the minute members of the Corinthian would be too small.

There are no rules for the placing of one Order above another. Each story may be designed by itself, and then fitted, so to speak, the one on the top of the other, the several stories being properly proportioned to one another at the same time.

When it is desired to have arches above arches as well as Orders above Orders, it is necessary firstly to design the intercolumniation of the Orders; then, beginning at the lowest story, to design its arcade according to the Order employed; next, to do the same for the second story, generally keeping the opening the same width as that below, and so on, keeping in mind both the design of the arcade itself and its relation to the rest of the elevation.

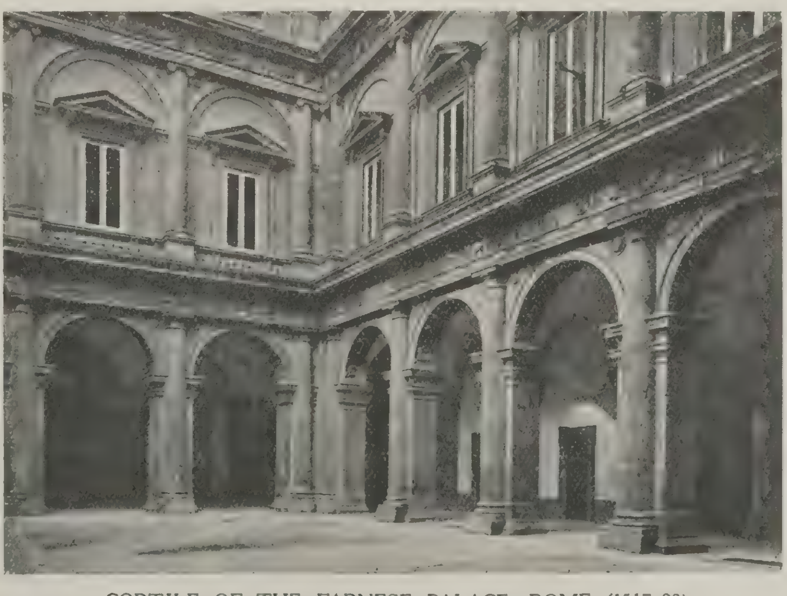
The finest example now remaining of the Classic Roman combination of arcades with the Orders and of their super-position is the noble, magnificent, and most effective design of the exterior of the Colosseum, Rome, which was begun in A.D. 72, the lower three stories being executed by A.D. 82, and the topmost story, completing the design as it now stands, in A.D. 222–244.

One of the finest of Italian Renaissance examples of such a composition is the loggias surrounding the Basilica at Vicenza, which were designed by Palladio and erected between A.D. 1550 and A.D. 1614. The lower arcade is here placed on a shallow step, while the upper is raised upon a pedestal, and thus the heights of the two stories are nearly equal.

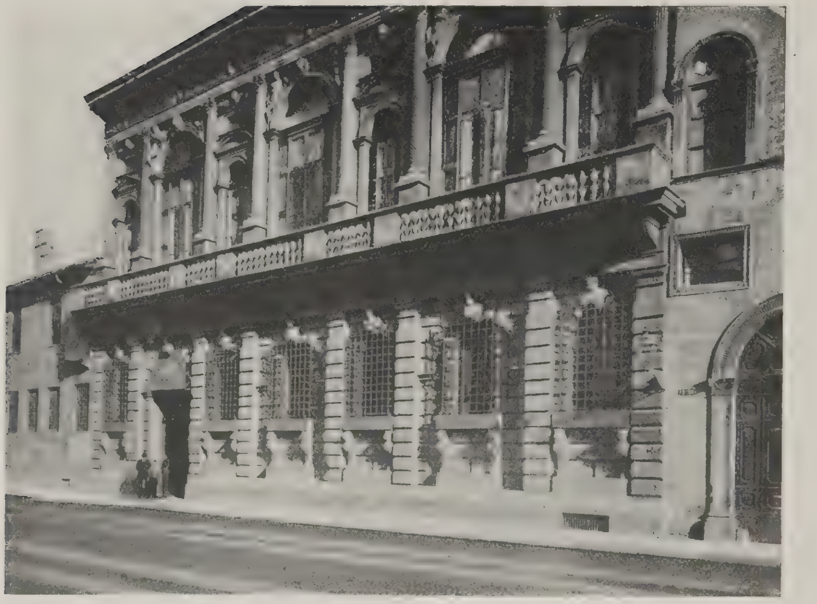
The Orders being merely the elements of expression in modern Classic architecture, it is in their application that the real value of a knowledge of them lies. The method of teaching the Orders now general is for students to make designs in which the Orders are employed. This way brings the student into contact with the difficulties which arise in the application of the Orders. But this method of teaching should be supplemented by the student's study of buildings erected by the Italian Masters, and if these are studied chronologically, they will enable him to observe how the Orders were used throughout the Renaissance to give varied architectural expression in design.

In early Italian Renaissance design the Order as such is often omitted, but the sense of an Order pervades the whole design. An example is the Palazzo del Governo, Siena, by Bernardo Rossellino, dating from A.D. 1469–1500. This palace is in a narrow street, and its crowning cornice is its chief feature. It is admirably adapted to the building, and it is very beautiful, but its proportions are very different from those given by the Italian Masters. The corona is remarkably narrow, and the modillions exceptionally large. The dentils are square-shaped in elevation and the egg-and-dart is not placed axially with them as it should be.

The façade of the Town Hall, Brescia, begun about 1489 by Formentone, should be considered as consisting of two parts, a lower and an upper, which are not well combined. The lower story, forming an open loggia, is one of the most beautiful compositions of its kind, but the actual opening is squat in proportion; while the jambs have been made as broad as possible to counteract this weakness. The Order is here placed on the ground level. The upper story has flat pilasters and is



CORTILE OF THE FARNESE PALACE, ROME (1517–80).
ANTONIO DA SAN GALLO, ARCHITECT.



THE BEVILACQUA PALACE, VERONA (1530).
SAN MICHELE, ARCHITECT.

quite on another scale from the lower one, but it has fine windows.

In the Tempietto of San Pietro in Montorio, Rome, by Bramante, dating from 1502, we have a masterly design, based on the Roman circular temples, in which the beautifully detailed Doric Order governs the whole and forms a singularly harmonious composition. There is not an extravagant or unsympathetic feature in the design.

The Corinthian Order doorway from the Palazzo Prosperi, Ferrara, built about 1521 by Baldassare Peruzzi, is one of the finest palace doorways in Italy. The proportion of the opening is very good as it has a height equal to twice its width. The columns are rather short, being only 9½ instead of 10 diameters in height, while the pedestal is low. The face of the broad jamb is finely treated by pilasters which carry the archivolt, and the entablature appears to be heavy, but the cupids sitting on the corners give a playful effect to the whole design.

In the façade of the Farnese Palace, Rome, by Antonio da San Gallo, 1517 (but the top story and cornice were added by Michelangelo in 1580), we have three equally high stories, each of which is marked horizontally by string courses, while the façade is made one harmonious whole by its great crowning cornice. The Orders are here used only as enrichment to the windows; those of the lower story stand on pedestals, and those of the uppermost story on brackets.

The two lower stories of the Farnese Palace Cortile, Rome, by San Gallo, show a close study of the Marcellus Theatre, Rome. The lowest story is an open loggia of the Doric Order, well and boldly designed, but the impost mouldings of the arcade are too heavy and tend to break the lines of the columns too much. The middle story is an Ionic Order arcade, which is filled in and occupied by finely proportioned and detailed windows, each one being crowned by a triangular pediment. The top story, by Michelangelo, has Corinthian pilasters dividing its bays, also windows having segmental pediments.

The design of the beautiful façade of the Bevilacqua Palace, Verona, by San Michele, dating from 1530, is remarkable because of the way in which strong features are combined with slender ones in its composition, as in the rusticated jointing of the piers below, and the delicate balcony above; while the fine deep shadow of the upper story aids materially in binding the whole design together. Generally Italian buildings are set out with equal bays, but they are unequal in this instance, and this is emphasized by the strong lines of the central and end columns and the slender effect of the wreathed columns between.

In the Palazzo Cornaro on the Grand Canal, Venice, by Sansovino, dating from 1532, the lowest story is double, is rusticated, and has attached Doric columns to its lower windows. The two upper stories resemble one another in design, having coupled columns, the lower of the two being Ionic and the upper Corinthian. The keystones of the arches project boldly and support the architrave between the columns. Oval-shaped windows are employed in the frieze of the top cornice. The whole design is flat in comparison with that of the Bevilacqua Palace at Verona, but it is a very dignified and, indeed, academic design.

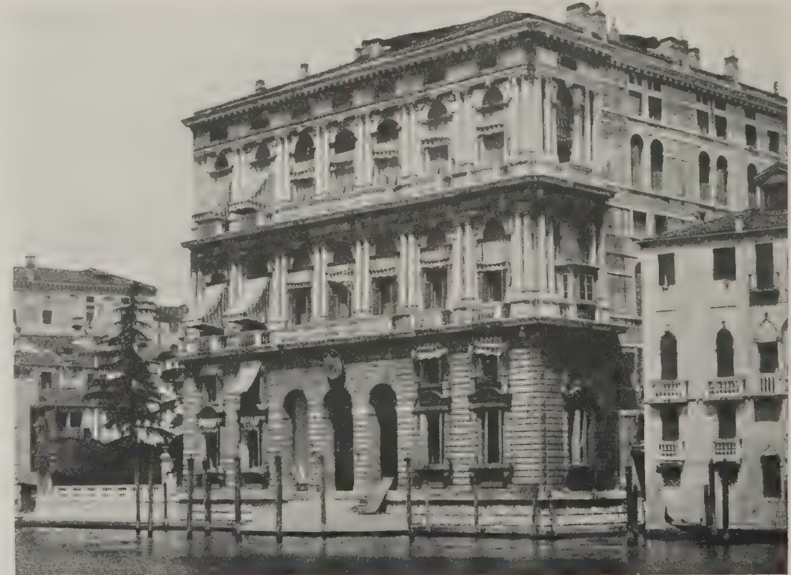
(*To be continued.*)

R.I.B.A. Special War Examination

The Special War Examination of the R.I.B.A. will be held for the last time from December 11 to 15. Testimonies of study, forms of application, etc., should be submitted by November 4. Examination centres will be announced in due course. Relegated candidates will be required to take the ordinary examinations of the Royal Institute if they desire to qualify for the Associateship.

Northampton Polytechnic Institute

We have received from the Northampton Polytechnic a copy of the educational and social announcements for the session 1922–3. The Duke of Connaught, K.G., is president of the Institute, and the principal is Mr. R. Mullineaux Walmsley, D.Sc., F.R.S.E. The courses of the engineering day school are organized in two departments, namely, civil and mechanical engineering and electrical engineering. In each of these departments the work consists of lectures, exercise classes, laboratory work, drawing office and workshop practice, and for these purposes the Polytechnic is equipped with the most recent apparatus and tools, and the instructors are experts in the several branches of the work. The Polytechnic is one of the "qualified institutions" from which students can be presented as "internal students" for the engineering degrees of the University of London, and the civil and mechanical and the electrical engineering courses are recognized by the University. Mr. C. E. Larard, M.Inst.C.E., M.Inst.M.E., M. Iron and Steel Inst., Wh. Exh., is head of the civil and mechanical engineering department, and Mr. Walmsley and Mr. F. M. Denton, A.C.G.I., M.I.E.E., A.Am.I.E.E., are associate heads of the electrical engineering and applied physics department. A copy of the announcements may be obtained from the Northampton Polytechnic Institute, St. John Street, E.C.



PALAZZO CORNARO DELLA CA' GRANDE, VENICE (1532).
SANSOVINO, ARCHITECT.

Reinforced Concrete Calculations for Beginners. I

By Prof. HENRY ADAMS, M.Inst.C.E.

THERE is no doubt that many young engineers, architects, and builders, and possibly older ones, too, have started on the road to master reinforced concrete, but have been turned back by the forbidding look of the formulæ. It is unfortunate that the usual calculations are somewhat formidable, and any attempt to reduce the difficulties should find a welcome in many quarters.

Reinforced concrete, or ferro-concrete, consists essentially of slabs, beams, and pillars, in which concrete and steel are used in conjunction, the tensile stresses being taken by the steel and the compressive stresses chiefly by the concrete. It may be desirable to explain to beginners what is meant by tensile and compressive stresses, and a little illustration will make this clear. If we take a piece of pine 1 in. square and 3 ft. long, or, better still, a piece of india rubber 1½ in. square and 1 ft. long, which any rubber manufacturer will supply, and mark parallel lines equidistant across one face, we shall have Fig. 1. If we now support this at each end and place or hang a weight on the centre we shall have Fig. 2. By careful measurement we shall find the parallel lines are now closer together at the top and further apart at the bottom than they were originally, showing that the upper portion is compressed, or under compressive stress, while the lower part is stretched, or under tensile stress. At some intermediate distance, say half the depth, it will be found that the distance apart of the lines is unaltered, showing that the material there has been neither compressed nor stretched. This is, therefore, called the neutral layer, or more usually the neutral axis, and marked NA.

Just the same action goes on in a reinforced concrete beam, but it is not so easy to distinguish the movement as the deflection under a load is so slight. There is this difference also, that the steel rods which are placed near the bottom to take the tensile stress are very much stronger than the concrete, so that the neutral axis will not now be at the middle of the depth, but at a level which will depend upon the percentage of the reinforcement.

When the concrete is stressed to 600 lb. per sq. in., and the steel to 16,000 lb. per sq. in., which are the authorized stresses, and the proportion of steel to concrete is ·675 per cent., the neutral axis will be ·36 of the effective depth below the upper surface. This is the percentage that gives the greatest economy in a slab or simple beam, but it cannot always be adhered to. The steel rods are not put quite at the bottom as they must have some cover to protect them in case of fire, and on this account the effective depth of the beam is measured from the upper surface to the centre of the steel rods. In any question of strength it is the effective depth that must be taken into account, as, for example, in calculating the percentage of reinforcement. Suppose, for instance, we have a reinforced concrete beam, 12 in. wide and 24 in. total depth, with $\frac{3}{4}$ in. steel rods having 1 in. cover of concrete below them, the effective depth will be $24-1\frac{3}{8}=22\frac{5}{8}$ in. If there are four $\frac{3}{4}$ in. rods each having a sectional area of ·4417 sq. in., the percentage of reinforcement will be

$$\frac{\cdot 4417 \times 4 \times 100}{22{\cdot}625 \times 12} = \cdot 65 \text{ per cent.}$$

If there had been four $\frac{13}{16}$ in. rods each having a sectional area of ·5185 sq. in., the effective depth would have been

$$24-1-\frac{13}{32}=22\frac{19}{32}, \text{ or } 22{\cdot}59375 \text{ in.}$$

and the percentage of reinforcement

$$\frac{\cdot 5185 \times 4 \times 100}{22{\cdot}59375 \times 12} = \cdot 765 \text{ per cent.}$$

So that to get the exact percentage for maximum economy something between $\frac{3}{4}$ in. and $\frac{13}{16}$ in. would be the required diameter of the bars, say, $\frac{25}{32}$ in.

(*To be continued.*)

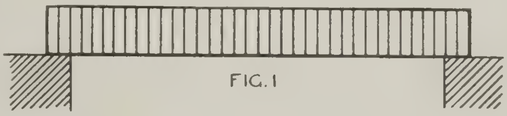


FIG. 1

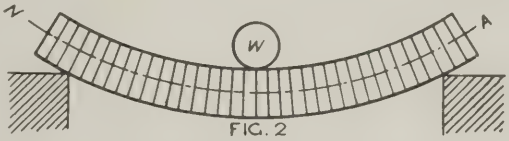


FIG. 2

Courses in Architecture

University College, London

Applications for admission to the atelier of the Bartlett School of Architecture at University College, London, for the study of advanced architectural design, should be sent to Professor A. E. Richardson, F.R.I.B.A., as early as possible. The new building in Malet Street for the atelier, presented by Messrs. Goodman and Lorden, will be available in October. The atelier will be open to those who have obtained the degree of Bachelor of Arts (Architecture) in the University of London, to those who have obtained the Certificate of Architecture of the School, and to others who have reached a standard of efficiency approved by the director. Applications for admission should be accompanied by statements of qualifications. The qualifications of each applicant for the use of the atelier are considered by Professor Richardson and submitted for the final approval of the Provost. Subjects will be set once a month, and the finished schemes are judged at the end of each month. There will also be twelve-hour subjects and other competitions. The fees are as follows: Annual subscription for membership, £1 1s.; fee for each monthly subject, £1 11s. 6d.

At the Bartlett School of Architecture the following courses of study are provided: The B.A. (Architecture) degree course of the university; the certificate course in architecture; the diploma course in architecture; advanced design class; evening courses in design and academic design; certificate course in town planning; diploma course in town planning and civic architecture; and diploma course in town planning and civic engineering.

The degree, diploma, and certificate courses are arranged to provide students with that systematic, practical training which is approved and recommended by the Board of Architectural Education of the R.I.B.A. Exemption from its Intermediate Examination is granted by the R.I.B.A. to students who receive a first class college certificate, and from its final examination (qualifying as Associate R.I.B.A.) in all subjects except professional practice, to students who obtain the degree or diploma. The courses of the school of architecture are not intended to supersede pupilage, although the terms of pupilage are generally modified considerably to students who have passed successfully through them. The degree course possesses the additional advantage of enabling students to continue their general studies up to the level of the Intermediate Examination of the University concurrently with commencing their professional training. The advanced design course affords students the opportunity of exercising their imagination on problems of considerable size, and of planning and designing on a large and dignified scale.

The department of town planning provides systematic courses of training for architects, engineers, and surveyors who desire to acquire expert knowledge in the laying out of towns. The courses of study in the University have the approval of the Town Planning Institute, and exemption from the qualifying examinations of the Institute are granted to candidates who have obtained the University Diploma in Town Planning.

In the degree course in estate management, town planning has been made an optional subject and courses in the department are arranged to meet the needs of students entering the estate management degree course. In the degree course in architecture, town planning is one of the subjects to be taken in the fourth and fifth years.

Architectural and engineering students who have already had their general training in architecture or engineering, as the case may be, are advised to proceed to a course in town planning. Students entering for one of the full courses, each of which leads to a certificate, must satisfy the Professor that their previous training has been sufficient to enable them to follow and profit from the course. The lectures and courses include town planning, civic architecture and landscape design, town furnishing, planting, municipal engineering, and municipal law.

The staff of the University is as follows :—

Architecture : A. E. Richardson, F.R.I.B.A., professor; Arthur Stratton, F.S.A., F.R.I.B.A., reader in architecture; Martin Briggs, F.R.I.B.A., lecturer in building construction; James Burford, A.R.I.B.A., assistant; J. D. M. Harvey, B.A., assistant; A. Stanley Furner, A.R.I.B.A., assistant; E. P. B. Musman, B.A., A.R.I.B.A., assistant in the Evening School.

Town Planning : S. D. Adshead, M.A., F.R.I.B.A., professor.

Engineering, Municipal : M. T. Ormsby, A.M.Inst.C.E.I., Chadwick professor.

Engineering, civil and mechanical : E. G. Coker, M.A., D.Sc., M.Inst.C.E., F.R.S., professor; A. H. Barker, B.A., B.Sc., lecturer, heating and ventilating engineering; E. Sprague, A.M.Inst.C.E., senior assistant.

Painting and Sculpture : H. Tonks, Slade professor; T. Borenius, Ph.D., professor, history of art; W. W. Russell, A.R.A., assistant professor; P. W. Steer, assistant professor; G. Thomas, assistant (sculpture).

Archæology : E. A. Gardner, Litt.D., Yates professor.

Hygiene and Sanitation : H. R. Kenwood, C.M.G., M.B., D.P.H., F.R.S.E., professor; A. G. R. Foulerton, F.R.C.S., D.P.H., lecturer; M. E. Delafield, B.A., M.B., B.C., M.R.C.S., L.R.C.P., D.P.H., assistant and lecturer.

Technical College, Cardiff

The Department of Architecture and Civic Design of the Technical College, Cardiff, is "recognized" by the R.I.B.A., which grants exemption from its own intermediate examination to students who pass successfully through the three years full-time (day) course. It is the stated policy of the R.I.B.A. to extend this exemption in the case of approved fourth and fifth year courses to the major portion of their own final examination. Full-time students in the department are eligible for the "Archibald Dawnay" scholarships. The candidates for these scholarships are nominated by the various "recognized" schools of architecture, the final selection being made by the Board of Architectural Education of the R.I.B.A.

The Principal is Mr. Charles Coles, B.Sc.(Lond.). The head of the department is Mr. W. S. Purchon, M.A., A.R.I.B.A. (Member of the R.I.B.A. Board of Architectural Education), and the assistant lecturer is Mr. R. H. Winder, M.A., A.R.I.B.A.

The following courses in architecture are provided :—

1. Degree Course. Joint courses as between the technical college and the University College of South Wales and Monmouthshire, leading in the case of matriculated students to degrees, have been provisionally approved. These courses consist of (a) Full-time (day) courses of study of three years' duration; (b) Full-time (day) courses consisting of two sessions of six months each.

2. Certificate course. This three years' full-time (day) course has been arranged for students who, not having matriculated, are unable to take the degree course. An entrance examination for the certificate course is held and the results of this examination accepted by the R.I.B.A. in registering candidates as probationers.

3. Diploma course. A full-time (day) course consisting of two sessions of six months each following the above.

4. Part-time day courses in architecture consisting of approved parts of the above courses and suitable for pupils already in architects' offices and others who are unable to take a full-time course of study; they are required to attend regularly, and to take the terminal and sessional examinations in the subjects they are studying.

5. Civic design. Students who have passed through an approved course of architectural training, and who have reached a sufficiently high standard may attend full-time or part-time day courses of studio work in civic design.

6. Evening atelier. Wednesdays, 6.15–8.15 p.m., with four-hour subjects (5.30–9.30 p.m.) about once a month. The object of the atelier is the provision of facilities for the study of architectural design and draughtsmanship for architects' assistants who cannot attend day courses, and who have passed through three years' articles or other approved training. The assistant lecturer conducts the atelier under the general supervision of the head of department, and the South Wales Institute of Architects (Cardiff Branch) has appointed Mr. Percy Thomas, F.R.I.B.A., to act as a visitor to co-operate with the staff of the department of architecture and to criticize the work in progress.

Scholarships, covering tuition fees and maintenance grants of £40 per annum for three years, are offered for competition to residents and non-residents of Cardiff, the examination being held in the last week of September each year.

An advisory committee, consisting of representatives of the technical instruction committee and representatives elected by the South Wales Institute of Architects, has been formed in connection with the above courses.

Contemporary Art

The Paintings of Mrs. E. Granger-Taylor

IT will always redound to the credit of the Grosvenor Galleries that they should have given the public such an excellent opportunity of seeing the work of this very talented artist. The exhibition of her works—now shown comprehensibly for the first time—is likely to make a lasting impression upon an easily jaded public. In this case, however, the impression is sure to be more lasting. Every accomplishment of technique and every endowment of vision is here, and those, in their variety and sureness, are bound to gratify the artistic sense of any one sincere and keen enough to enjoy not merely that which is obviously brilliant in technique, but that also which is rarely conceived.

It is indeed probable that Mrs. Granger-Taylor will leap into comparative fame with this exhibition of hers. Critics are, we are told, people with a recondite sense of genuine appreciation, but most of those on Press view day were ungrudging in their praise of the work submitted. Those who didn't relish her oil paintings could make it up with her pastels, and such as were left untouched by the wizardry of the pastels could be found who had a good, a very good, word to say for the water colours.

Perhaps the medium which this gifted lady wields with greatest ease and mastery is pastel. It may well be that comparisons are an idle and fruitless pursuit, but it will serve the purpose, I think, to say that Mrs. Granger-Taylor's pastels have a similarity of presentation to those of Professor Henry Tonks. They have the same effortless ease; the same depth of tone; the same objectivity. They are alike in texture, alike in allurement. They are so gushing and fresh. "Pink Jumper" (I, II, and III), "The Game" (66), or "Evening Sunlight" (58) are great accomplishments in the medium. In all of them, as indeed in all this artist's work, one notices at once a daring and consistent love of colour, bright and thurgistic harmonies, fearlessly blended, daringly juxtaposed, and surely affixed. It is so sincere and direct, and as it was first seen and conceived and executed, so with almost the same shock of verity and freshness, it fixes itself upon our astonished understanding. This kind of painting and drawing is good to see, and anyone fortunate enough to be conversant with it, in however passing a fashion, will be the richer for the æsthetic experience it will give.

Other works betray the influence of John. When I say "betray" I do the artist an injustice, as I am assured that the work, the ways, and wonder-fancies of her contemporaries are but seldom considered or entertained by her, certainly not consciously so. Be as it may, there is nevertheless a touch of John in some of her work. "Flannels" (78), "The Top of the Hill" (90), the "Striped Shirt" (82) will do, as instances. All very jolly, all instinct with life, the elemental life of happy, energetic people, of people with sap in their body and a will and a smile in their eyes. And lastly, there is a touch of that great genius, the mad and sublime Il Greco, in some of Mrs. Granger-Taylor's lesser works. It is unmistakable though faint; though seldom so, it does occur, and to the more esoteric element in the public, it makes a cogent appeal. "An illustration" (92), and especially "Gossips at the Gateway" (104), and "The Haughty Ladies" (103) bring that home.

Go and see them and you will receive in the doing little stabs of joy so often as you go from one drawing to the next, stopping and wanting to share your pleasure, and all the while those little stabs will drive home in you the joy of fine painting, the happiness of its power, and its ascendency over the more gossamer-like and rare qualities that lie in most of us.

Water-colours by Holmes, Alexander, and Hartwick

At the same galleries are to be seen water-colours by Sir C. J. Holmes, R. G. D. Alexander, and A. S. Hartwick, R.W.S. All are well able to make claims upon our pleasurable senses, but in varying degrees. There is no denying that Sir Charles, besides being a very successful director of the National Gallery, is also a water-colourist of talent, of great talent. His strength is that of lucidity and utter clearness. As I went round taking in many of the finesses of these fine landscapes, two ladies at the back did the same thing audibly, and the younger one crystallized one of their indubitable qualities when she said that all these water-colours "seem so simple and so clean." Clean is the word. They are clean. Sir Charles is no mystic or obscurantist. He sees a fine bit of landscape with an unerring eye for its possibilities. Then one conceives him sitting down at once and at once fixing the thing without any ambulation, and the power that is in the man comes out, and also his convictions and also his subtleties. "Moughton Fell" (6), "Grayrigg Forest" (7), the "Valley of St. John" (17), and "Above Seathwaite" (36), with its diagrammatic clearness, are particularly happy examples.

The standard of these forty-eight water-colours is very high, and it is due to the artist's conviction that water-colour work, for landscape at any rate, could have no surer or better guidance than that of our early water-colourists. Though totally different, they yet resemble them in their English vigour and sincerity. They are able. Sometimes dour, but always delightful. They should all be seen.

G. HOLT.

The Week's News

Town Hall for Greenwich.

The Greenwich Borough Council are considering the erection of a town hall.

Pithead Baths.

At Ellington Colliery the first pithead baths in Northumberland are to be erected.

Wandsworth Roadmaking.

To relieve unemployment, Wandsworth is to spend £72,000, making-up and paving seventeen roads.

Housing at Port Talbot.

Port Talbot Town Council are arranging to build parlour type houses at £450 each.

Monmouth Electricity Undertaking.

It has been decided to expend £6,000 upon improving and substantiating the town's electricity undertaking.

Berwick Developments.

Berwick Town Council have decided to establish a meteorological station in the Flagstaff Park at a cost of about £100.

Housing at Croydon.

Plans for over 150 new houses were approved at the last meeting of the Croydon Borough Coucil.

Restoration of a York Church.

The lantern surmounting the tower of All Saints, Pavement, York, has been restored under the supervision of Mr. George Benson.

Proposed New Pavilion for Bournemouth.

The Corporation are applying to the Ministry of Health for sanction to a loan of £100,000 to erect a new pavilion near the pier.

Southport School of Art.

Mr. Gordon Hemm, of Liverpool, architect, has been appointed to take charge of the evening department of architecture at the Southport School of Art.

The English Bridge at Shrewsbury.

As an alternative to the widening of the historic English Bridge at Shrewsbury, the town council are considering a proposal for a new bridge.

Housing at Bentley.

The Bentley Urban District Council have received the sanction of the Ministry of Health to loans of £15,000 for housing and £2,250 for street improvement and the acquiring of land.

Public Baths for Malvern.

Mr. A. J. Taylor, F.S.Arc., V.P.S.A., of Bath, is architect for the new public baths for the Malvern Urban District Council.

Barking Town Hall.

Barking Council refuse to bear the cost of restoring the historic Old Town Hall, and unless private funds are forthcoming it will be pulled down.

Oil Works for Cardiff.

A scheme has been prepared to establish oil works at Cardiff docks. The prime mover in the scheme is Mr. L. V Curry, of New York.

The International Theatre Exhibition.

The International Theatre Exhibition has been removed from the Victoria and Albert Museum to the Manchester City Art Gallery. The exhibition was opened by Sir John Martin Harvey.

Change of Address.

Mr. W. Braxton Sinclair, F.R.I.B.A., 31 Charing Cross, Whitehall, announces that his offices are now at 8 Buckingham Street, Adelphi, W.C.2. Telephone, Gerrard 1722.

The Chelsea Church Discovery.

The panel of fourteenth-century stained glass recently brought to light at Chelsea Old Church is now on exhibition for a short time at the Victoria and Albert Museum in Room 136 on the second floor.

Eastbourne's £13,000 Scheme.

Eastbourne Town Council has decided to proceed with the extension of the sea wall at Holywell, and the erection of additional bathing chalets at a cost of £13,000.

New Factory for Southampton.

Southampton Town Council have decided to sell the Millbrook waterside site to the Ford Motor Company for £5,500 without conditions for the erection of a factory.

Lincolnshire Church Extension Scheme.

There is urgent need of church extension in the ironstone area of North Lincolnshire. The clergy of the diocese have passed a resolution calling upon the General Committee to issue an appeal for funds. The cost is estimated at £50,000

Bournemouth War Memorial.

The war memorial which is being erected in the Upper Pleasure Gardens, just opposite the new Town Hall, is to be ready by November 11 for unveiling. It is to be the centre of a "temple of memory."

Ancient City Organ Rebuilt.

First built by Renatus Harris in 1703, at a cost of £350, the organ at All Hallows, Lombard Street, has just been rebuilt and enlarged, owing to the generosity of a worshipper at the church, who wishes to remain anonymous.

Bournemouth Tramways.

The reconstruction of the three remaining portions of the tramway track is to be proceeded with almost immediately, and the Ministry of Transport are to be asked to sanction a loan of £65,000 for this purpose.

Charterhouse Memorial.

Direct labour is to be employed in the construction, at Charterhouse, of a new chapel, designed by Mr. Gilbert Scott, R.A., as a memorial to Carthusians who fell in the war.

War Memorial at Durham.

Work has begun on a war memorial for the Esh Winning Miners' Lodge, Durham. It will comprise a concert hall, small hall, institute, billiards and games rooms, reading room, library, gymnasium, and small swimming bath. The cost is £8,750. Mr. J. A. Robson, of Langley Moor, Durham, is the architect, and the constractors are Messrs. E. R. Davison and Sons, Blaydon on Tyne.

New Tube Contract.

A contract for £258,468 has been signed between the London Underground Electric Railways and the Foundation Company, of Windsor House, Kingsway, W.C., for the building of the second portion of the Hampstead Tube extension, between Hendon and Edgware.

Hastings Music Pavilion.

The Town Council have decided to ask the Ministry of Health for sanction to the expenditure of £65,000 upon the erection of the music pavilion. It has been decided that the late Earl Brassey's Indian Museum should not be embodied in the building.

Nottingham New Park Gateway.

Nottingham City Council have approved the spending of £17,400 on a memorial gateway, 45 ft. high, with three arches, which will form the entrance to a park given by Sir Jesse Boot, on the bank of the Trent. The total scheme will cost £50,000.

Hull Housing Scheme.

The Hull Corporation Health Committee have approved the New George Street Housing Scheme. The Ministry of Health is prepared to grant £2,000 towards any deficiency in the carrying out of the scheme; 180 houses are to be erected on a site to be cleared of tenements condemned as unfit for human habitation.

Sir John Soane's Museum.

Sir John Soane's Museum, 13 Lincoln's Inn Fields, W.C.2, will be open free of charge during the hours of 10.30 a.m. to 5 p.m. on Thursdays and Fridays during October, and from 10.30 a.m. to 4 p.m. on those days during November. The special exhibition of the models and drawings of the Bank of England, which aroused so much interest in August, will be continued during the winter season.

The Institution of Structural Engineers.

On October 19 the Concrete Institute will hold an extraordinary meeting to confirm the resolutions, passed at the last meeting by 110 votes to 13, to change the name of the Institute to that of the Institution of Structural Engineers. In our issue for Sept. 20 we dealt with the reasons for the change of title and published the resolutions to be put to the meeting. A section of the new Institution will be devoted to concrete construction.

New Custom House for Hankow.

Plans for the new Custom House at Hankow, China, have been prepared and work on the foundations has begun. The building designed is a granite-faced structure, a conspicuous feature of which will be a central clock-tower some 150 ft. high, and it will be erected on the enlarged site at the extreme southern end of the British Bund on which the temporary Custom House (old British Municipal building) formerly stood.

The Palladian Bridge, Wilts.

We are asked to state that the photographs of the Palladian Bridge, Wiltshire, illustrated in our issue for September 13, were taken by Mr. R. H. Turner, who also assisted Mr. C. J. W. Lindley in measuring the structure.

Manchester Town Planning Exhibition & Conference

The town planning exhibition and conference, convened by the Manchester and District Joint Town Planning Advisory Committee, and now being held at the Manchester City Hall, is one of the most important ever held in this country. At the conference some of the foremost town planners are reading papers, and the exhibition includes maps, diagrams, and models showing the growth of, and the town-planning proposals with regard to, various towns in this country, in America, and on the Continent. Among those reading papers are Sir Henry Maybury, Professors P. L. Abercrombie and S. D. Adshead, Alderman T. Turnbull, and Messrs. H. H. Humphries, Ebenezer Howard, F. M. Elgood, George L. Pepler, E. G. Culpin, J. G. Gibbon, and Thomas Adams. The Committee represents over seventy local authorities, and covers an area of about 700 square miles.

New City Building

Sir Edwin Lutyens, R.A., is the architect of the new building for the Anglo-Persian Oil Company. The sites of Nos. 1-6 Finsbury Circus, 2 and 3 West Street, and 34-40 (even) Finsbury Pavement, including the superstructure site of Moorgate Station, and part of South Place Mews, have been purchased by the company for itself and its affiliated companies. The new building will provide over 120,000 ft. of floor space, which is necessary in order to avoid the use of different buildings in various parts of the City. It will be possible to concentrate the staff in the new building. The site, approximately an acre, possesses the advantages of an outlook over the open space of Finsbury Circus, and a long main road frontage in Finsbury Pavement. The centre of that frontage is exactly a quarter of a mile from the Bank of England.

The real development of the Moorfields district began about the year 1812, but it is in the last twenty-five or thirty years that it has attained first-rate importance. The Circus and neighbourhood now contain big blocks, including Salisbury House, London Wall Buildings, and Finsbury Pavement House.

British Empire Exhibition

At York House the Prince of Wales has met Sir William Meyer, High Commissioner for India, Mr. F. Noyce, Trade Commissioner, and Dewan Bahadur Vijayaraghava Achariya, the Indian Government's Commissioner to the British Empire Exhibition, and discussed with them India's share in the 1924 exhibition. His Royal Highness was shown photographs of the designs for the Indian and Burmese buildings to be erected at Wembley, and said he had seen the site and the models of the buildings on his last visit to Wembley, and had then expressed his admiration of the designs The Prince questioned the Exhibition Commissioner as to the arrangements which are being made in the different Indian States, and, on hearing that the Commissioner came from the Province of Madras, expressed the hope that the splendid handicraft which he had seen there would be worthily represented, and also that a fine show would be made by India representative of her greatly increasing modern industrial development. Speaking to Sir William Meyer, the Prince said he had been greatly impressed with the quality of Indian timber, and the use made of it for decorative purposes, and hoped that the fine hard woods and the finished products would be prominent at the exhibition.

List of Competitions Open

Date of Delivery.	Competition.
Oct. 31	Essay Competition. "The TrueFunction of the Technical Assistant in the Building Industry." Prize £5 5 0. Essays to the Secretary, Architects' & Surveyors' Assistants. Professional Union, 36 Victoria St., S.W. 1.
Nov. 1	Labour saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C.4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
Jan. 15	Hospital for a typical small community in America. Competition open to all Architects. Premiums $500, $300, and $200. Apply The Modern Hospital Publishing Company, Inc., 22 E. Ontario Street, Chicago, Ill. Closing date for applications, November 15.
March 31	War Memorial for Port Said, Egypt, to the memory of the soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during 1916, 1917, and 1918. Premiums: 250 guineas, 100 guineas, and 50 guineas. Apply High Commissioner for Australia, Australia House, Strand, W.C.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.
No Date	War Memorial at Birkenhead. Cost not to exceed £4,000. Premium 75 guineas. Assessor Major Gilbert Fraser, M.C., F.R.I.B.A. Apply Town Clerk, Birkenhead. The competition is open to all architects and sculptors of Birkenhead, Liverpool, and Chester only.

New Offices for the Imperial Bank of India

These offices (see pp. 488–9) have been erected at Cuddalore, South India, from the designs of Messrs. Jackson and Barker, of Madras.

The walls are constructed of brickwork, finished internally and externally with fine polished Madras plaster. The strong rooms are of reinforced concrete. The whole of the joinery is of Burmah teak, and the floors to the banking hall are of polished Cuddapah slabs.

The total cost of the main building at the present rate of exchange amounted to £5,000, which works out at a little over 6d. per cubic foot.

The general contractors were Messrs. E. C. Richards and Sons, of Madras. The roofs were constructed by the Kleine Patent Construction Co. (India), Ltd.—Agents, Messrs. Ewing & Co., Ltd. The cast-iron railings and grilles were executed by the St. Elizabeth Iron Works, Pondicherry. The whole of the labour employed was Tamil.

Photographing Noise

At the request of the Underground Railways Professor Low, of the Low Engineering Company, has recently carried out experiments to determine the cause of the unavoidable noise which one hears on the Underground Railways when the trains are in motion in the tunnels, and to devise means of reducing this noise to the lowest possible limit.

Professor Low first conducted experiments in the laboratory. These took the form of vibration tests on a miniature tube containing a microphone connected to shock-recording instruments. Having by this means gained some experience as to where to look for the cause of noise, he then set out to examine the railway cars themselves, and quickly located several causes. On the M.D.R. the design of the bogies or wheel-trucks under the cars was found to be one of the chief causes of noise. On the tube lines it was found that the roofs of the cars, which are constructed with an outer shell, formed a hollow chamber in which "noise" was greatly magnified. The windows were also sufficiently large to cause vibration, and consequently noise. Other minor causes contribute to add to the development of sound.

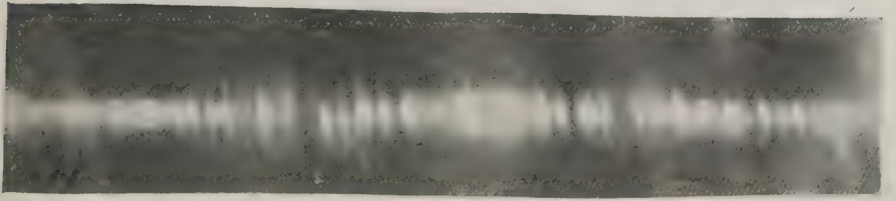
These sources of noise having been established, steps were then taken to eliminate them. The hollow roof was filled with asbestos. The windows were provided with a centre strut, thus dividing them into smaller panes, and a kind of wooden hood was fitted over the wheels in order that the noise created by their contact with the rails should be forced higher up the sides of the tube and above the level of the ventilator windows through which it formerly came. Thus equipped, the train was set in motion. The results were astonishing. It was found possible to conduct a conversation in ordinary tones from one side of the car to the other. Again, whereas in the ordinary tube car it was found impossible to hear the ticking of a watch held closely to the ear, in the experimentally soundproofed car the watch could be heard when held a foot away.

One of the most remarkable pieces of apparatus used in the course of the investigation was an instrument called an audiometer, invented by Professor Low. This instrument actually photographs noise, and by its aid it was a simple matter to visualize the results and determine the extent of their success.

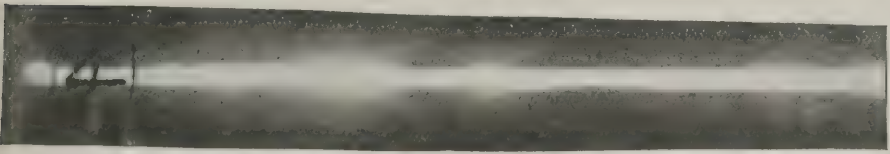
We show herewith some examples of photographs taken. One illustrates the sound record of an ordinary Hampstead line tube car before steps were taken to reduce noise. Observe the irregular nature of the vibrations and their great length.

The bottom photograph is a sound record of the same car after having been equipped with devices for the reducing of sound. The reduction in the width of the vibrations and their regularity clearly indicates how far success was attained. The results of the experiments are now being closely considered by the Company.

THE AUDIOMETER "NOISE CAMERA."



SOUND RECORD OF A TUBE CAR BEFORE NOISE REDUCTION.



SOUND RECORD OF THE SAME CAR AFTER EQUIPMENT WITH NOISE REDUCING DEVICES

The Glasgow Housing Exhibition

The Glasgow Housing and Health Exhibition, now open at Kelvin Hall, Kelvinside, surpasses all previous exhibitions in both the number and the variety of the exhibits. It is the fourth exhibition to be promoted by the Glasgow Corporation, and many new features have been introduced. There are model houses, and a large number of exhibits showing the very latest ideas in building materials, decoration, furnishing, and labour-saving, cleaning, and other appliances. The Glasgow Corporation are well represented and all the departments have displays which show in a convincing manner what is being done to-day by the corporation in the interests of the people. Other special features are a competitive exhibit of amateur and professional photographic work, and one of competitive work by artisan and craft workers. In our last issue we published a description of the model houses, and this week we give the following particulars of some of the more important exhibits :—

British-Canadian Export Co., Ltd. (of Canada) and Associated Companies, G. E. W. Crowe, Agent, 83 Pall Mall, London, S.W.1. At this stand is shown the "Easiwork" kitchen dresser, which combines in one fitment a dresser, a large working table, and a commodious cupboard. Many different types of the "Easiwork" are available, and several models are on show. By its use considerable space may be saved in planning houses and tenements. A complete kitchen-scullery is possible in the small space of 7 ft. by 8 ft. The "Barnet" refrigerator (the new hygienic food storage) and the "Easiwork" porcelain table —a new kitchen table which requires no scrubbing—are also shown.

The Adamite Co., Ltd. (Roemmele, Webb & Co., for the Adamite Co., Ltd.), 28 Royal Exchange Square, Glasgow, are exhibiting "Colemanite" concrete hardener and waterproofer. This is a chemical liquid compound which is added to the gauging water and creates a very hard dense concrete. It is stated that a trowelled "Colemanite" surface is so hard and so closely knit together as to be dustless, impervious to oils and greases and to the action of most acids. "Colemanite" is used in a multitude of ways, and for nearly twenty years has had a good reputation. It is easy to use, and it is claimed that a one-inch sand-cement plaster (one-cement two-sand), which has been gauged with water to which "Colemanite" has been added, produces an ideal factory or warehouse floor at an added cost of less than one shilling per yard super. Specimen work is exhibited

Allan Ure & Co., Glasgow, are makers of the back-to-back living-room grate and scullery cooker, as supplied to London County Council, Glasgow and Manchester Corporations, and other local authorities. This grate does all kinds of cooking efficiently, and a hot bath can be had in one hour after kindling. The back-to-back oven can be heated with gas and a tip-up grill and ring can be fitted on hob. The company manufacture ranges, registers, interiors, mantel registers, railings, and general light castings. The showrooms of the company are at Springbank Foundry, 355 Keppochhill Road, Glasgow.

"Ronuk" Limited, of Portslade, Sussex, are showing "Ronuk" sanitary polishes for floors, furniture, linoleum, boots, leather, motor cars, etc., etc. The "Ronuk" home polisher, a practical and thoroughly serviceable polisher for home use, is also shown. It is brush, duster, and polisher combined. Visitors should make a point of seeing this labour-saving appliance demonstrated.

The Falkirk Iron Co., Ltd., 34 Bothwell Street, Glasgow. At this stand the latest designs of kitchen, living-room, and other fittings suitable for bungalow houses are to be seen. The exhibits include the "Thermostove" independent boiler, which has an attractive open fire, giving large supplies of hot water for all purposes. The firm also show their latest design of gas cooker, the "Smooth-top," and their three most successful living-room grates, the "Osborne," the "Trent," and the "Compax."

Rippers, Limited, 165 Gray's Inn Road, London, W.C.1, exhibit kitchen and office furniture, movable dressers, cupboards, and chair ladders.

William Maclean, Sons & Co., 127 St. Vincent Street, Glasgow, are showing "Sylvadure" wood preservative, to prevent dry-rot and decay in wood, "Dixie" disinfectant, "Jax" soap powder, and "Washing Kola."

Ewart and Son, Limited, 346-350 Euston Road, London, N.W.1. The exhibits on this stand are as follows: the "Victor" geyser, a cheap and efficient bath heater; the "Royal" geyser, for use where water is hard; the "Lightning" geyser—supplies hot or boiling water for any purpose required, is "foolproof," fitted with patent automatic safety dual valve and improved swing-out burner; the "Califont," which supplies hot water to any number of taps throughout the house; the "Ever-ready" boiler, which supplies boiling water for restaurant and factory use; the "Brilliant" geyser, for lavatory basins and kitchen sinks; the "Victor" geyser, with shower attachment and cast-iron porcelain enamelled receiver, for factory use; the "Radion" cylinder, with heat-controlling valve for domestic hot-water supply; improved nickel-plated hot-water circulating towel rail for wall; Ewart's improved "Euston" independent towel rail, gas heated; porcelain enamelled baths of high quality and finish; Ewart's improved basin bath for housing schemes; sanitary fittings, etc.

The exhibition closes on October 21. Music is being provided daily by H.M. Scots Guards and the Glasgow Professional Orchestra.

Samples of Malayan Woods in London

The Forest Authorities of the Federated Malay States are giving the users of commercial woods an opportunity of making personal acquaintance with the products of the Malayan forests. A few cabinets of samples have arrived at the offices in Cannon Street of the Malay States Information Agency, where they may be obtained. Each cabinet contains seventy samples, 4 in. by 3 in. and ½ in. thick, and each sample is named and initialled by Dr. F. W. Foxworthy, Forest Research Officer, Federated Malay States. The samples are smooth, but unpolished, and it is thus possible to appreciate the beautiful grain of some of the woods and to judge their suitability for cabinet or other woodwork. A full description of the woods is given in Dr. Foxworthy's bulletin, "Commercial Woods of the Malay Peninsula," also obtainable at the Agency. The bulletin contains other information likely to be of service to the trade. Tables show the specific gravity of the various woods, as well as the dry weight and seasoned weight in pounds per cubic foot, and a chapter is devoted to the possible uses of the woods under varying conditions.

A New Weather Bar for Windows and Doors

Messrs. Fredk. Braby & Co., Ltd., of Glasgow, have recently introduced a patented weather bar—known as the "Eclipse"—which may be applied to any single or double leaf casement or door opening inwards. Its parts are few and simple, it is automatic in action, and has no springs.

The "Eclipse" bar is screwed to, and occupies the full length of, the bottom rail of the window or door, and operates in association with two small fittings. One of these is a cam lever fixed to the outer reveal of the window frame, and the other—a plate with one edge cut on the slope—is sunk flush with the upper surface of the cill.

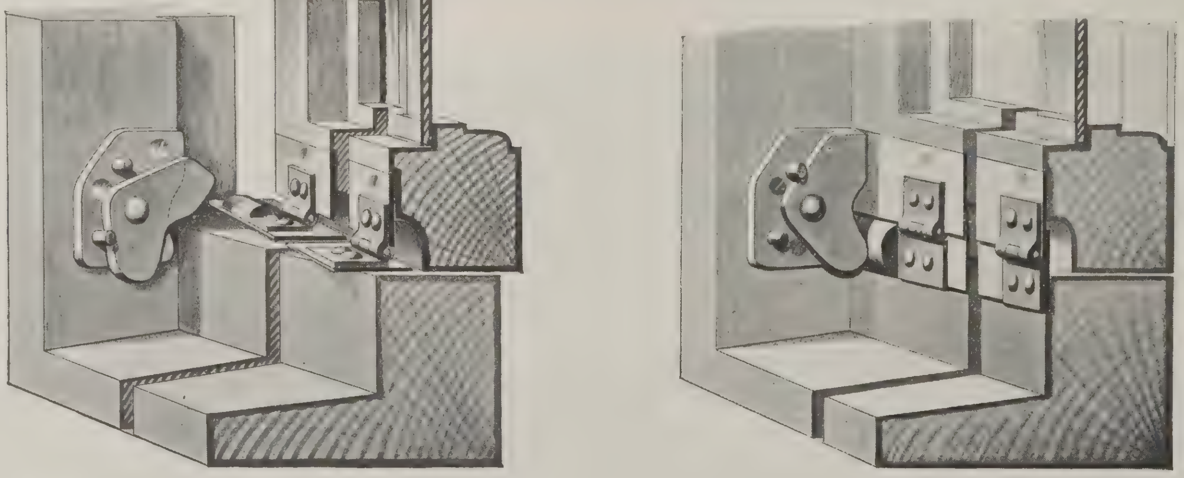
Reference to the illustrations will show that the bar consists of two overlapping plates hinged together at their extremities so that the lower one may assume either a vertical or a horizontal position.

When the open window or door is being closed, the vertically hanging flap of the bar comes in contact with the cill plate, which, by virtue of its shape, directs the lower part of the bar into a horizontal position, and thus enables it to clear the cill. The operating cam, as soon as it bears upon the convex projection on the lower or hinged portion of the bar, presses the latter downwards until it is once more vertical.

In its final position (see Fig. 2) it completely covers the junction between the casement and the cill or the door and step, and effectually excludes both wind and rain.

There are no fastenings or releases to adjust before the bar will operate, and the mere opening or closing of the window or door is sufficient to put it into the open or closed position.

"Eclipse" weather bars are made for any window or door from 18 in. upwards in width, and are supplied complete in brass, aluminium, or galvanized iron, ready for attachment. The actual fitting requires no special knowledge, and can be done by anyone.



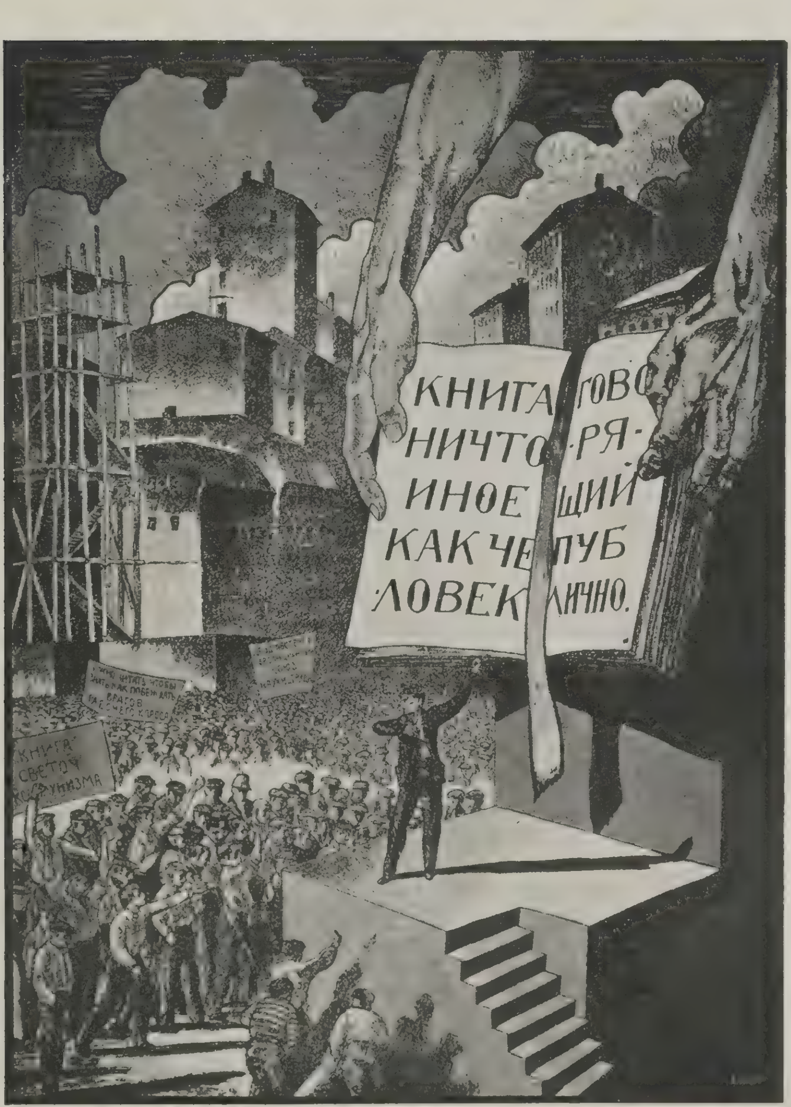
HINGED BAR AND OPERATING CAM "OPEN." HINGED BAR AND OPERATING CAM "CLOSED."

THE "ECLIPSE" WEATHER BAR.

Wednesday, October 18, 1922 Vol. LVI. No. 1459

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

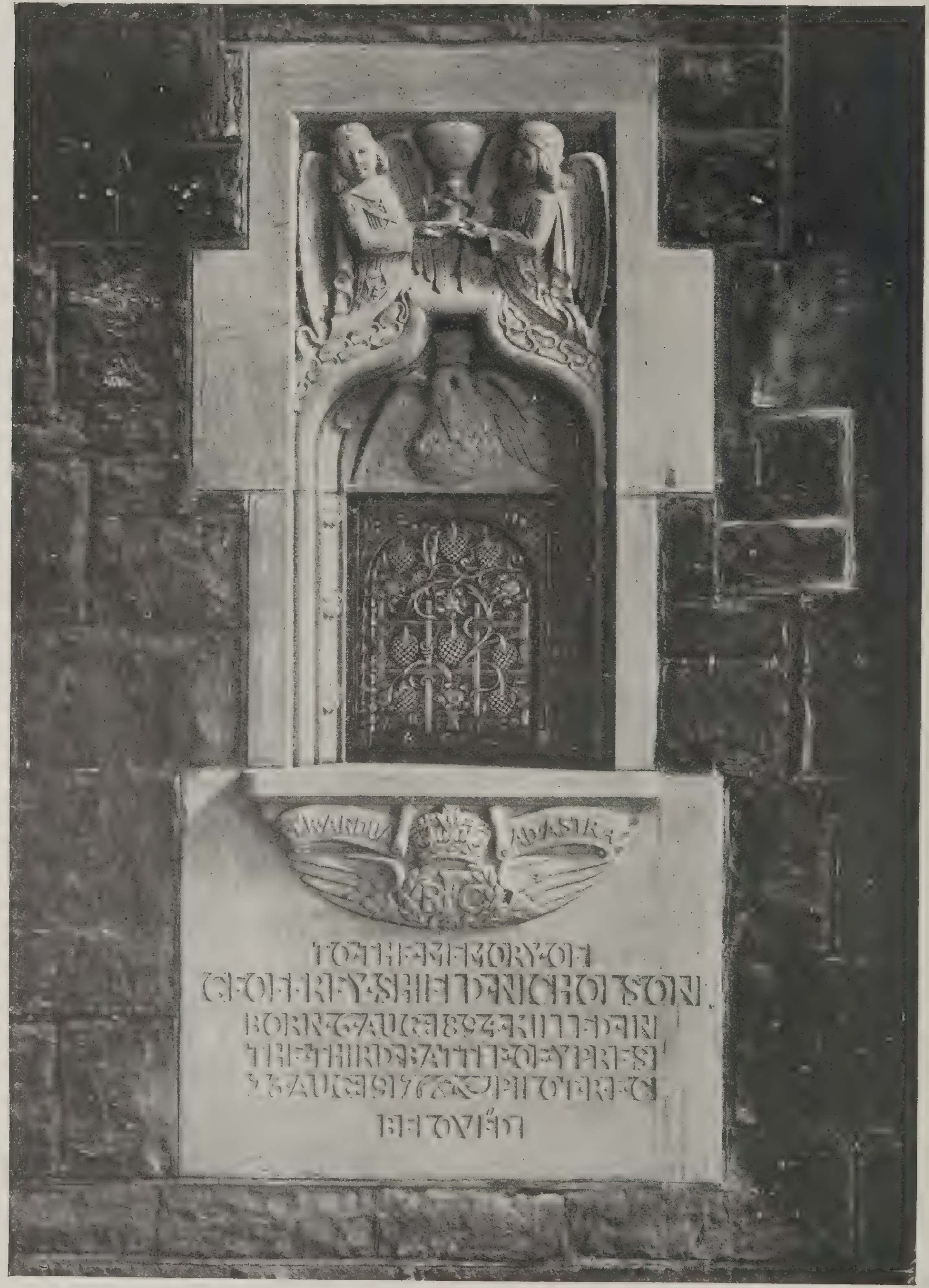


AN EDUCATIONAL POSTER OF SOVIET RUSSIA.
"The Book is the Public Speech of Man."
(*See article on page* 506.)

27-29 Tothill Street, Westminster, S.W.1.

War Memorials. 29.—Sacrament House in St. Mary's Cathedral, Edinburgh

Sir Robert Lorimer, A.R.A., R.S.A., F.R.I.B.A., Architect


ARDUA
AD ASTRA
RFC
TO THE MEMORY OF
GEOFFREY SHIELD NICHOLSON
BORN 6 AUG 1894 KILLED IN
THE THIRD BATTLE OF YPRES
23 AUG 1917
BELOVED

This memorial is built into the south wall of the south transept of St. Mary's Cathedral, Edinburgh, in connection with the War Memorial Chapel which has been formed there from Sir Robert Lorimer's designs. The sculptural work is by Mr. C. Pilkington Jackson, of Edinburgh.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, October 18, 1922 Volume LVI. No. 1450

"The Charm of London"

IN one and the same issue of "The Times" were to be seen the paradoxical, if not mutually contradictory headings, "The Charm of London" and "London Dirt." Charm and dirt are not mutually antagonistic, sometimes they help each other. For many an artist soul, indeed, dirt of sorts is esteemed as an element in the charm of London; grime and grubbiness being held to be more interesting than spick-and-span cleanness, even as to the playwright or novelist the sinner is apparently more interesting than the righteous. And cleanliness, being proverbially next to godliness, is voted equally beyond the pale of romance.

Not that the charm of London is necessarily a grimy charm. We would repudiate the heresy and vote for the vacuum cleaner. According to a leader writer in "The Times," the charm of London is not its grime, but its infinite variety: "for above all cities, London offers to those that have eyes to see and ears to hear a free gift of strange contrasts and illuminating collocations." Some of these contrasts and collocations are whimsically enumerated. In London only may you hope to see a millionaire merchant or a gaitered Bishop swaying from a strap in time to the sudden sinuosities of a Tube; or you may have the luck to flush a peer of the realm taking a twopenny ticket in an omnibus; or an eminent limb of the law, attempting a premature boarding of the bus, will be heavily defeated in the ensuing encounter with the uniformed marshal of the waiting queue. Many other strange surprising adventures such as may be encountered in no other city of the world are of hourly occurrence in London; in whose streets also is unequalled richness of gibe, invective, and homely wit and wisdom.

All this from the witty leader in "The Times," who adds that "the inanimate, no less than the human, contributes its quota of suggestive contrast and association. Across London's fairest open space looms London's ugliest pile of building. . . . The shaft of a campanile that breathes Byzantium soars up from the narrow marches of Pimlico. Over the roofs of flats and offices it salutes the twin towers of a sister faith that tell of Norman England. They in turn pass on the greeting, across the river-bend, to the great dome which rears itself as the very hub of London's encircling wheel."

While Londoners will be duly grateful for this kindly appreciation of some of London's most salient characteristics and most prominent architectural features, and will be easily able to dot the author's i's and cross his t's, the stranger within our gates will be impatient of such mildly enigmatic allusions to St. James's Park, Queen Anne's Mansions, a turning off Victoria Street, Westminster Cathedral, Westminster Abbey, and St. Paul's. Such an evasion of names was no doubt intended as a compliment to the reader's sagacity in penetrating thin disguises; yet it rather ludicrously recalls certain venerable superstitions about the unluckiness of "naming names," whether the names be those of persons, of pixies, and other tricksy sprites, or of the prince of the powers of the air!

It may be through some sub-conscious survival of this strange superstition that the names of railway stations are commonly concealed amidst a maze of blatant overwhelming advertisements, and are uttered by the porters "indistinctly, but with unction."

This ancient taboo of naming might even be thought to account for the reluctance of newspapers to name the architect of a new building. Concerning this strange habit of newspaper writers, Mr. W. J. Locke did not write with undue severity in his foreword to Mr. Cope Cornford's charming book on "The Designers of Our Buildings," in averring that when an important new building is "opened with a flourish of royal trumpets, every newspaper fills a reporter's column with futilities concerning the royalty, the flourish, the trumpets, the mayor and the aldermen, the trowel, the royal costumes, the contractors, the bevy of unimportances present, the knighting of the Supreme Unimportancy who collects the money; but as often as not the name of the architect is omitted altogether," or, alternatively, if he is presented to royalty on the spot, two lines may possibly be devoted to this stupendous event, otherwise the trifling fact of the authorship of the building would not have been thought worth mentioning!

In respect of "naming names," however, and in many other matters relating to architecture, the lay newspapers are showing distinct signs of a change of heart, and "The Times" leader on "The Charm of London" may be regarded as one among many gratifying evidences of reform.

Turning to the more dubious aspect of the "Charm of London" in the letter to "The Times" headed "London Dirt," it is only fair to its writer to admit that he is under no illusion as to the charm of dirt. He does not allege it, and is no doubt quite aware that while dirt may occasionally commend itself to the artistic mind as being casually picturesque, grime is always regarded by the healthy normal mind as being essentially unhygienic. Then, *pace* the impressionist, grime anywhere is unsightly to the robust believer in cleanliness and tidiness—physical, moral, and mental.

Many a London building besides St. Paul's would be the better for the removal of its soot jacket, and the railway companies ought to make a handsome contribution towards the cost of toileting. To how great an extent the railways are responsible for these sooty deposits is strongly suggested by the writer of the letter on "London Dirt"—Mr. S. E. Lamming, of Edgware. He asks: "Do not the railways contribute as much as anything to the dirt in London's air?" His reason for assuming that they certainly do is the fact that each small engine on the suburban lines consumes about three tons of coal a day. Did the small engine but consume it thoroughly, the atmosphere would be the clearer and cleaner by the absence of many tons of soot which now defile it and disfigure our buildings. Mr. Lamming would have all railways compelled to use electric traction, and architects would welcome that ordinance as a preliminary step towards putting them below the surface, whether deep down in the bowels of the earth in the Tubes, or under the more shallow tunnels of the Underground, is a detail subsidiary to getting rid of a nuisance that, borne with stoic patience while there seemed to be no remedy, has become irksome and intolerable since alternative methods have been demonstrated. An entirely smokeless London is not yet possible; but the idea is now much less of a vague and futile aspiration than it was before the electrification of railways was accomplished, smoke-consumption was enforced by law, and gas-heating and cooking became popular. The charm of London will not disappear with its grime; for that charm depends on the substantial architectural value of its great buildings, and not on any mere sooty patina.

The P.L.A. Building

The opening of the Port of London Authority Building yesterday was no doubt a ceremony of national or international importance. What influence its existence will have upon the development of the Port of London we do not pretend to foretell, but its influence upon architecture is obvious and instantaneous. The great service such a building renders modern architecture—quite apart from its intrinsic architectural merits—consists in the publicity which it is able to make for itself. Architecture is suffering more than anything else to-day from lack of popular recognition, not because people do not like to think about architecture, but because they do not realize that architecture is worth thinking about. For the moment the very name, the very idea, has slipped their minds. The excitement, therefore, and the Press activity which buildings like the London County Hall and the Port of London Authority arouse, are as important for the welfare of architects and architecture to-day as any other factor one is able to mention.

Arterial Roads and Town Planning

Sir Henry Maybury, Director-General of Roads, Ministry of Transport, in a paper read on October 10 at the Town-planning Exhibition at Manchester, paid Lancashire a compliment that London should strive to deserve. In Lancashire, Sir Henry said, parochialism, "the bane of the road engineer," had been discarded, and "Manchester was grappling stoutly, whole-heartedly and broad-mindedly with a problem which, in the neighbourhood of London, was being only delicately fingered." This ought to provoke in London an emulous activity. He greatly encouraged the belief that the town-planning idea is being intelligently grasped by landowners in increasing numbers, and once again he emphasized the vital necessity of looking ahead—of intelligent anticipation of future developments and requirements in the matter of traffic accommodation. Foresight is an essential virtue in the town-planner.

Antiquated By-laws

Ministers seldom enlarge the recommendations of Departmental Committees. The Minister of Health is exceptional. In a recent circular to local authorities he makes this sane observation: "The Departmental Committee on Building By-laws recommended that all by-laws with respect to new streets and buildings should be reviewed at least every ten years; the Minister is inclined to think that this task should be undertaken at even shorter intervals in order that the local authority may be quite sure that their by-laws provide adequately for modern requirements." That is certainly an improvement on the Departmental Committee's recommendation. So very much may happen in ten years; and local by-laws should not be held immune from the universal laws of development and adaptation to changed conditions. Yet, as architects know to their frequent chagrin, local by-laws are sometimes actually older than the local authority which has been too somnolent to alter them; and it is especially easy to agree with the Ministry of Health that "local authorities are not warranted in retaining by-laws which may hinder private enterprise, and are not really required for safety or sanitation." A by-law that is not essential to either of these fine issues should be promptly scrapped. Any sort of law that is useless is a nuisance.

The Holyrood Memorial

The bronze statue to King Edward VII, which King George unveiled on October 9, completes a national memorial that is noble alike in conception and in execution. It is always a deed of æsthetic daring to add anything to or to take anything away from a building that is a part of a city's or of a country's history; but in the case of Holyrood, the building is unaffected except in so far as its environment may be said to modify its character, as all environment certainly does. It is the general opinion that what has been done at Holyrood—the enclosure of the palace forecourt in accordance with an architectural scheme prepared by Mr. Washington Browne, and the erection of a fine bronze statue of King Edward modelled by Mr. Henry S. Gamley—has not detracted in the least degree from the dignity and nobility of the venerable building. Rather the enclosure bespeaks a pious desire to set it apart from mean and sordid modernity.

The Public "Ignorance of Art"

Concerning the late Sir Thomas Brock, an over-zealous letter-writer in the daily Press has made a wholly gratuitous assertion of public apathy. He insinuates that the work of the deceased sculptor is now popularly ignored. Yet surely the fact is that no work by a modern sculptor is more widely known than that of Sir Thomas Brock; although Sir Bertram Mackennal has perhaps evoked even more admiration among the simpler folk by his charming embodiment, in Kensington Gardens, of Barrie's Puck-like phantasy of "Peter Pan." That Brock's work is popularly ignored is an exaggeration that is refuted by the daily gathering of groups of admirers around the Queen Victoria Memorial in front of Buckingham Palace. Truly our honest purblind British public are ignorant and indifferent enough in matters of art, especially architecture; but at last they are standing to attention, ready and willing to salute art in any shape, provided it makes some sort of appeal to their simple emotions: which appeal is, after all, a vital function of art, and reaches its highest expression in sculpture. The "public ignorance of art" is easier to exaggerate than to amend, and we deprecate all such attempts to quench the smoking flax.

Britain's Most Ancient Building

Interesting Roman remains are not confined to Rome. That indefatigable archæologist, Mr. W. C. Edwards, has made further important discoveries of the kind in London and has conceived some interesting theories about them. Taller buildings requiring deeper foundations, the excavators are delving deeper down into ancient history. For example, "what is probably the most ancient wall that has yet been found in London" has been unearthed at Cornhill. The footings were found 15 ft. below the surface, and above them were courses of tiles, four abreast, each 13 in. wide, making in all 52 in. On the south side of this wall, which had apparently formed part of a room or of rooms, two layers of plaster were finished with a further layer of white cement, "almost as thin as paper, on which designs had been painted by a very skilful artist." Mr. Edwards assumes for this wall an earlier date than the fourth century, and he supposes "that in this wall we have the most ancient building, and in St. Peter's and St. Michael's the most ancient churches in Great Britain." Another ingenious conjecture arising out of these discoveries is that "it is demonstrated that Gracechurch Street was not a Roman street. I am now inclined to believe," says Mr. Edwards, "that we owe Gracechurch Street to Saxon times, and that it was probably one of the works of Alfred the Great." In commending Mr. Edwards's vigilance, we do not necessarily accept his theories; archæologists are so sanguine about their own discoveries, and so sceptical about discoveries by others of their learned fraternity.

A MONTHLY CAUSERIE

Joking Apart

Service or Profit ?

THAT part of the works of man which is exemplified in the building of houses in our country places seems largely to be directed by those same aspirations which cause people to mark their appreciation of a beauty-spot by carving their names on its tree in commemoration of the day they broke bottles and scattered paper and eggshells there. England is being despoiled of her natural beauty, and the countryside defaced, by shoddy, pretentious, tasteless houses, little and big; very much as in the past our towns and cities have been reduced from objects of delight to subjects for tears. The localities so disfigured are among those which have the greatest natural charms, and though it cannot be affirmed that modern sensitiveness to the beauties of nature has been awakened by the desire of the populace to get away from the dispiriting influence of ugliness in the towns, it is a fact that, until the beginning of the so-called Industrial Revolution, there is no indication in our literature of the existence of such a sentiment. Whatever the cause, the public in these days seeks to satisfy, in country scenes, a craving which appears scarcely to have belonged to human consciousness two hundred years ago. It cannot be said what sensations, other than that of holiday freedom and adventure, are awakened by rural surroundings in the char-à-banc's characteristic load of sightseers; but the deep pleasure the ordinary lover of the country receives from scenes of natural beauty is chiefly due to an unconscious identification of himself—of humanity—with what he recognizes to be perfection. He becomes aware of the scheme of things as a vast glory which embraces all mankind, and his mind is accordingly elevated with a deep contentment. The presence of Cottages, Farms, Churches, and Mansions, adds to his delight in his surroundings; not, essentially, because they may be old, or picturesque, or fine examples of a style, but because, and only in so far as, they are sincere and represent humanity to his mind in a way that gratifies his esteem of humanity, for of nothing is human nature so jealous as of the good repute of humanity.

To-day houses are built that can have given no one any pleasure in their creation, which have afforded no satisfaction to the workmen who built them, and which are not what the people who live in them really, in their natures, desire or would choose if the choice were offered them and they exercised a choice. It may well be asked, therefore, why is it that a system of disfigurement which is universally deplored, which gratifies no one in the accomplishment, and which satisfies the desires of nobody, continues ? The condition is the more remarkable because both in England and in Belgium we can see, side by side with the thing that is deplorable, the thing that is admirable. Our garden villages and many of our housing schemes are admirable, and the small farms and homesteads characteristic of Belgium which are being built by the State to replace the havoc of war will in the future be the most delightful features of the landscape. In both countries the two classes of habitation, the admirable and the deplorable, may be clearly divided, for in neither Belgium nor England are there many houses that lie midway, and the two classes remain as distinct and as readily distinguishable as chalk from cheese.

It is clear, therefore, that we have not to deal with degrees, but with kinds; we have not to inquire to what extent certain principles have been followed, but must look for diverse principles.

If, then, we examine any house, however humble, which we recognize as belonging to the class of admirable buildings, we shall always find that it has been sincerely built to meet the needs of a dwelling, and that it exhibits the pride of the workman in his craft, the enthusiasm of the artist in his conception, and the desire of the owner, or instigator, to gratify his conception of what a human habitation ought to be. The honest ambition of the owner, the enthusiasm of the designer, the delight of the workmen in doing well the thing he knows how to do, which are essential to a house within our classification of "admirable," are all gratuitous and extraneous to the duties *necessary* to bring the house into existence. These gratuitous and extraneous services are not paid for, they are given freely out of man's instinctive desire to justify himself in his own self-respect; that is to say, the admirable quality of the house is due to that strongest impulse of normal healthy human nature, the passion to serve. The admirable class of dwelling-house comprises those only that are instigated and directed by the impulse to service.

It follows from the above that the existence of houses which are to be classified as deplorable arises from the absence of the motive of service, and the vast number of such dwellings scattered over the country is evidence of the extent to which this subversion of human nature has advanced upon society. A large majority of these houses have been built with no other motive than to bring money to someone's pocket: the conception of service has been displaced by that of profit. It is probable that the history of the world cannot show a single human achievement which is remembered with respect as advancing the cause of humanity and civilization which has been conceived, instigated, and carried out for the purpose of gaining money. It may also be said that no worthy building has ever been built to that intent, and that it will be found that nearly every meanly-conceived and meanly-executed building owes its miserable qualities of failure to this cause. Architecture cannot lie. Almost alone, perhaps, among the arts it will, soon or late, hold out its banner of secret disgrace or honour for all to see. There are other causes—lack of sincerity, vulgarity of taste, incapacity of designers, which account for many deplorable adventures in house building, but indirectly the root cause will be found to be this same one of the usurpation of service by profit as a motive of human achievement.

A vicious circle has been started. The public has been educated in ignorant and vulgar taste in houses by men who compete with one another in building and selling houses. The shrewd, hard-headed men of business who first, many years ago, divined that money could be made by exploiting the necessities of the people with shoddy insanitary homes, were in due course brought up short by Acts of Parliament compelling them to build honestly and have regard to the obvious needs of human beings. Thus robbed of fraudulent drains and deceptive walls as a source of gain they turned their attention to a matter that the Law would not meddle with—namely, sham architecture. The public has been so long surrounded and beset with features which have no justification except that they cost little, require no thought, look expensive, and give a false idea of value, that they have adopted, as representing Art and Architecture, forms and devices which owe their existence to no other cause than the ambition of unprincipled men to make money by them. These perverted tastes, and the hopeless ignorance of the ordinary man who is so courted and flattered by dealers in claptrap that he has perfect confidence in his own taste and takes no trouble to inform himself, have led to a demand for the false in preference to the true, which, in turn, strengthens the appeal of the stock-in-trade of the profit-monger. KARSISH.

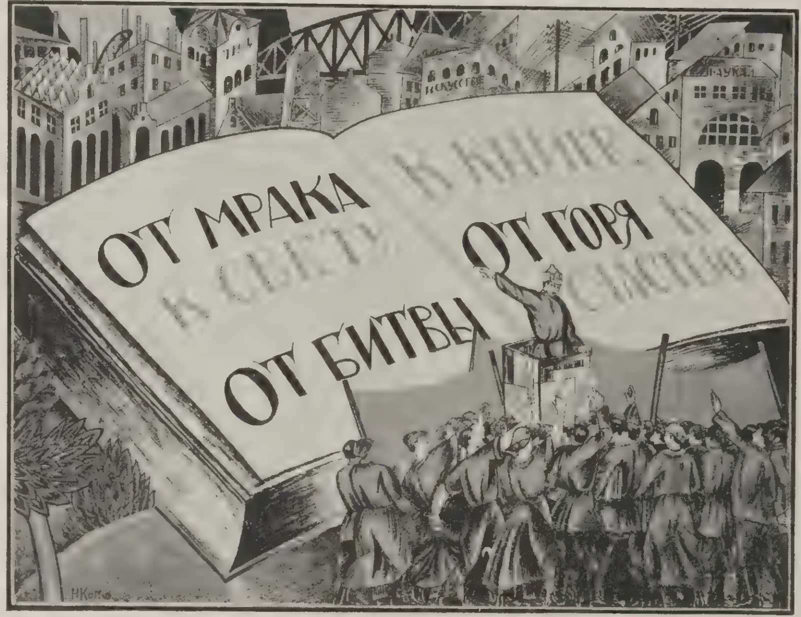
Rebuilding Soviet Russia

By HUNTLY CARTER

6. The Art Aspect of Propaganda

ONE of the most astonishing sights that greeted the visitor to Soviet Russia in 1920–1921, was the blaze of posters. Propaganda posters met one the moment one arrived at Jamburg on the Russo-Esthonian frontier, and thereafter spread themselves over vast Russia like a many-coloured sheet of flame seeking to lighten the dark places of the illiterate mind of the Russian population. As one proceeded great startling posters delivered their messages from every conceivable space. They covered the stations, lined the waiting-rooms. In city, town, and village-town they streamed in thousands across shops and houses and walls. Wherever one went, in telegraph office, in hotel, in private house, in factory, warehouse, in theatre, cinema, museum, they crowded round, seized the attention and the imagination and never let them go. They were a nightmare and an enlightenment. They made Soviet Russia a pandemonium and a breeding place of ideas.

This immense host of picture posters was sent forth by the Ministry of Popular Enlightenment to wage war on illiteracy and ignorance. Their business was to educate the workers, peasants, soldiers, sailors, and any unwary visitor who fell into their power, in the communistic way they should go. The general subject which they upheld was the building up of Communist Russia. Accordingly political economy, sociology, science, and economic history marched at their head under the banner of economic materialism, while philosophy, psychology and logic marched at their tail—which means they did not march at all, for proletarian ideology has no use for them.



EDUCATIONAL POSTER.

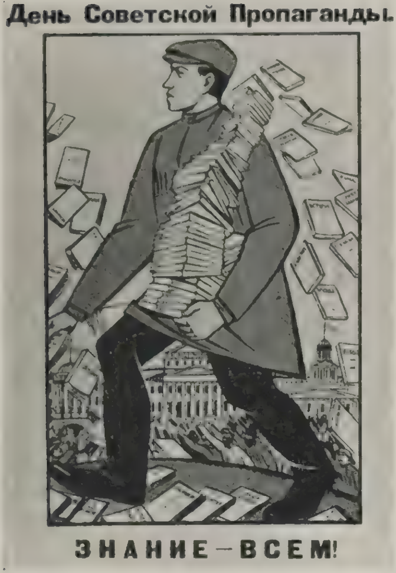
"From Darkness to Light, from Battle to Book, from Misery to Happiness."

So amid this host of posters one saw no commercial ones. There were no alluring towsled heads tempting you to buy someone's hair-restorer, or pink faces inviting you to invest in someone else's face-wash. There were hundreds and hundreds of carefully-thought-out appeals, not one of which begged you to buy G's nose-wear because it is so bracing. Nothing has ever moved me more than this never-ending exhibition of simple and strong-drawn pictures appealing to the mind and not to the pocket. They were as a multitude of voices summoning the worker to the vineyard, where for ten long years he shall sow vines and not gather grapes.

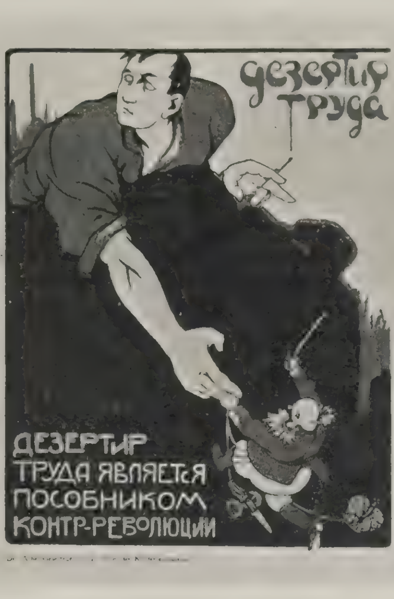
In saying this I do not wish to overrate the strength and determination with which the propaganda poster stood for the Communistic conscience and the new Communist Russia. The general appeal was exceedingly novel, and the general effect so unaccustomed that it took the breath away. But when one came to examine the whole thing in detail one found there was much to disagree with. It was exceedingly pleasant to study the very able art-work put into the majority of the posters. There were immensely big designs and great splashes of rich vital colour, masterly handling of line, and exceedingly successful attempts to get movement; in short, all the very best æsthetic qualities of poster making that achieved the purpose of art, namely, that of giving the spectator the æsthetic experience which the artist himself had had. And no wonder, for all this fine poster work had been done by the pick of the old intelligentsia, who were converted to Communism and its doctrine of art for life's sake, and by the new body of artists, the life-centred ones, as they may be called, who had emerged from the Revolution and counter-revolutionary war, and by the gifted workers, largely factory workers, clerks, and shop assistants, who had seized the opportunity afforded by Communistic policy to exercise their artistic abilities.

Among the professionals was Maiakovsky, one of the wildest of the wild men let loose by the Revolution, and a poet, playwright, and designer of undoubted genius. After writing flaming verse exhorting his fellows, poets, painters, draughtsmen, musicians, to come into the open and once more into the breach of life, he threw himself into poster designing with such energy and poured forth such a flood of original designs that there was not room on the walls of Russia for them all. And this simply because his exhortation began to work, bringing into the same field a body of poster designers, each requiring considerable wall-space for his own fine exhibition of poster pictures.

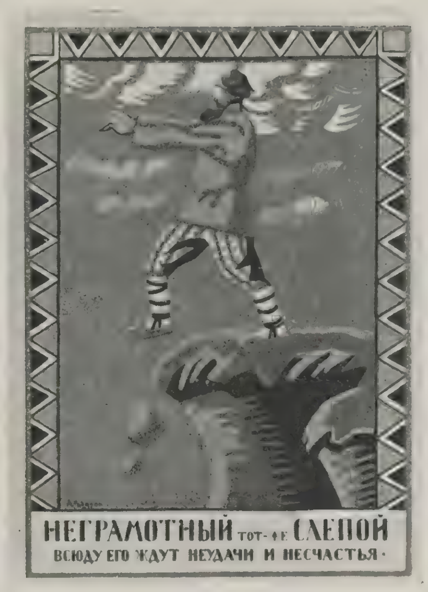
Besides the æsthetic appeal there was the propagandist one, and this was not always pleasing. On the political side it was of a bloodstained repulsive character, a sort of kow-towing to the mob instinct. A design of a proletarian rock planted with a red flag and with a capitalistic ship wrecked at its foot, and the bodies of the shipwrecked strewn about, was a comparatively mild affair. As a rule the Communist did not let the Capitalist off so lightly. I remember one blood-bespattered poster in which there was a working man, a big brawny son of toil; he was holding something that looked like a long skewer on which were impaled half a dozen or so unhappy-looking bourgeoisie. Both the worker and the landscape which formed the background were blood-red. Some of the fierce political posters exhibited quite a mania for picturing the worker as a sort of devil, either with a pitch-fork with which he gathers capitalists and priests together in a great heap with the object of treading them to powder under his exceptionally big feet, or with a sledge-hammer smashing the chains which encircle the earth, and, as it seems, smashing the earth at the same time.


День Советской Пропаганды.
ЗНАНИЕ—ВСЕМ!

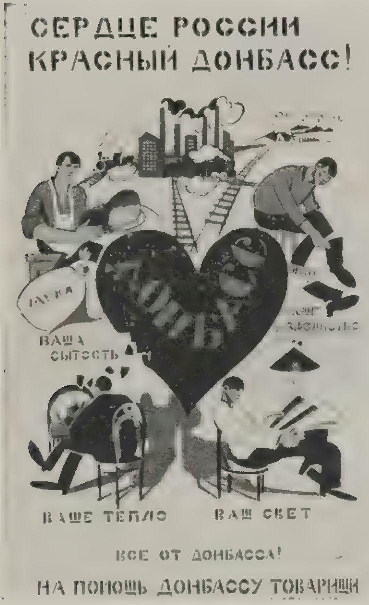
SOVIET PROPAGANDA POSTER.
"Knowledge for All."


дезертир труда
ДЕЗЕРТИР ТРУДА ЯВЛЯЕТСЯ ПОСОБНИКОМ КОНТР-РЕВОЛЮЦИИ

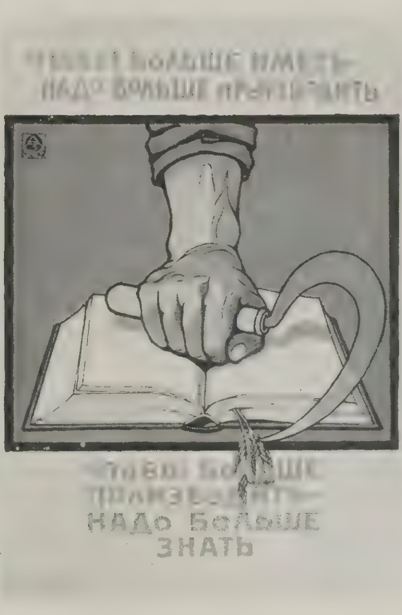
INDUSTRIAL POSTER.
"The Labour Deserter assists the Counter Revolution."


НЕГРАМОТНЫЙ тот-же СЛЕПОЙ
ВСЮДУ ЕГО ЖДУТ НЕУДАЧИ И НЕСЧАСТЬЯ

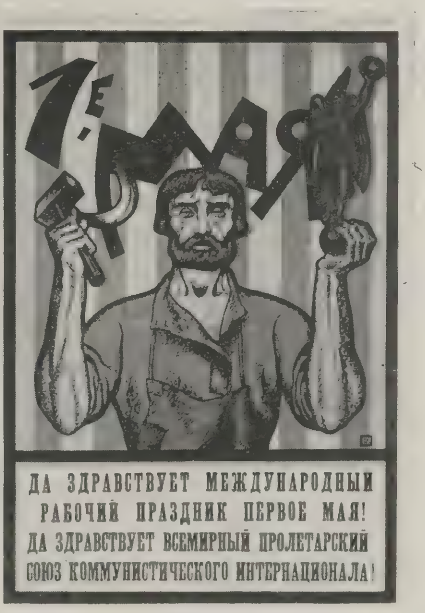
EDUCATIONAL POSTER.
"The Illiterate is like the Blind—always on the verge of Misfortune."



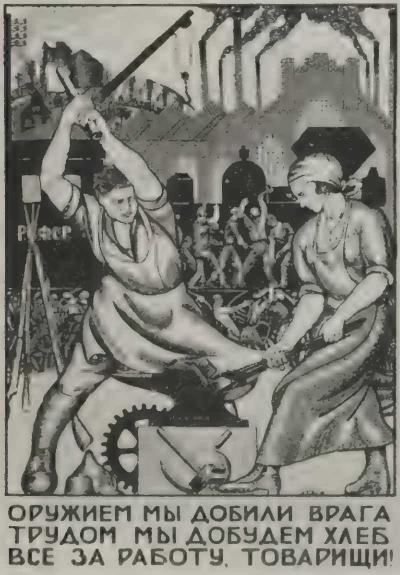
ECONOMIC POSTER.
"The Red Don Basin is the Heart of Russia, giving Sustenance, Maintenance, Warmth, Light."


ЧТОБЫ БОЛЬШЕ ИМЕТЬ—
НАДО БОЛЬШЕ ПРОИЗВОДИТЬ
ЧТОБЫ БОЛЬШЕ ПРОИЗВОДИТЬ—
НАДо БОЛЬШЕ ЗНАТЬ

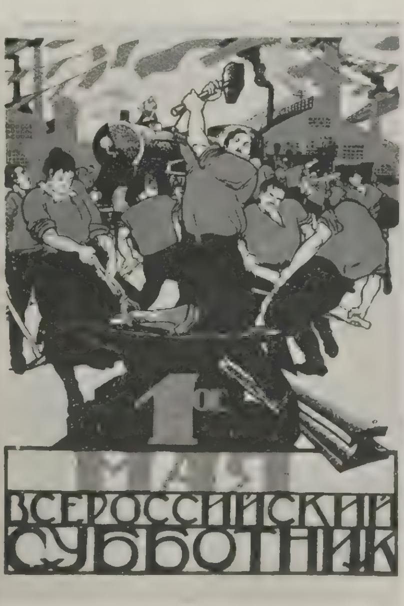
PROPAGANDA POSTER.
"To consume more, Man must produce more. To produce more, Man must know more."


1е МАЯ
ДА ЗДРАВСТВУЕТ МЕЖДУНАРОДНЫЙ РАБОЧИЙ ПРАЗДНИК ПЕРВОЕ МАЯ!
ДА ЗДРАВСТВУЕТ ВСЕМИРНЫЙ ПРОЛЕТАРСКИЙ СОЮЗ КОММУНИСТИЧЕСКОГО ИНТЕРНАЦИОНАЛА!

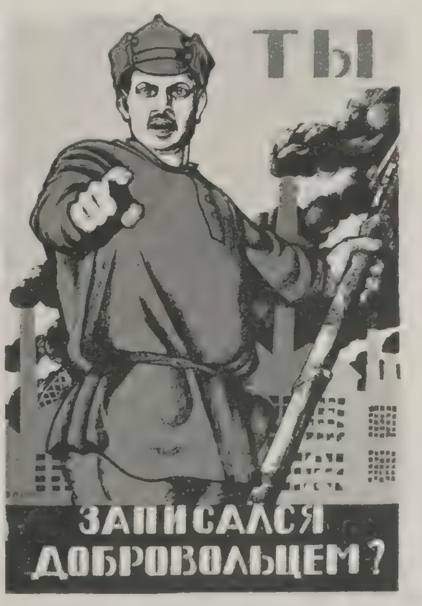
REVOLUTIONARY POSTER.
"Long Live the International Celebration Day, May 1."



INDUSTRIAL POSTER.
"We have beaten the Enemy with Arms, we will win Bread with Work."



MAY 1 CELEBRATION POSTER.
"Workers of the World, Unite!"



TYPICAL "RED" POSTER.
"Have you voluntarily reported for the Army or Work?"

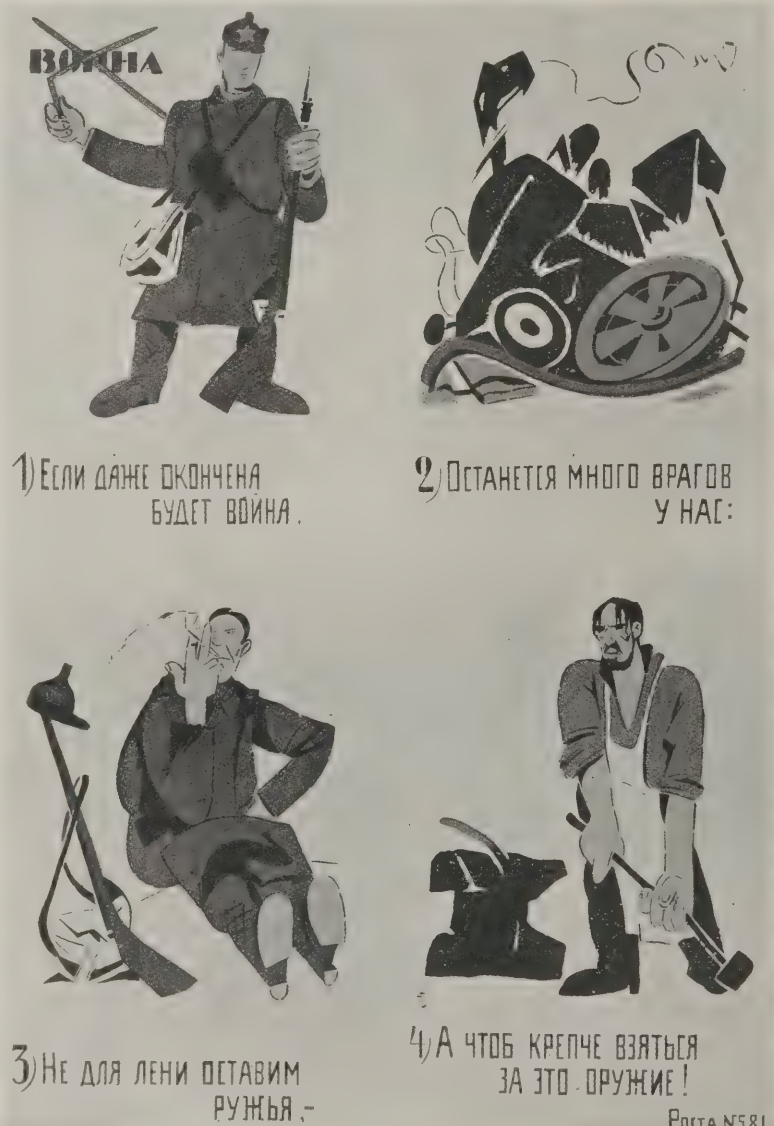
PROPAGANDA STAMP.

"Bad Improve and Good Construct."

PROPAGANDA STAMP.

"Smoke Stacks of Soviet Russia."

The scientific posters were far less offensive than their agitational brethren. Indeed, many of them were instructive to visitors as well as to natives. Striking comparative charts showed at a glance the mineral and other resources of the country, decreased and increased production, the losses, say, in rolling stock sustained during the war, revolution, and counter-revolution, and the recovery since; the state of the country under the Czars and its state when it is a workers' electrified Paradise; in short, facts and figures calculated to make the proletarian mouth water. Equally striking hygienic and sanitary posters told the peasant and worker all they need know about the care of the body, the house, and the workshop; what to do in cases of sickness and pestilence, and how to prevent them. Even such details as the care of the teeth and feet and preservation of the skin were loudly advertised. Anatomical drawings revealed the mysteries of the human inside, described the pathology of the heart, lungs, liver, and spleen. Expectant mothers were publicly instructed how to behave, and expectant fathers were warned of the dangers of misconduct. Along with the pathology went a pathological museum wherein all the staggering facts of disease might be examined and studied free of charge. Besides these there were posters giving facts on corn and other natural produce in health and disease, the influence exerted by climate, temperature, even astronomical bodies. The meaning of solar eclipse and tides; of everything in fact on land, in the water, and in the air having a bearing upon production.


ВОЙНА
1) ЕСЛИ ДАЖЕ ОКОНЧЕНА БУДЕТ ВОЙНА.
2) ОСТАНЕТСЯ МНОГО ВРАГОВ У НАС:
3) НЕ ДЛЯ ЛЕНИ ОСТАВИМ РУЖЬЯ.-
4) А ЧТОБ КРЕПЧЕ ВЗЯТЬСЯ ЗА ЭТО ОРУЖИЕ!
РОСТА №581

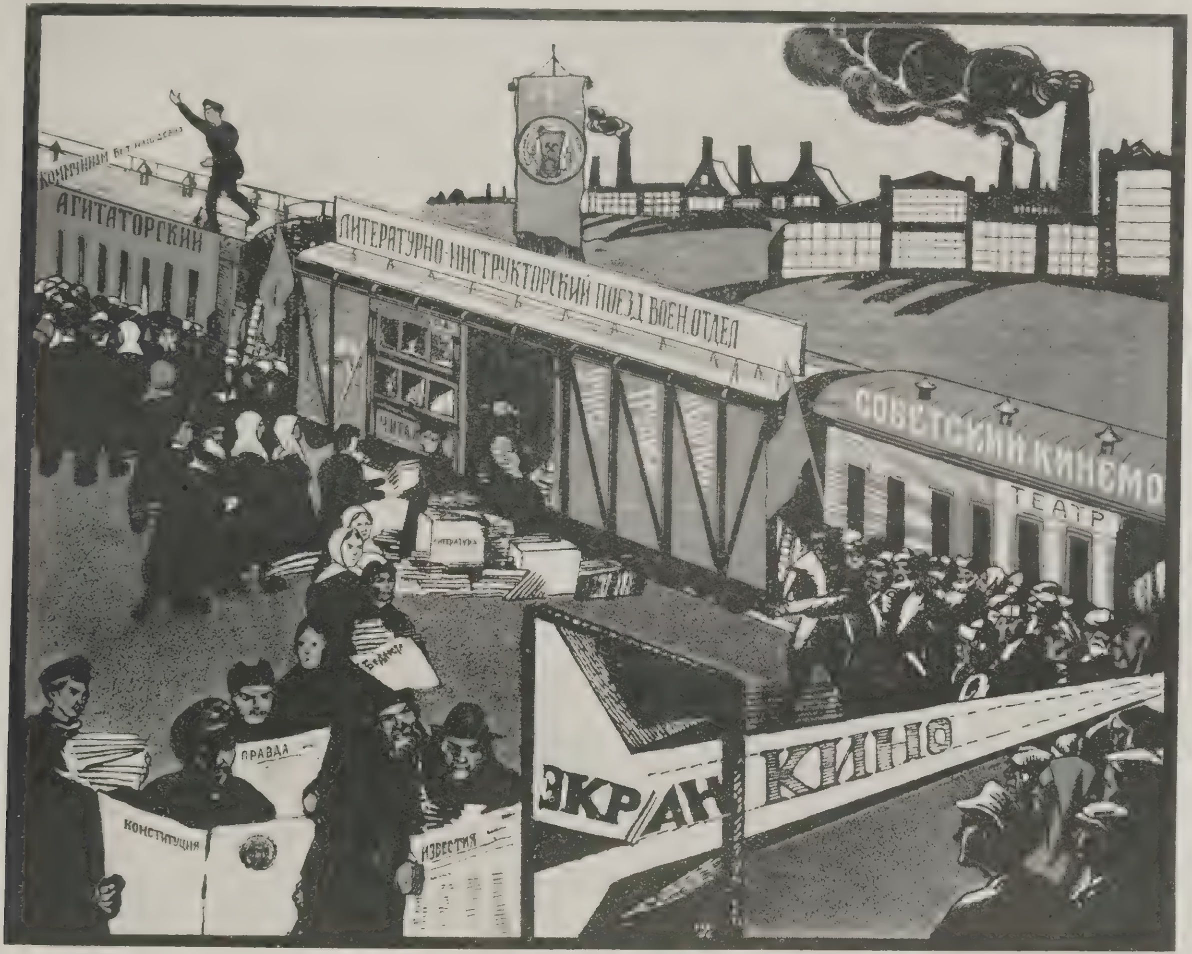
BOLSHEVIK POLITICAL POSTER.

"1. When the War is Ended. 2. Many Foes will Remain. 3. We will not leave the Weapons to the Idle. 4. But from them make stronger."

As for the educational posters, they were extremely instructive, for they threw a good deal of light not only on the mentality of the population, but on that of their instructors. For one thing, one could see quite plainly that the former were regarded as quite inferior stuff, which needed large helpings of economic materialism to fit it for the Communist heaven, while the latter were of the superior stuff of which heaven-born Communists are ready-made. You could, in fact, see that the peasants were held to be the most backward culturally and the poorest spiritually of any class in Russia. Every opportunity was taken to show them pictures of themselves, as in a looking-glass—dark, ignorant, the prey of landlord, priest, and capitalist. As a matter of fact the worker was not much better. Authoritative statistics on illiteracy have shown that in the Union of Leather Workers 60 per cent. of the members are illiterate; in the Union of Paper Workers there is the same percentage. But these figures were not flaunted on hoardings and house-fronts for the benefit of the workers. While the peasants were continually reminded of their shortcomings the workers were usually treated as though they had gone through the university and come out real professors, as Mr. Hooley might say. Still, the great importance of getting knowledge, and especially of imparting knowledge to children, was rubbed in with the utmost vigour. "Parents! send your children to school"; "Children! read books"; "Knowledge is Power"; "Reading is one of the duties of man." These and a hundred more inscriptions were seen urging the importance of knowledge, telling how to get it, advising its discussion in scientific, political, art, economic, and other forms, and imparting it in such alluring ways that men, women, and children read the posters in the great cities, towns, and villages of Soviet Russia as the populations of other countries read books and newspapers.

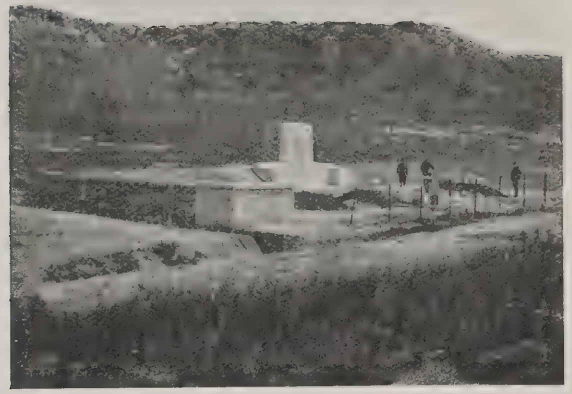
Posters did not exhaust the art and apparatus of propaganda. There were propaganda trains, propaganda printed sheets, propaganda frescoes, and mural designs. There were propaganda banners, propaganda act-drops and curtains in places of entertainment, propaganda airships, and propaganda inscriptions on paper-money, on official documents, on passports, on everything that offered a bare space. In fact, propaganda looked out from chaos like a myriad-throated herald announcing the dawn of a new Russia.

One picked up a passport to find the Soviet arms—a sickle and a hammer—supported on the left by the words, "He who does not work shall not eat," and on the right by "Workers of the world, unite." Or a rouble nóte, to read the latter exhortation in the languages of the six great trading nations of the future. As one passed along the boulevards and other main thoroughfares, agitational, satirical, and other mural designs, some of them of exceptional merit, caught and arrested the eye almost at every step. At the stations wagons stood displaying on their sides immense designs—futurist, symbolist, realist—and immense inscriptions. There were great drawings of the October Revolution and what it meant: the old rulers being kicked out by the new ones—the peasants and workers; the latter entering their kingdom in style, surrounded in wonderful homes by obedient wives and dutiful children, and all the quaint paraphernalia of up-to-date electric science; the former working in fields turned into paradises by electric ploughs and the latest mechanical appliances. And there were model schools in which model children were being taught by model teachers, all as spick and span as the milkmaids at a dairy show, and much more of the wonderful business. Appropriate inscriptions informed the onlooker that, "We are strong. No power in the world can overthrow us," and more to the same effect. Even the engines had something to tell you, and something to show you in the way of large portraits of Karl Marx and Lenin literally hung round their necks. In the waiting-rooms were immense frescoes representing some of the most desperate scenes of the Revolution with the workers always on top. Also on rostrums and pianos—and above them the omnipresent portraits of Marx, Lenin, and Trotsky—and, scattered about, agitation literature, and you guessed these were the oratorical webs in which unwary passengers were caught like flies and made to listen to inflammatory speeches. Then there were the celebrated propaganda trains, each forming a combined travelling conveyance, bookstall, library, cinema, and printing press, fitted up with all the conveniences for work and travel, and the facilities for publicity, and the means of accommodation for a large staff of lecturers, to say nothing of Red Army men and their crimson machine guns.

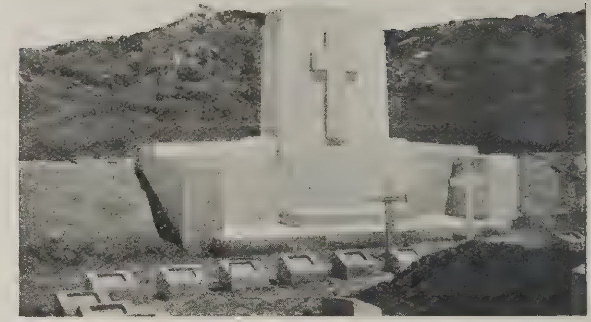


PROPAGANDA TRAIN POSTER. THE PROPAGANDA TRAIN—A COMBINATION OF A TRAVELLING LIBRARY, BOOKSTALL, PRINTING PRESS, AND CINEMA.

It will be observed that the foregoing is written in the past tense. The full glory of propaganda is no longer over the wide Russian land. By all accounts Russia is very poor, and therefore its propaganda ardour is abating. A good deal of the old efforts of Communist propaganda remain, but they are in tatters. No longer do amazing statistical and scientific cartoons, that were once the glory of the station platforms, catch the eye of the peasant and worker and form their minds for them. No longer do the travelling cinemas, libraries, and lecture halls perambulate the country printing and publishing, distributing papers, pamphlets, leaflets, and books, and exhibiting a wealth of educational pictures. Pre-revolution isolation has once more settled in the villages. The libraries are closed, newspapers are suspended, lecturers come not, propaganda has fled, and all the fine cultural work that it once did is fast becoming a memory and a dream.



OUTPOST N.Z. 1, ANZAC.



OUTPOST N.Z. 2, ANZAC.

The War Cemeteries in the East

Designed by Sir John Burnet, A.R.A.

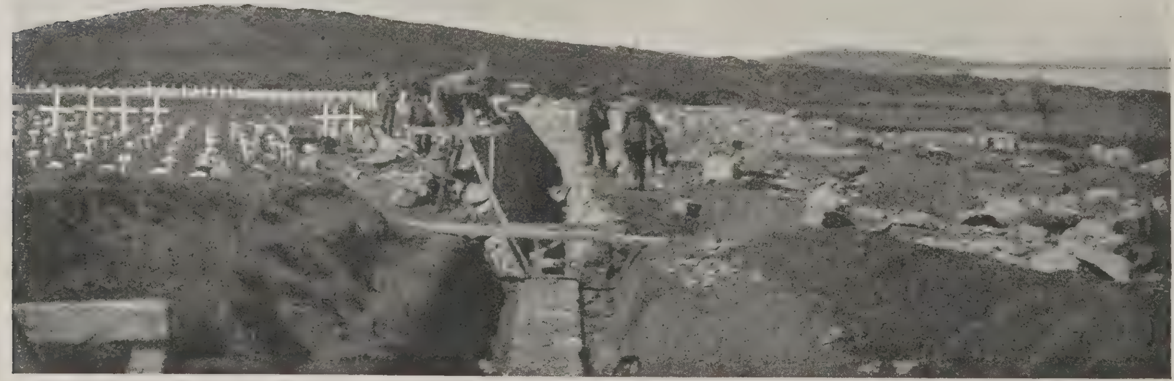
MUCH has appeared in the Press in relation to the British War Cemeteries in France and Belgium, but comparatively little is known of the equally important work that is being carried on in what was the Eastern theatre of the war.

Special difficulties, due mainly to climatic conditions, were attendant on the work, and the ingenuity with which these have been overcome is a noteworthy feature of the whole achievement.

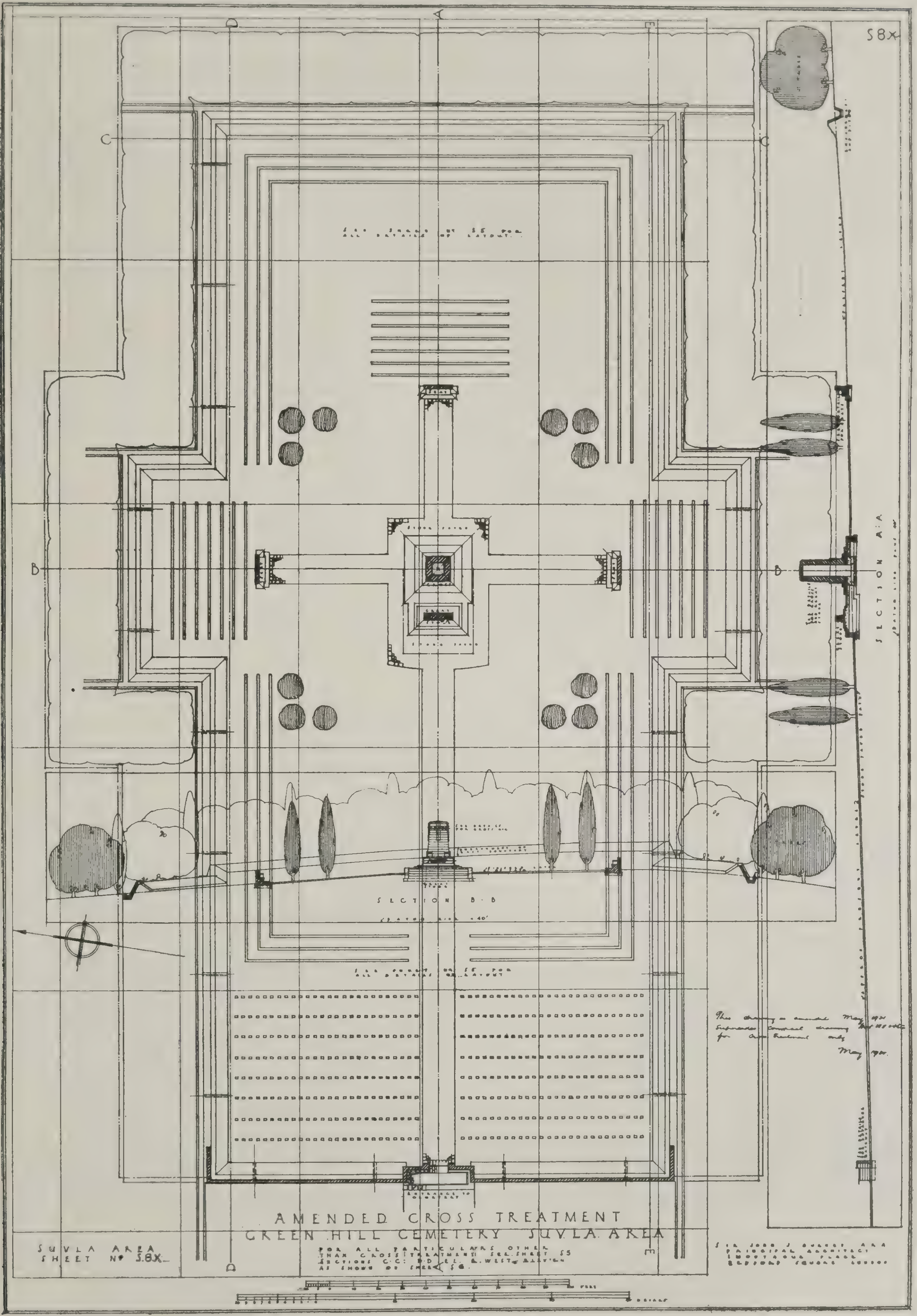
Sir John Burnet, principal architect for the Imperial War Graves Commission for Palestine and Gallipoli, is responsible for the design adopted for about forty cemeteries located in Palestine and Gallipoli. In some cases the graves were not disturbed—merely suitably enclosed and memorial stones added; in others scattered bodies were collected and re-interred in one spot.

In Gallipoli the enclosure considered best suited to protect the cemeteries from the ravages on the soil made by the heavy rains consists of a dry stone-lined trench and embankment planted with rock-growing plants native to the country. Three sides of the cemeteries are thus treated, the front being enclosed by a low masonry wall. These enclosures are designed in simple level lines, culminating in a raised portion of walling on the highest side of the cemetery, of sufficient height to form a background for the cross, in front of which stands, in the larger cemeteries, the Great Stone of Remembrance. As a protection against the shifting nature of the soil, the cemeteries are surrounded external to the enclosures by a 30 ft. belt of evergreen timber, and internally with cypress trees. The construction of the enclosing embankment and trench is shown in one of the accompanying illustrations. Local labour and material are always used.

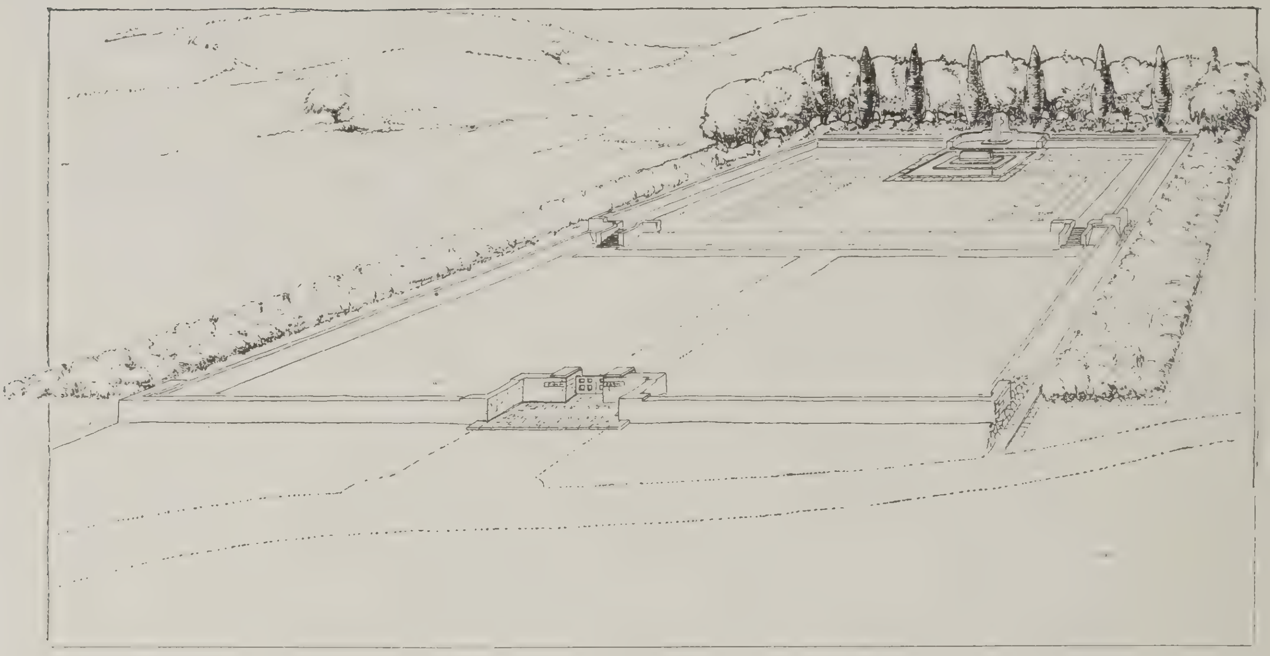
In Gallipoli flat stones are being used to mark individual graves, and it is interesting to note that in Mahommedan countries religious prejudices are respected, and the symbol of the cross is not given a more than necessary prominence.



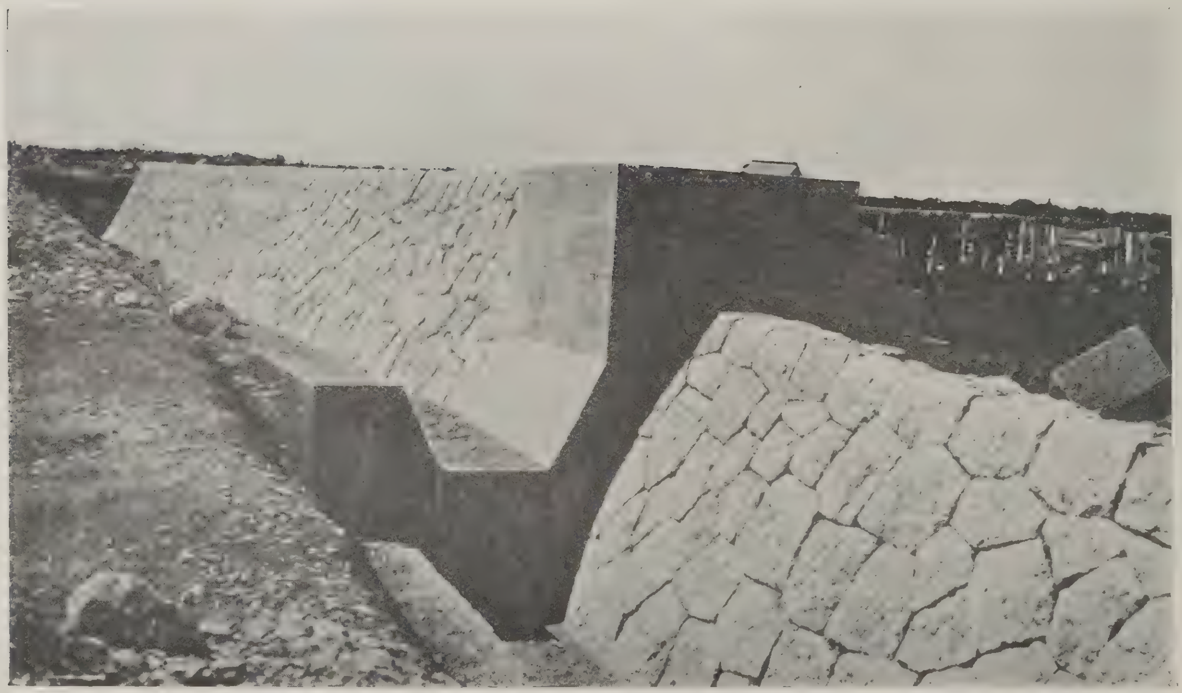
GREEN HILL CEMETERY, SUVLA AREA: NORTH WALL UNDER CONSTRUCTION.



THE GREEN HILL CEMETERY, SUVLA AREA, GALLIPOLI.
SIR JOHN BURNET, A.R.A., ARCHITECT.

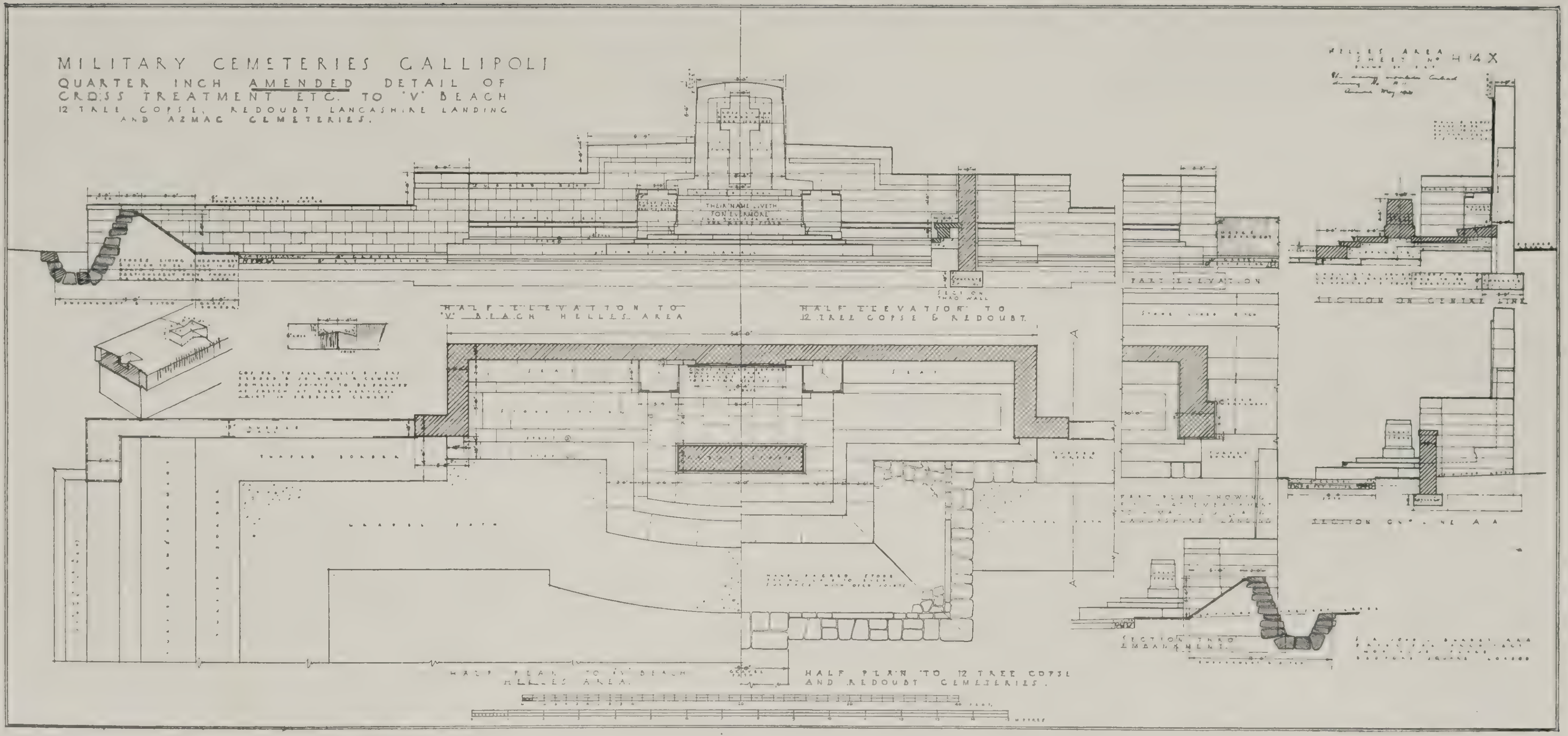


A GENERAL VIEW.



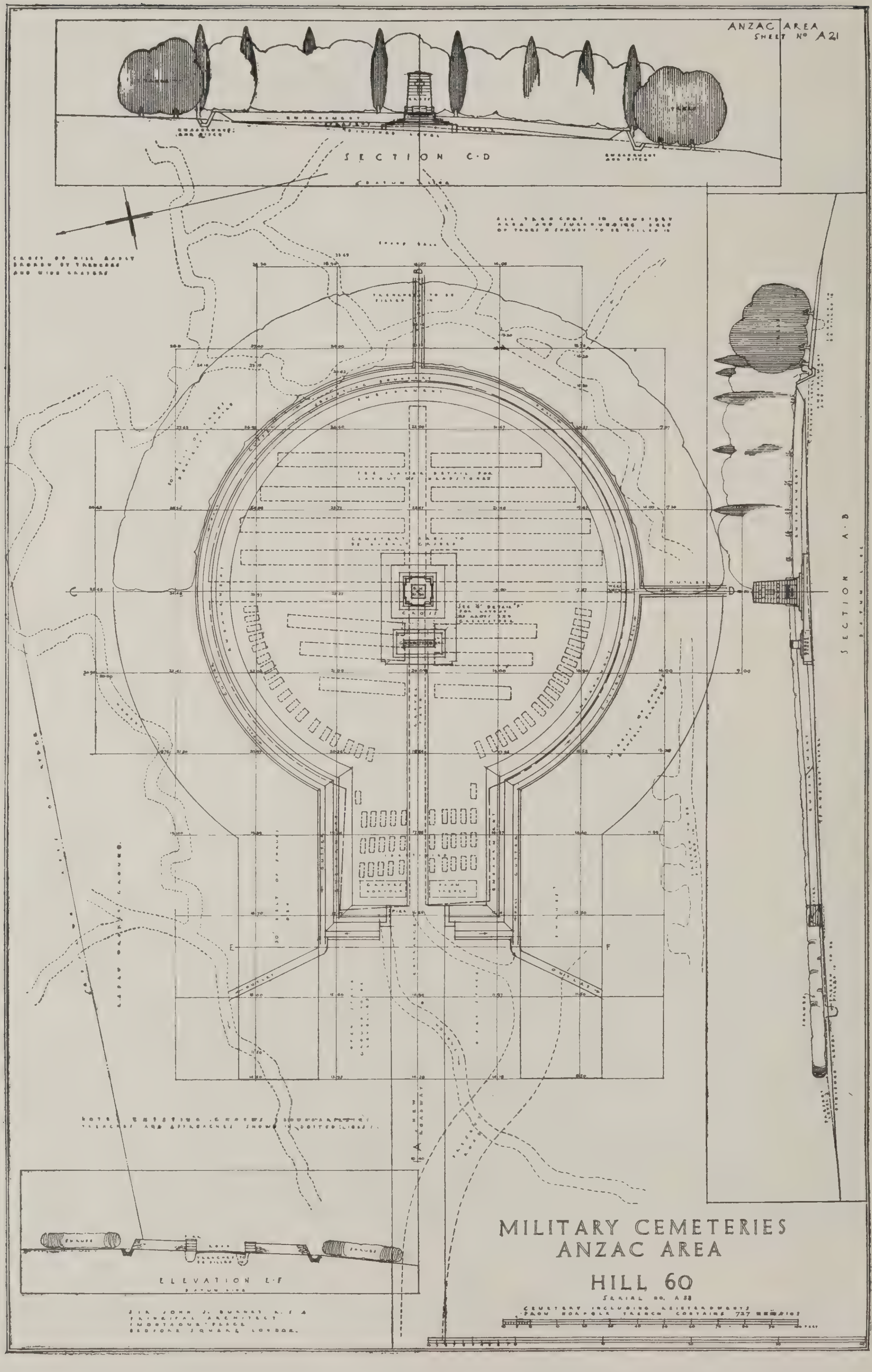
SOUTHERN PROTECTION WALL.

WAR CEMETERY, PINK FARM, CAPE HELLES, GALLIPOLI. SIR JOHN BURNET, A.R.A., ARCHITECT.

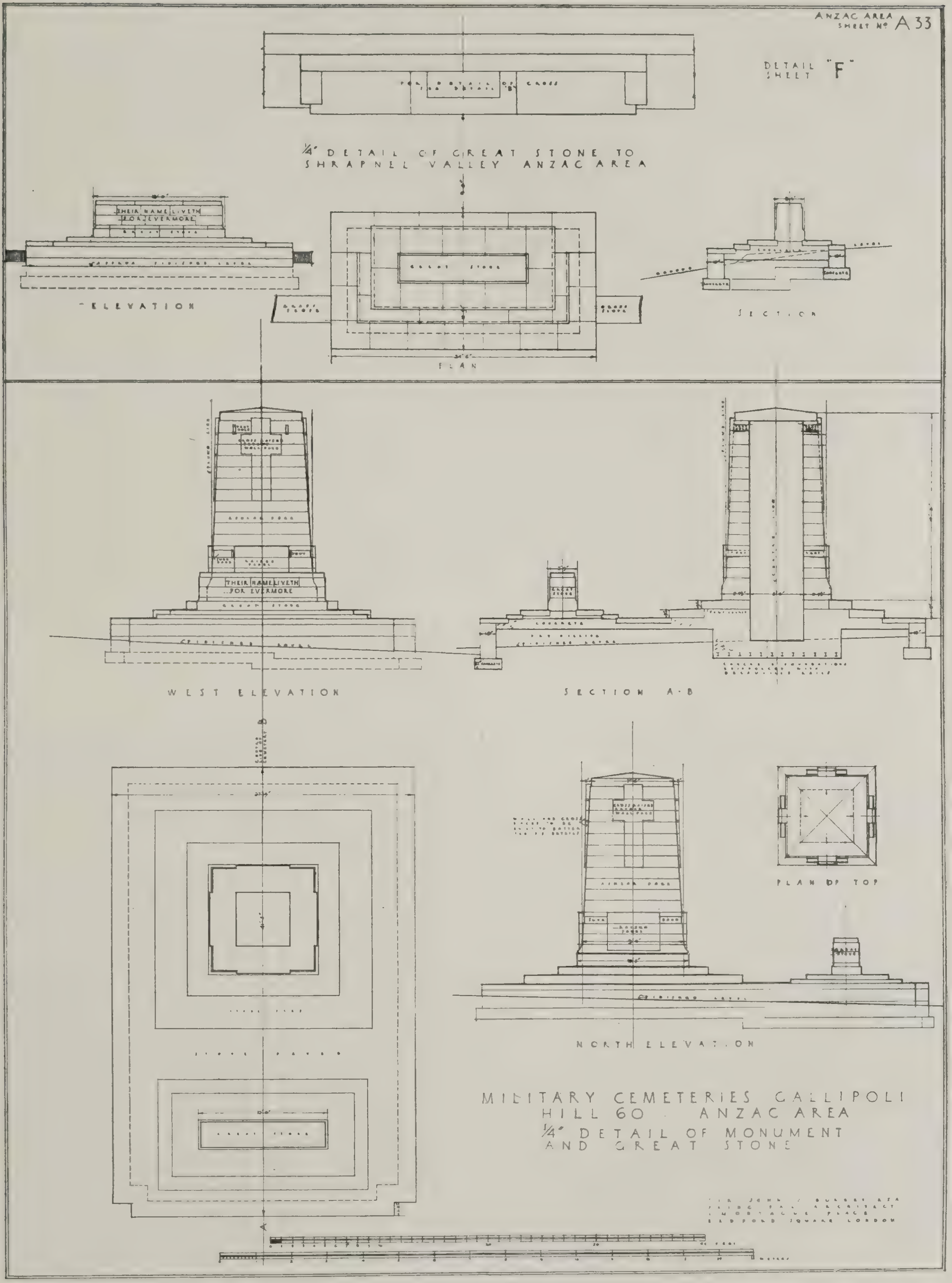

MILITARY CEMETERIES GALLIPOLI
QUARTER INCH AMENDED DETAIL OF
CROSS TREATMENT ETC. TO 'V' BEACH
12 TREE COPSE, REDOUBT LANCASHIRE LANDING
AND AZMAC CEMETERIES.
HELLES AREA
SHEET No H 14 X
THEIR NAME LIVETH FOR EVERMORE
HALF ELEVATION TO 'V' BEACH HELLES AREA
HALF ELEVATION TO 12 TREE COPSE & REDOUBT.
54' 0"
SEAT
SEAT
SECTION THRO WALL
PART ELEVATION
SECTION ON CENTRE LINE
SECTION ON LINE A A
SECTION THRO EMBANKMENT.
GRAVEL PATH
TURFED BORDER
HALF PLAN TO 'V' BEACH HELLES AREA.
HALF PLAN TO 12 TREE COPSE AND REDOUBT CEMETERIES.
FEET
METRES

DETAIL OF CROSS TREATMENT IN VARIOUS MILITARY CEMETERIES AT CAPE HELLES, GALLIPOLI.

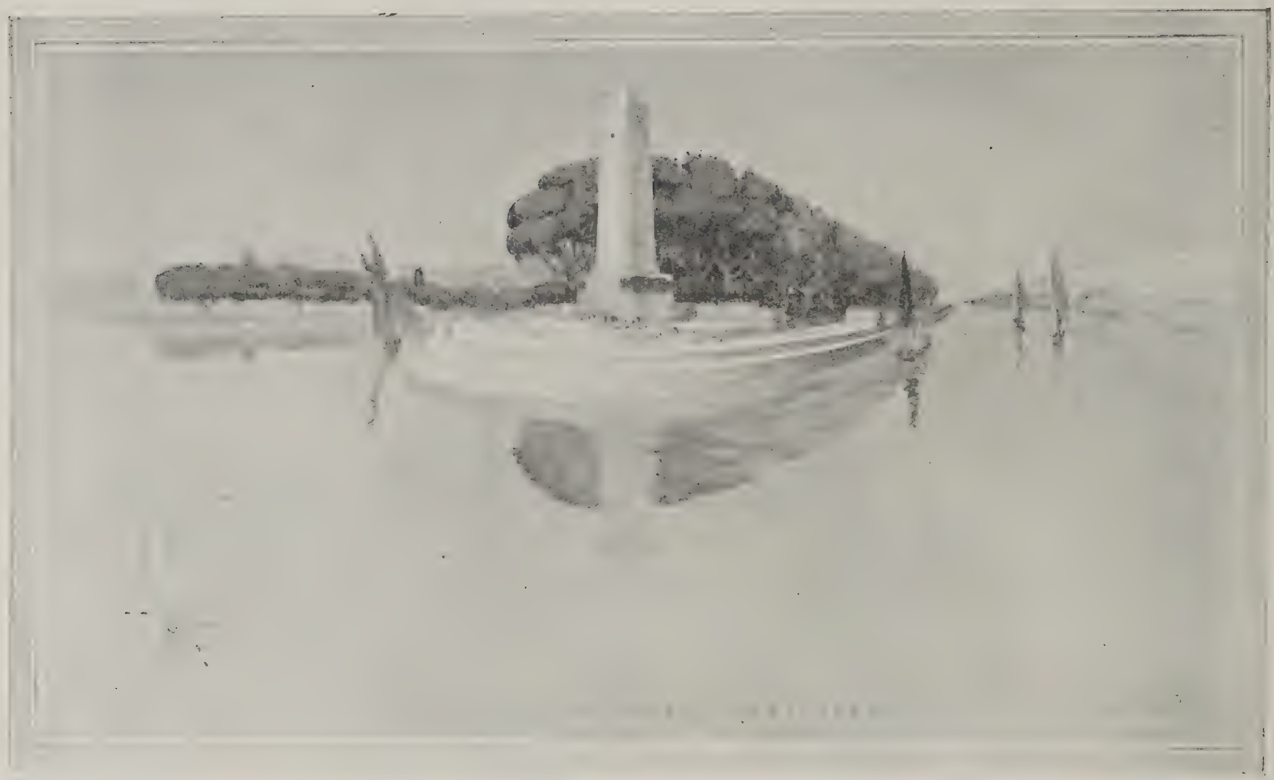
SIR JOHN BURNET, A.R.A., ARCHITECT.



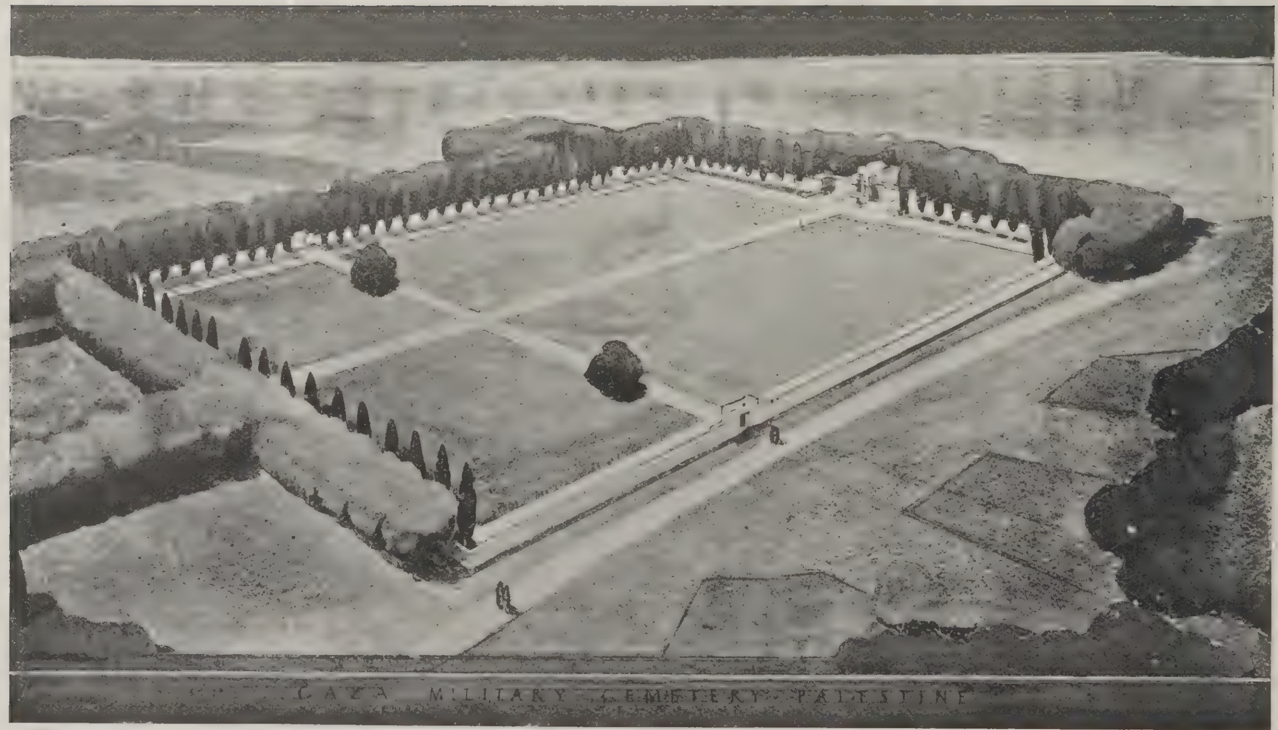
MILITARY CEMETERY AT HILL 60, ANZAC AREA, GALLIPOLI. SIR JOHN BURNET, A.R.A., ARCHITECT.



MILITARY CEMETERY AT HILL 60, ANZAC AREA, GALLIPOLI DETAILS OF MONUMENT AND GREAT STONE.
SIR JOHN BURNET, A.R.A., ARCHITECT.



PROPOSED INDIAN MEMORIAL, PORT THEWFIK.



MILITARY CEMETERY AT GAZA, PALESTINE.
SIR JOHN BURNET, A.R.A., ARCHITECT

Who is an Architect?

By IRVING K. POND, of America

THE first impulse is to turn to our dictionary; if it happens to be the "Standard" you will find that he is "One skilled in practical architecture; one whose profession it is to devise the plans and ornamentation of buildings or other structures and direct their construction."

This does not seem to settle the question, at least in law. As a matter of fact, the making of an architect in some States requires long and serious preliminary and technical training, while in another State a man not possessed of the same qualifications may be accepted as an architect. The first State says he isn't an architect and the second says that he is. They both say it by a standard of law.

The R.I.B.A., at a special meeting held in February of this year, seems to feel that an architect is one who has the qualifications which would entitle him to become a member of that body, and that any Parliamentary Bill for registration must limit the right to the title to those persons who have these qualifications. This led to an enlightening debate on "Unification," which appears to mean some provision by which all architects may find cover. Their problem is a difficult one since, if membership in their society is an essential, some folks will lose their right to practise if they cannot pay their dues.

We have not solved the problem in our country by Federal act; it is doubtful if we could, even though there were no constitutional barriers in the way. We have twenty-two definitions to date covering that number of States; some day we shall have forty-eight.

The American Institute of Architects has, in the past, met the problem in its own way, as far as related to its own membership, but one cannot help speculating as to the future attitude of this representative body. Can the Institute demand anything but the best in granting membership? If it doesn't insist on the highest standards, will not its field be limited to the States requiring the highest standard by law? It seems certain that the "Model Law" adopted by the Institute is a rule that it must use in testing the qualifications of candidates for membership.

It seems also fair to assume that a person calling himself an architect in a State where the lawful use of the title does not meet the accepted standards of the Institute may not be accepted for Institute membership unless such person can pass the examinations and requirements of the State having the maximum standard.

The architects have the companionship, in their journey, of lawyers, doctors, teachers, and others classed as members of learned professions. All kinds of expedients have been tried such as "reciprocal transfer"; but one State does not recognize the right of anyone in another State to govern its actions, or to examine its applicants for professional attainment.

One State says that you may be called an architect if you are a Canadian, but not if you are a Mexican; other States say that you cannot be an architect unless you have applied for American citizenship. We do not seem to let it bother us as it does our British brothers, even though it may be a little confusing to interstate societies.

A contributor raises the question "Who is an Architect?" It seems safe to say that the legal definition is merely in the making. His observations as to the statutory differences of definition now existing in various of our State laws on registration only sound a warning as to the difficulties that we shall encounter ere we come to a national agreement as to what is an architect. There are many complaints over the administration of the reciprocal features of our laws, and they spring, of course, from the differences to which we refer. If, for example, an architect passes a certain examination in order to be registered in his own State, does that entitle him to be called an architect in another State where the entrance examination is very much harder?

Our contributor speaks of the same difficulty in England, but here the trouble is occurring before registration. Parliament is unwilling to grant any law, it appears, until the architects come before it as a united body. "Unification," therefore, seems necessary as a first measure, but this calls not only for a merger of the Society of Architects with the R.I.B.A., but very likely requires that all architects now practising in the British Isles be admitted, without examination, to the R.I.B.A. Over this question there are strong differences of opinion, for many members of the R.I.B.A. cannot swallow the wholesale admission plan. The price seems far in excess of the ultimate value to be obtained by registration. But it is likewise true that there is probably no other way. Members of the American Institute of Architects, for example, in States where registration laws are now in force, had to suffer the humiliation of being registered in common with contractor-architects, builder-architects, and in one case, we remember, with an undertaker-architect. Of course this is not so bad as though they had been obliged to take these gentry into the Institute without examination, and we may well sympathize with the situation of our English confrères.

From the "Journal of the R.I.B.A." one sees that the vital present is challenging the attention of our British confrères; the same social and sociological tendencies which have been working through us have muddied their heretofore clear and limpid professional stream. The tendency to put art and professionalism in the straight-jacket of law is one which is now manifesting itself with our British brethren, as it has long manifested and still is manifesting itself with us.

Registration and Unification—how familiar they sound to us! Many of our States—twenty-three, to be exact—have registration or licence laws. One other State, in which literature alone seems to be considered an art, forces architects to register under an Engineering Act; the twenty-three regarding architecture more or less as an art, treat it as such, regulating matters only which bear upon the health and safety and physical welfare of the public, except that one, in establishing qualifications, seeks to pass upon the capacity to design. So, 50 per cent. of our States—and on the initiative of the architects themselves, acting from some confused notion of service to the public or (and?) from distinctly selfish motives—have passed laws regulating the practice of a supreme art! But regulation by law is in the air, and our British brethren and our own 50 per cent. as yet free and sane will have to come to it. There seems to be no inoculation against it. Materialism and legal and æsthetic formalism are stifling the spirit of freedom to create beauty in Great Britain as here in the United States. However, the R.I.B.A. has taken up, through its Committee reports, the principles of Registration and Unification, and seems likely to adopt and establish them in spite of wise cautions, while our A.I.A. has up to now been able happily to avoid the issue. But it is going to come in spite of us—or to spite us.

The architectural profession in both countries is becoming class-conscious. In Britain there always have been social classes which were conscious and self-conscious. Classes have existed in this country, but their self-consciousness has been regarded rather as a joke. But now in England, and the tendency is here too among us, classes are taking on a new alignment, and the barber, the plumber, the whitewasher, the architect, are becoming class-conscious and must needs demand legislation which shall protect them in their self-asserted "rights" against all comers.

How long, at this rate, will it be before we establish a caste system rivalling that of India in its wide ramifications, and this on a materialistic, as well as on a spiritual basis? And as to Unification—some of the British reactionaries fear the effect of that. And I, "if"—like Cæsar—"my name were liable to fear," would fear with them. A class, especially an Artist Class, can be unified only in name, and in those things in which the law, not the law of the spirit, but man-made law, can compress men into its mould. There can be true unity only when things of the Spirit—not selfish materialism or expectation of individual advancement—compel a fellowship of kindred souls. Souls are not necessarily kindred because the accompanying minds have decreed that the body should practise architecture.

Then the questions arise: How shall art be free? How may art escape the fetters which formal education and "class-consciousness" are binding about it? How, at the same time, shall the public be protected in its physical well-being as affected by sanitary or unsanitary, safe or unsafe, buildings? The answer is easy. Establish a practicable building code: district, state, and national. Permit a building to be built from any set of plans which are in consonance with the provisions of the code, no matter who makes those plans—be he painter, sculptor, baker, mason, or architect. License the builder to erect a structure in accordance with those plans, and if you can't get class-consciousness out of your system, or if your soul is burdened by the awful responsibility of the architect to the public, then protect the term Architect—with a big A—by examination along purely material and physical lines. Leave the spiritual man to grow with the spiritual growth and development of the race; and the public will be sufficiently protected; will be given a choice, through knowledge, as between the architect and the mere builder or designer, and that is all the protection the law need give the public. The public in this case is generally a wilfully ignorant or self-sufficient individual who needs the lessons of experience.

The "Journal of the R.I.B.A." and the "Journal of the Society of Architects" give considerable space to architectural education. I read these documents and pronouncements without any noticeable quickening of the pulse—as I do those emanating from our own architectural press. I am much more concerned with our primary and secondary educational procedure and with the curricula of our colleges; for I assume that before "the great globe itself" dissolves architects mostly will be recruited from the ranks of educated, cultured men of wide sympathies and understanding. In a future day, let us hope not too remote, educated and cultured men will have been taught to observe and to record their observations in sketch and drawing throughout the period of kindergarten, school, and college days. And, too, they will have been taught to use their hands in modelling and making, and their brains and imaginations in creating, in many fields. So that by and by they will be able to co-ordinate and correlate the activities of body and brain, of hand and heart. Then we will have a race prepared to create and enjoy art and capable of producing architects. The race is in no hurry to produce architects; that is an hysterical desire of individuals and schools.

My hasty glance over these British journals and peridicals informs me that along with laws and education our brothers across the Atlantic interest themselves, as some of us do, in another form of "straight-jacket" for art: that is, the geometrical basis of art as expressing itself in formulæ involving fixed and unalterable proportions and ratios between triangles, or squares, or diagonals, or diameters. Some write books in earnest advocacy of these spontaneity—crushing and spirit-breaking formulæ—and some review them sanely, which is altogether an achievement. [The foregoing article is quoted from the "Journal of the American Institute of Architects."]

The Port of London Authority's New Building

T. EDWIN COOPER, F.R.I.B.A., Architect

LOOKING over London from either the northern or the southern heights, one may espy a new landmark. It is the white, massive tower of the Port of London Authority's new building, challenging the dome of St. Paul's, and dominating all the lesser spires and domes that rise from the maze of miry streets surrounding the ancient Tower.

Broadly considered, the building is undoubtedly one of the most impressive of latter-day structures in the metropolis; the curious tradition that the mightiest interests of the great city of London should be housed in congeries of inconspicuous, dingy buildings seems to have died at last. Here is a building worthy of the administration which controls London's enormous maritime industry.

Without interruption from any who might desire to secure the adoption of some favourite idea as to the form a building of this character should take, and obviously without any restriction as to pounds sterling, the architect, Mr. T. Edwin Cooper, F.R.I.B.A., has provided, in the manner of the English Renaissance, a block of buildings on a scale that is altogether new to modern London.

The building stands on the site of Catherine Court, a seventeenth-century precinct frequented by the ubiquitous Mr. Pepys. Its cost—well over £2,000,000—would have caused the busy diarist to gasp.

It may be recalled that the building is the outcome of a competition held as long ago as 1912. The architect's original competition designs have been departed from considerably, so far as the external elevations are concerned, though the plan remains virtually the same.

It is the principal elevation that shows the greatest changes. In the original design the Corinthian columns of the portico were imposed on arcading: the arcading has now disappeared, and the columns rise from the steps. But the most noticeable change is to the tower. Previously in the same Renaissance manner as the remainder of the building, and showing a columned treatment, the tower has now taken on a more solid dignity. The surmounting finial has disappeared, leaving the top square and uncompromising—a bald statement—but tremendously impressive and original in its effect. The tilitarians may object to the spending of money on a feature that serves little if any practical purpose; but this tower, standing, as it were, at the gateway of the City, serves a very definite purpose in symbolizing the maritime greatness of the Port. Merely as a dramatic gesture it is worth while.

In the front niche of the tower is a giant figure of Father Thames, and at the sides emblematical figures of Commerce and Navigation. The sculpture is the work of the late Albert Hodge (who died after drawing the designs for the tower groups) and Mr. C. L. J. Doman.

The building is of five storeys, with a frontal portico of Corinthian columns carried up through three storeys. The side and rear elevations, if not particularly striking in the architectural sense, are plainly and effectively composed. Portland stone has been used throughout.

The most important condition put before competitors was " the provision of a fine hall, in which the Departments scheduled can be accommodated, glazed enclosures being provided generally for the various chiefs. This apartment to have good architectural character, and to be arranged for easy supervision and accessibility for the public." The great circular rotunda, so conspicuous a feature of the original design, has been retained, with its radiating corridors, to the angles, giving access to the administrative offices on all four sides of the building. Over the circular counter of the rotunda will be paid the ship dues of London. The dome of this hall has the distinction of being greater in diameter than that of St. Paul's, and it is probably the biggest reinforced concrete dome in Europe. Its diameter is 110 feet and its height 68 ft., and it is finely coffered. The Corinthian columns around the wall are of solid marble, and the walls are lined with ivory-tinted Subiaco marble, quarried in Italy.

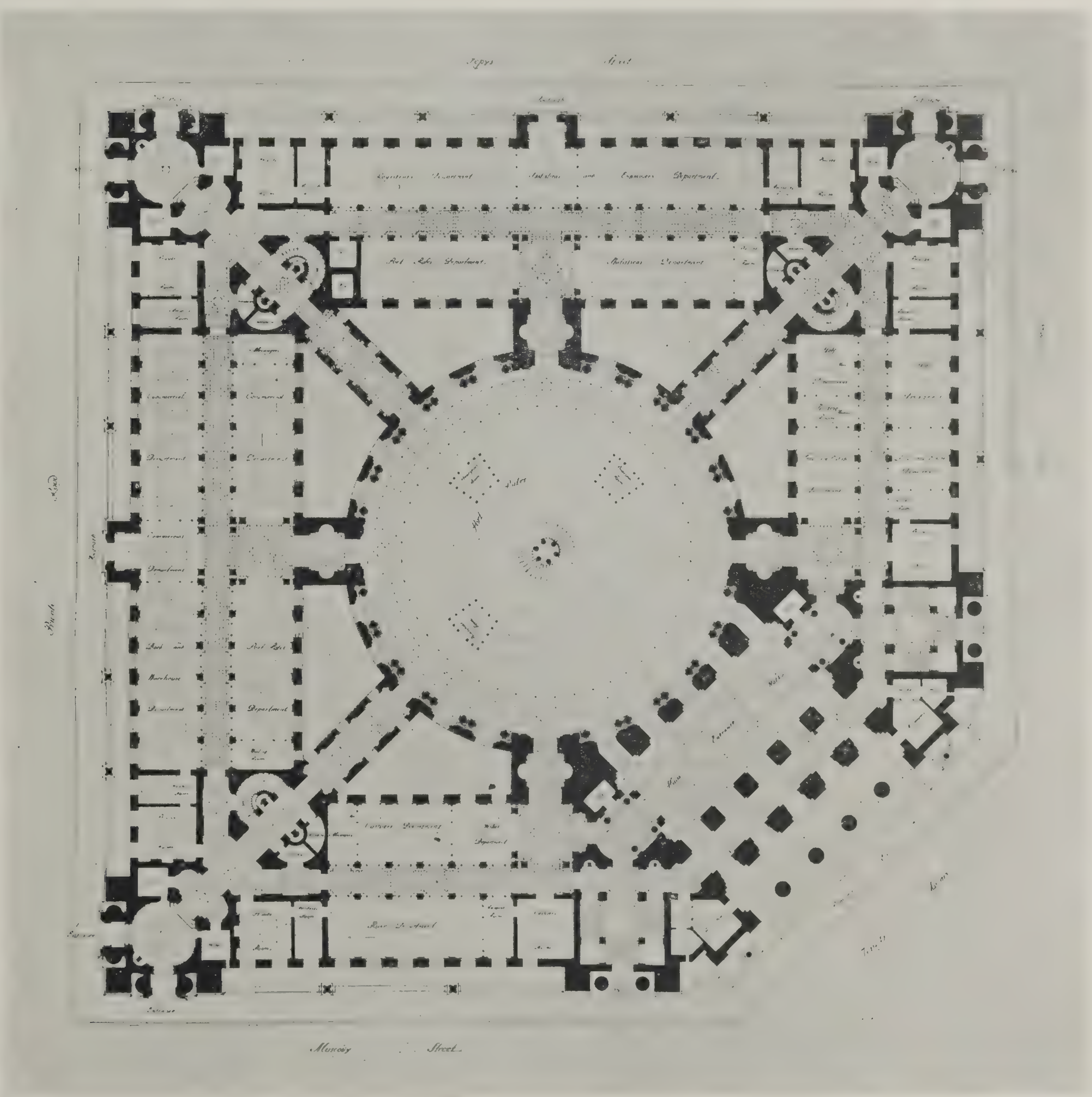
The business public passes between rows of small offices, each partitioned off by glass set in highly polished woodwork. The light from the windows in the external walls, and that from the part-glass dome is thus distributed throughout the greater part of the ground and first floors.

The plan takes the form of a square with one angle cut off to make a colonnaded entrance from Trinity Square. As will be seen, each corridor gives exit direct to the street. The staircase (to be observed in the very centre of the rotunda) gives access to the basement, where the strong-rooms and book-rooms are.

The illustration of the interior must be deferred to a later issue, as some of the rooms, at the moment of preparing this number for press, are not ready to be photographed. Some description of the principal apartments may, however, be given.

The building contains rooms for all the members of the Port Authority and offices adequate for the staffs of the numerous sections, which in the aggregate must be somewhere near those of some of the great Departments of State in Whitehall.

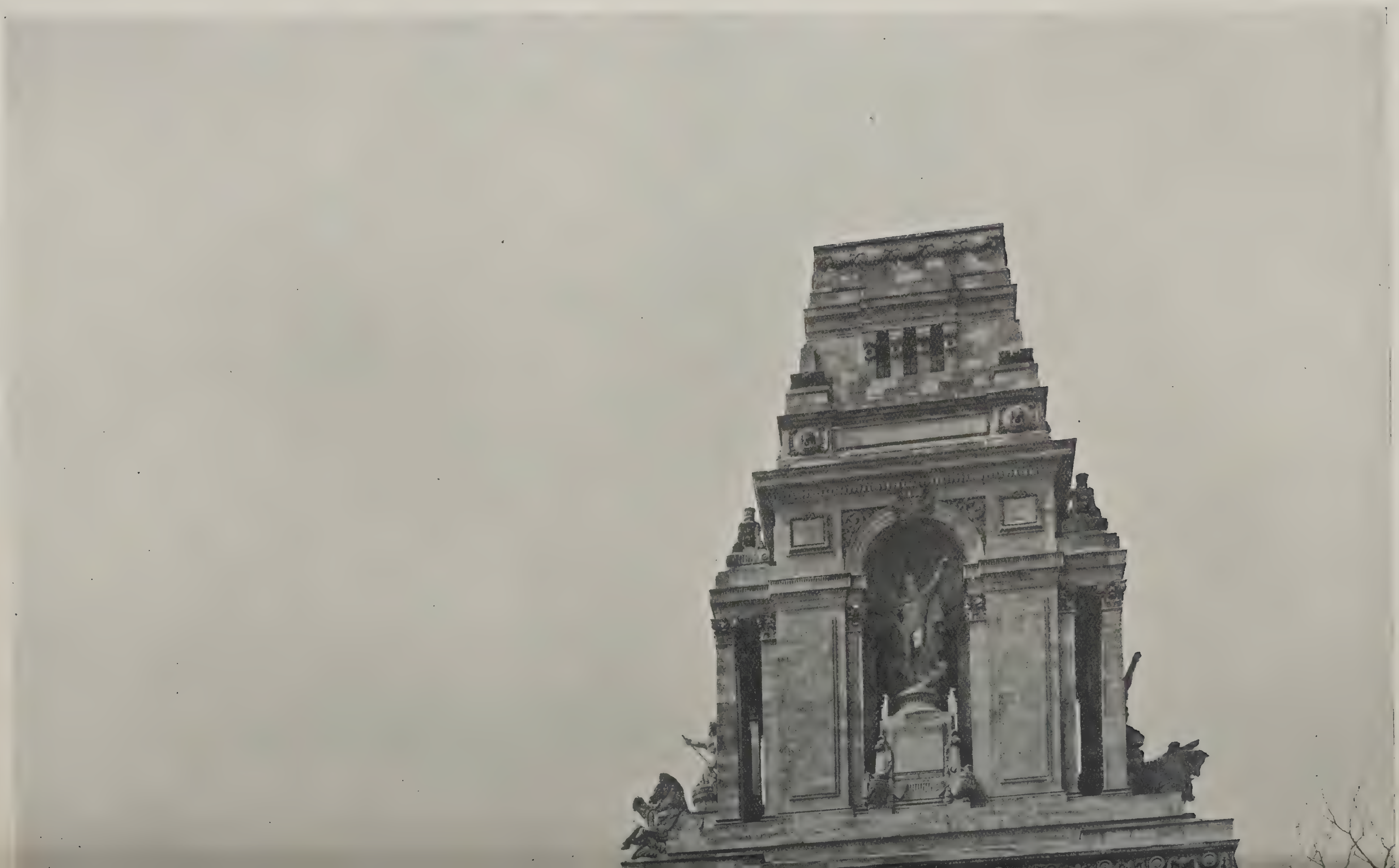
On the ground floor are the business departments to which the public will have access. From the entrance hall are two main staircases on either side, rising from the basement to the top floor. Each is carried by four square

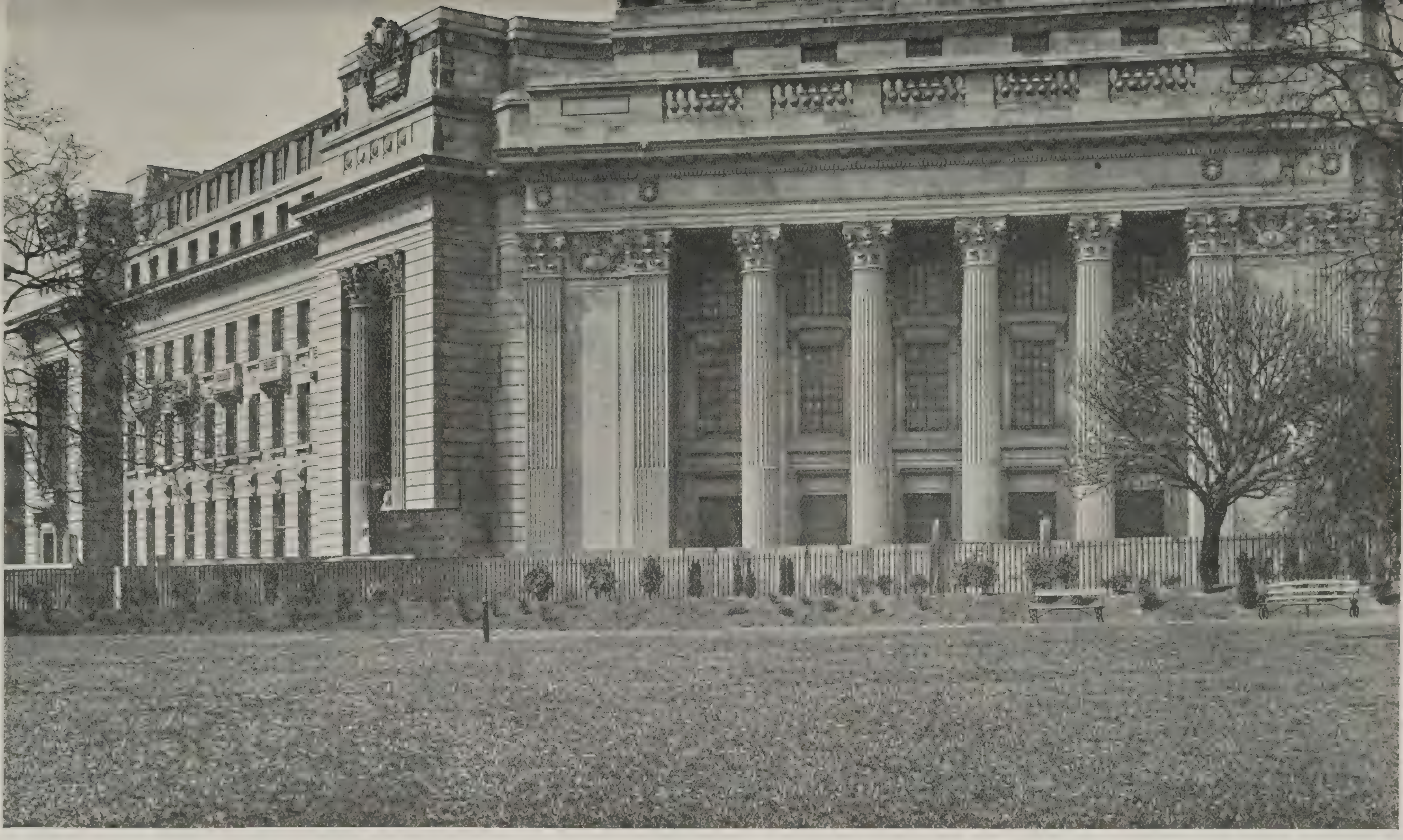


GROUND-FLOOR PLAN OF THE P.L.A. BUILDING.
T. EDWIN COOPER, F.R.I.B.A., ARCHITECT.

Current Architecture. 166.—The Port of London Authority's New Building, Trinity Square, London

T. Edwin Cooper, F.R.I.B.A., Architect





The new building for the Port of London Authority, just completed, is the outcome of a competition held in 1912, which was won by Mr. Cooper on the strength of a design that displayed great cleverness in the plan and boldness and dignity in the elevations. The building as carried out shows a number of modifications upon the original design, especially with regard to the principal elevation: the arcading, which was a feature of the ground-floor storey, has disappeared, the columns of the portico now rising from the steps; the tower has also been remodelled. The building is remarkable for its external sculpture, the front niche of the tower containing a giant figure of Father Thames with figures at the sides emblematical of Commerce and Navigation. Other groups are placed at ground-floor level within the pavilions flanking the entrance front. The sculpture is the work of the late Albert Hodge and Mr. C. L. J. Doman. The plan retains the feature which formed so striking an element of the original design—a great circular rotunda with public space around. Here will be paid the ship dues of London. The diameter of the dome to this apartment is 110 ft. and its height 68 ft. The building, which is carried out in Portland stone, with a rich use of decorative materials internally, has cost well over £2,000,000.

piers, and the walls are lined with polished marble. The open balustrades are of finely worked bronze and iron, and the landings have large apses.

On the second floor are the members' rooms, committee rooms, and dining-rooms. The main room here is a lofty board room, entirely panelled in dark brown English walnut with elaborate carving in the English seventeenth-century manner by Mr. G. Haughton of Worcester. This apartment—which is in the front of the building, overlooking Trinity Square and the Tower of London—is 60 ft. long, about 40 ft. wide, and 38 ft. high.

There is a suite of apartments for Lord Devonport, the chairman of the Authority, this gentleman's own room being in walnut throughout, with quartered panels and a polished steel fireplace surrounded by richly carved Italian marble. The ceiling bears medallion heads—Neptune having a prominent place. The secretary's room and the reception-room are treated with oak. Medallions similar to those found upon the ceiling of the chairman's room, are in most of the other rooms, bearing the figured heads of the great navigators who at various periods left the Thames on voyages of exploration or adventure.

The furniture, too—for the clerks, mostly of solid oak—has been designed by or for Mr. Cooper, and is in harmony with the interiors.

The building is wonderfully true to its purpose, and, maybe, when even St. Paul's has disappeared and Macaulay's New Zealander stands upon the bridge, one shall still be able to point to the great dominating tower of the home of the P.L.A. H. J.

The general contractors were Messrs. John Mowlem & Co., Ltd., and the following firms were among the sub-contractors engaged upon the building: F. J. Barnes, Ltd., Portland, Dorset: and Bath and Portland Stone Firms, Ltd., Bath (Portland stone); Wouldham Cement Co., Ltd., West Thurrock, Grays, and G. and T. Earle, Ltd., Wilmington, Hull (cement); London Brick Co., Ltd. (Fletton bricks); Joseph Brooke and Sons, Hipperholme, Halifax (stone steps and landings); Wm. Oliver and Sons, Ltd., J. Gliksten and Son, Ltd., and Sydney Priday and Sons (hardwood); James Gibbons, Ltd., Wolverhampton (locks, and door furniture); G. Matthews, Ltd. (grates); Haywards, Ltd. (iron circular staircases and pavement lights); Mumford, Bailey and Preston (heating and ventilating); British Luxfer Co., Ltd. (fireproof glazing); Cope & Co. (tiling); Dorman, Long & Co., Ltd. (steel erection); Matthew Hall & Co. (plumbing); W. H. Heywood & Co. (patent glazing); Higgins and Griffiths (electric light fittings); Hollis Bros. & Co., Ltd., Jameson Chambers, Hull (wood block flooring); F. de Jong & Co., Ltd. (fibrous plaster); Lawford & Co. (asphalting); A. and F. Manuelle (granite); Wm. J. Rasey (glazing); Geo. Rome & Co., Ltd. (plastering); Wm. Smith (steel windows and ironwork); Smith, Major and Stevens, Ltd., Abbey Works, Northampton (lifts); Whitehead and Sons, Ltd. (Subiaco marble, architectural carving, and plaster modelling); J. Mowlem & Co., Ltd. (screens, counters, and all wall panelling); A. Emanuel and Sons, Ltd. (sanitary fittings); J. P. White and Son, Bedford (furniture and fittings).

NOTE.—Where no address is given the firm in question has a London office.

Enquiries Answered

Oregon Pine Fittings.

H. D. writes: "I am having some fittings, i.e., bookcase, cupboards, etc., made out of Oregon pine. How can this wood be treated so as to produce the pleasant dark colour which old eighteenth-century fine panelling, etc., assumes after the removal of the old paint work? I do not wish to use ordinary stain as this usually spoils the effect of the grain of the wood owing to the fact that the soft wood absorbs more stain than the hard."

—If it is not desired to apply stain, the only alternative I know is to await the action of light, which will in about ten years impart the rich dark colour referred to to almost any soft wood untreated in other ways. I have some American whitewood furniture which in that space of time has acquired a beautiful soft brown tone. To ensure a pleasant surface and colour in the meantime the woodwork should be finished clean from the tool—not glass-papered—and friction-polished by the use of handfuls of pine shavings applied with plenty of "elbow-grease." E.

Red Paint Coming Through.

C. R. writes: "About twenty years ago some old plastered chancel walls were decorated with a diaper pattern in red. They have since been distempered, but the red came through; they were then painted with oil paint, with a like result in course of time. The walls are at times a little damp, chiefly from condensation on the surface. Apparently some chemical treatment is needed to destroy the action of the pigment if nothing can be found to cover it up. Will you give me your advice? I have had similar trouble with white paint upon woodwork previously red."

—This is a frequent trouble in cases where "Fast reds," vermilionettes, signal red, or similar pigments of coal-tar derivation are used, and as they are cheaper than mercuric sulphide (vermilion) they generally are used. They will continue to "bleed" or ooze through any coat of paint applied over them, but probably a coat of silicate solution would enable a succeeding coat to be applied with some chance of standing. E.

Iron Slate Nails for Copper.

C. R. writes: "What is the best method of dealing with unauthorized deviations from drawings or specifications in cases where time and client will not allow of the work being done over again? For example, iron slate nails were substituted for copper. A deduction of the difference in cost between copper and iron would neither compensate the client nor impress the contractor sufficiently to make him more careful."

—The deduction of difference in value of nails would obviously be a quite inadequate recognition in this case, but if the client refuses to have the unauthorized substitution rectified (which would be the proper course), I should say that any alternate settlement could only be by agreement or by litigation. The damage suffered may prove considerable, as I have seen many instances, where, though slates, battens, and roof timbers were sound, roofs have had to be stripped and relaid at an age of, perhaps, twenty years, owing to ungalvanized iron nails having rusted so badly that numerous slates were slipping. E.

Estimating Cost of Work.

A. L. writes: "Could you advise me as to what you would consider a safe price to take in estimating the cost per cubic foot of: (1) public halls, and (2) public baths, to be erected in North Lancashire? The elevations will be of Accrington brick with Portland stone dressings, and the south front nearly all of stone. Both public hall floors to be on springs for dancing. If possible, in the case of the bath, give cost per cubic foot excluding fittings and an approximate cost of the latter, including the laying of a supply pipe main from the sea, 400 yd. from nearest south building line and about 5 ft. below street level."

—It is very difficult to give any idea of the cost of specific buildings at the present time as so much depends upon local conditions and prices are varying from day to day. The present prices are still from 100 to 125 per cent. in advance of pre-war prices for most building materials and labour. Public halls might possibly be built at the present time for 1s 9d. to 2s. per foot cube, and public baths without the fittings for 2s. 3d. to 2s. 6d. per foot cube, and with fittings 3s. per foot cube. Swimming baths 1s. per foot cube. To provide and lay a 4 in. supply pipe 400 yd. long and 5 ft. deep, might cost somewhere about £250.

HENRY ADAMS.

Architecture in the Lay Press

Mr. Walcot in the United States

"WILLIAM WALCOT, British etcher and painter, has sailed for the United States to utilize America's wealth of architectural achievements as subject material for his peculiar talents, which are already well known on both sides of the Atlantic. His visit to this country is at the invitation of some 3,000 American architects represented in such organizations as the Architectural League and the Beaux Arts.

"The plan to have Mr. Walcot come here has been crystallizing among American artists and architects for some time, and The World' has just been advised of his definite decision to accept the invitation rom his fellow craftsmen, who are making arrangements for a series of dinners, university lectures, and other functions n his honour.

"His prospective hosts in this country believe that America, though lacking in maturity of civilization, will, nevertheess, offer his versatile talent a fruitful ield for his play of imagination. They believe he will 'capture' the spirit of our ndustrial civilization, in the words of one American artist, finding in scenes that are prosaic to the too accustomed eye those evidences of a distinct spirit which he has caught and pictured in so many other ettings.

"The Woolworth Building, the East River bridges, sights in which the layman perceives only or chiefly mere bulk or ommercial enterprise, will, it is believed, hold for Mr. Walcot the keynote to the eal, inner spirit of this country. And an appreciation of some such possibilities n his visit is what led to the invitation or him to come here.

"London has served to demonstrate his apacity for getting into the inner signicances. In etchings and water-colours he has portrayed her familiar scenes in the ight of the whole atmosphere and meanng of Great Britain's history and her spirations. His pictures are 'part of he life of the cities,' as an eminent British critic expressed it. Probably New York and Chicago will be chosen as he backgrounds for the similar work which he is expected to do while on his our here."—"The New York World."

Home of the Navy for Two Hundred Years

"The Admiralty buildings in Whitehall each their 200th anniversary this year. Work on them was begun in 1722, and ompleted four years later. The buildings eplaced a fine mansion, Wallingford House, which was built in the second year f the reign of Charles II for William, Lord Knollys. Later it was acquired by William III, who turned it into an Admiralty office. Erected by Ripley, the resent buildings were described by Horace Walpole as 'most ugly,' but they re full of interesting memories. It was n the captains' room, dimly lit by wax apers, that Nelson's body lay in state n the night of January 8, 1806, having een brought up the river from Greenwich n a procession of gunboats and state arges. Next day the coffin was placed y men of the 'Victory' on a magnificent funeral car drawn by six led horses, and so England's greatest sailor was taken to burial in St. Paul's. In 1895 blocks of new offices were added in the rear of the older building, and extensions were made again in 1900 and 1905. In the old boardroom, with its great naval paintings and splendid carvings by Grinling Gibbons, there was formerly a dial over the chimney-piece, connected with a weather-vane on the roof, so that the Lords of the Admiralty, as they sat round their table, could look at the clock and tell how the wind blew for their fleets at sea."—"The Daily Chronicle."

Sky-Scrapers Coming?

"Is the era of the London sky-scraper at hand? We have had an attempt to brighten London. Now we are promised plans to heighten London. A committee has actually been appointed by the Association of Retail Distributors to consider the question. The committee, which is representative of the heads of the great department stores, has under its terms of reference a two-fold object:—

> "To negotiate with the L.C.C. regarding the height of future store buildings.
>
> "To arrange with fire offices a new basis for the assessment of the fire risk in modern stores.

"The scope of work, as decided at the first of a series of meetings (over which Mr. A. E. Cowper, of Messrs. Selfridge, presided) gives promise of important developments. It is likely to have its effect not only upon city stores, but upon all future buildings in every large centre of population. The services of experts will be enlisted, and with their assistance the committee will endeavour to define in a series of carefully drafted regulations, the Standard I Store.

"In such a building the fire risk would be reduced to a minimum. Every detail in safeguarding the shopping public and the large number of employees will be considered. Among the questions upon which it is proposed to take evidence from the experts are:—

> "The height and nature of future store structures, whether of steel or reinforced concrete.
>
> "The broad principles in the design and outlay of new stores, including all questions of lighting, heating, fireproof and waterproof stores, and wide staircases giving direct access to the street.
>
> "Fire-resisting, preventing, and fighting appliances, and the organization of house fire brigades.

"Communications are invited from manufacturers and others who are producing the various materials and apparatus which are necessary to build a perfect store. The committee will also endeavour to secure a new insurance rate for a Standard I Store."—"The Daily News."

£250 Houses in Sight

"The need for new houses has been variously estimated, and a round figure of 500,000 is often urged and accepted. It is not necessary here to discuss needs in terms of numbers, as they will vary with the standard of housing adopted as essential. Probably, even now, everyone possesses some shelter which is more or less worthy of the name of house or habitation, but how far the standard is that which a housing reformer may desire is another question. Already there have been erected, with Government assistance, approximately 175,000 houses. Under the existing scheme the total number to be provided is fixed at 220,000. . . . We are within sight of the £250 house, that is to say, the house which should be sold at £300 inclusive. One may hope, therefore, that the great independent agencies of supply may again be utilized in the provision of this essential to life. In many cases prospective tenants could and should be encouraged to obtain their own houses. Why do they not? Is it that the virility, independence, and self-reliance which have resulted in a world-wide empire and world-wide enterprise have been sapped? This is scarcely credible. It can only be that undue encouragement has been given to look to the State for the provision of houses, and the idea has been fostered that it is a serious inconvenience to own a house of one's own. . . . I can say with confidence that in the housing of the people we lead the way for the whole world."—Sir Charles T. Ruthen in "The Sunday Illustrated."

The Surviving Arch of Old London Bridge

"Were it not for the distractions of the hour, it cannot be believed that there would be any risk of one of the most hallowed relics of London's history being callously destroyed. Yet this seems to be in prospect unless the pressure which the Society for the Protection of Ancient Buildings brings upon Sir Robert MacAlpine at its interview proves strong enough to gain a reprieve for the surviving arch of the original London Bridge. When one speaks of 'the original London Bridge,' one alludes, of course, to stonework. There has always been a London Bridge as long as there was a London. There would have been no London without the bridge. It was simply the town at the bridge-head. None of London's institutions is in an equal sense 'bone of its bone.' It was already a world-famous institution when it was mentioned by Dante. . . . The bridge of which the last arch, just brought to light on the north side of the river, is now threatened, dates from about the year 1200. It withstood the hand of time for six centuries. This relic ought to be as sacred as anything in London's architecture. The contractor in whose hands the decision appears to lie shows himself not insusceptible to the claims of history, since he is willing to remove the stones and put them together again elsewhere. But the proposal, while well meant, misses the essential point. A monument is not of masonry alone; it is the masonry plus the site. Every lover of London's past must feel that to remove this arch, except under some overwhelming necessity, is in a very real sense the destruction of a piece of history itself."—A Correspondent of "The Observer."

STUDENTS' SECTION

Reinforced Concrete Calculations for Beginners. II

By Prof. HENRY ADAMS, M.Inst.C.E.

WE must now go a step further and see how to find the position of the neutral axis in a reinforced concrete beam according to the dimensions and the percentage of reinforcement.

Let A_s be the area of the reinforcement in sq. in., and A_c the effective area of concrete, then $A_c = b \times d$, the breadth multiplied by the effective depth. Let $p =$ the ratio of steel to concrete, or $\frac{A_s}{A_c}$; thus for 1 per cent. reinforcement $p = \frac{1}{100} = {\cdot}01$. Let $k =$ the fraction of the effective depth at which the neutral axis occurs, then $k \times d$ will equal the actual depth of the neutral axis below the compressed surface.

Before we can go any further it is necessary to explain what is meant by the elastic modulus, or coefficient of elasticity (E). The elastic modulus is the direct stress on any material divided by the deformation under stress, or tensile stress per sq. in. of section divided by the elongation in inches per inch of length. Thus for mild steel a bar with a sectional area of ½ sq. in. will be stretched, say, ·006 in. in a length of 8 in. by a pull of 11,200 lb. Then $\frac{11200}{\frac{1}{2}} = 22{,}400$ lb. tensile stress per sq. in., and $\frac{{\cdot}006}{8} = {\cdot}00075$ in. elongation in inches per inch of length, giving us $\frac{\text{stress}}{\text{strain}} = \frac{22400}{{\cdot}00075} = 29{,}866{,}667$ for the elastic modulus of mild steel. It usually varies between 29 and 30 millions, the latter being taken for the sake of having round numbers. This modulus of elasticity is often called the "stress-strain ratio" from the way it is obtained. In old books the modulus of elasticity, or "Young's Modulus of Elasticity," will be found described as "the force that would extend a bar 1 in. sq. to double its length." This, of course, is absurd, as nothing but very flexible indiarubber would conform to it; the statement should have been extended by adding "if the elongation could proceed at a uniform rate in proportion to the force applied." It is found that the elongation is only regular up to a point about half-way to the breaking weight, called the "elastic limit," and in mild steel this is also the "yield point" because there is a sudden jump in the elongation. Concrete is a much weaker material, and has, consequently, a lower elastic modulus. In the calculations for reinforced concrete it is necessary to know the ratio or proportion in this respect between the two materials. Let E_s be the elastic modulus of steel and E_c that of concrete, and m the ratio of the two. Then $m = \frac{E_s}{E_c} = \frac{30{,}000{,}000}{2{,}000{,}000} = 15$.

Now we are in a position to state the formula for position of neutral axis, which is $k = \sqrt{(p^2 m^2 + 2p.m)} - p.m$. We shall not attempt to prove the formula or show how it is derived as that can be done later on from a text-book.

Take the beam we considered before, 12×24 in., with an effective depth of 22⅝ in. to the centre of four ¾ in. rods, giving ·65 per cent. reinforcement.

$p = \frac{{\cdot}65}{100} = {\cdot}0065$; $m = 15$, then

$$\begin{aligned} k &= \sqrt{(p^2 m^2 + 2p.m)} - p.m \\ &= \sqrt{({\cdot}0065^2 \times 15^2 + 2 \times {\cdot}0065 \times 15)} - {\cdot}0065 \times 15 \\ &= \sqrt{({\cdot}00004225 \times 225 + {\cdot}195)} - {\cdot}0975 \\ &= \sqrt{({\cdot}0095 + {\cdot}195)} - {\cdot}0975 = \sqrt{{\cdot}2045} - {\cdot}0975 \\ &= {\cdot}4523 - {\cdot}0975 = {\cdot}355, \end{aligned}$$

the fraction of the depth at which the neutral axis will exist. The effective depth of beam is 22·625, which, multiplied by ·355, gives the actual depth of neutral axis as 8·03 in. from the upper surface.

Now, although the calculations are somewhat troublesome, it is worth while finding out how the position of the neutral axis would be altered by taking the larger reinforcement of four ⅞ in. rods. ⅞ in. diam. = ·6 sq. in. area, ·6×4 = 2·4 sq. in., 12×22·56 = 270·72;

$$\frac{2{\cdot}4 \times 100}{270{\cdot}72} = {\cdot}886 \text{ per cent.}$$

$p = \frac{{\cdot}886}{100} = {\cdot}00886$; $m = 15$, then

$$\begin{aligned} k &= \sqrt{(p^2 m^2 + 2p.m)} - p.m \\ &= \sqrt{({\cdot}00886^2 \times 15^2 + 2 \times {\cdot}00886 \times 15)} \\ &\qquad - {\cdot}00886 \times 15 \\ &= {\cdot}532 - {\cdot}1329 = {\cdot}399, \end{aligned}$$

and 22·56 × ·399 = 9 in. below top surface. So that increasing the percentage of reinforcement has lowered the neutral axis. The two results are shown in Figs. 3 and 4.

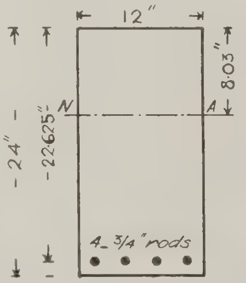


FIG. 3

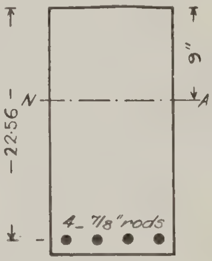


FIG. 4

(To be continued.)

The Architectural Schools

The Architectural Association

The Architectural Association's educational work has developed since 1847, until at the present day the schools practically supersede the pupilage system, which in London and many provincial centres has been abandoned as a method of training those who propose to make architecture their profession.

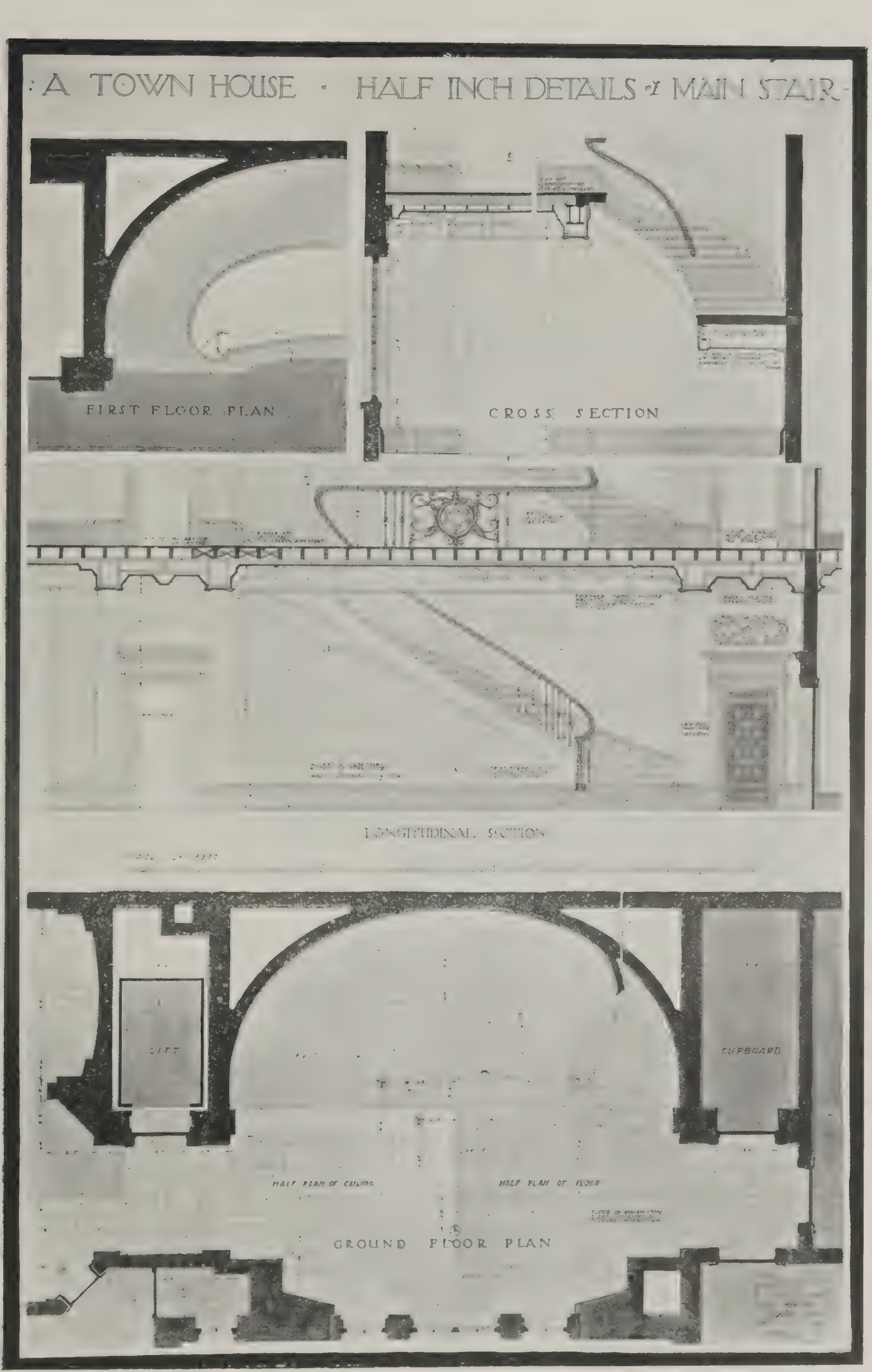
The development of the school has eliminated the need for students to sit for the various graded examinations, passes in which were necessary before admission could be gained to the recognized professional architectural bodies. The standard aimed at by the school is rather higher than was generally considered necessary in the past for qualification as a trained architect.

The work carried out in the five years forming the complete course has been systematized and carefully graduated with a view to obtaining the best results from the average student, and not with the idea of "forcing" and obtaining startling results from a favoured few. A brief capitulation of the various years and the work done in each is as follows :—

The first year students study the elements of buildings both in their architecture and construction. They receive explanations of the *raison d'être* of each element, these being synchronized with historical lectures showing the application of first principles. Geometry, perspective, freehand, sciography and colour values, etc., are taught progressively, but pure design is only studied sufficiently to form a basis for construction. The lessons learned in technique and theory are finally applied during each of the three terms in the execution of classic detail such as the "Orders."

In the second year the students specialize in portions of the practical and theoretical instruction given. More complex details of construction are studied and architectural design progresses based on historical periods—at first, compositions based on elements of the best examples of the principal periods, and, finally, original designs inspired by historical styles. Courses of lectures on history, decoration, construction, and the theory of design continue throughout all the years in the graduate course, and are synchronized with the practical work in the studios, while freehand and drawing are, of course, also studied.

The third year allows increased scope for design, there being no restriction to periods or styles, and construction is more advanced, working drawings being prepared with the design subjects as a basis. Twelve-hour studies in design are frequent, and the teaching of composition in mass and detail occupies a proportionately larger time than in the second year. Design and construction are taken as one



HALF-INCH DETAIL WORKING DRAWINGS OF A STAIRCASE FOR A TOWN HOUSE.

(By a Student of the Architectural Association.)

subject and not dissociated, and every effort is made to fit students for the commencement of outside work in architects' offices which will follow during the graduate course. A necessity for the architectural student is attention to measured work and outdoor sketching, and every encouragement is given for the prosecution of these during the holidays and during the summer term.

In the fourth and fifth years, forming the graduate courses, the curriculum is arranged to provide further training to an enhanced standard. The time spent is almost evenly divided between advanced design and construction, with the addition of special subjects, such as "decoration" and "town planning." It is also required that the students show proof of at least six months' experience in practical building work either during or after these years, before the final diploma is granted.

In order to provide training facilities for those students who have not had an opportunity of benefiting by a full course in the day schools, the Association provides an evening studio or "atelier" of design, independent of the day schools, where instruction is given to students who have had previous training and experience, but who wish to perfect themselves in architectural design.

The instruction at the A.A. Schools aims at applying a combination of the most satisfactory features found in the best similar institutions in this and other countries. In the study and working out of design the student is encouraged to absorb the lessons of all fine past traditions; with this as a basis, the school attempts to develop the capacity for logical thought and reasoning necessary for solving modern architectural problems, together with the technique necessary for expressing such solutions. The school does not desire to perpetuate any one style or "manner" in architecture, but encourages original thought, realizing that the individuality of the architect is as varied as the problems which he will later be called upon to solve. On the purely technical side the school aims at preparing students to meet the practical realities of the profession with trained knowledge.

A medal is presented annually by the Société des Architectes Diplomes par le Gouvernement, Paris, to the best diploma student in the school.

The teaching staff of the school is as follows: Director of Education, Robert Atkinson, F.R.I.B.A.; Principal, Howard Robertson, S.A.D.G., M.S.A.; First Year, E. H. Evans, A.R.I.B.A., G. D. G. Hake, A.R.I.B.A.; Second Year, E. R. Jarrett, A.R.I.B.A.; H. St. John Harrison, A.R.I.B.A.; Third Year, R. A. Duncan, A.R.I.B.A.; V. O. Refs, A.R.I.B.A., G. G. Clark; Fourth and Fifth Years (Graduate Course), L. H. Bucknell, A.R.I.B.A.; Atelier, H. Chalton Bradshaw, A.R.I.B.A. (Rome Scholar, 1913); Town Planning, L. H. Bucknell, A.R.I.B.A.; Architectural Decoration Course, L. H. Bucknell, A.R.I.B.A., T. B. W. Champneys; Art and Decorative Design Subjects, W. M. Keesey, A.R.C.A.; Garden Design Course, Hugh R. Dixon; Construction, P. H. Farmer.

The lecturers are: P. H. Farmer (mechanics; construction, second year); C. E. Varndell, F.R.I.B.A. (construction, third year; surveying, sanitation); H. Chalton Bradshaw, A.R.I.B.A. (history of architecture, first year; general history of architecture, second year; Greek and Roman history of architecture, second year; Renaissance); R. A. Duncan, A.R.I.B.A. (history of architecture, second year; mediæval); W. Harding Thompson, A.R.I.B.A., M.T.P.I. (theory of town planning); C. H. James, A.R.I.B.A. (communal planning and housing); Wm. Harvey, Gold Medallist, R.A. (Owen Jones' Student), (geometry and mathematics, first year; stereotomy, second year); Oscar Faber, D.Sc., A.M.I.C.E., O.B.E., etc. (reinforced concrete, steel construction); Hamilton H. Turner, Q.S.A. (professional procedure and practice, fourth and fifth years); Lawrence M. Tye, M.I.E.S. (electric lighting, fourth and fifth years); F. Broadhurst Craig, M.I.H.V.E. (heating and ventilation, third, fourth, and fifth years). The house master is W. T. Ching, A.R.I.B.A., and the librarian, Hope Bagenal, A.R.I.B.A.

Royal College of Art School of Architecture

The professor of the School of Architecture of the Royal College of Art is A. Beresford Pite, M.A., F.R.I.B.A., Hon. A.R.C.A., and the assistant instructor is L. M. Austin, A.R.I.B.A., A.R.C.A. The school has two courses. The lower division provides an auxiliary course for the schools of drawing and painting, design and sculpture. This course deals with the relation of the arts to architectural history and style; the spaces and forms of buildings that are decorated in colour or enriched with sculpture; the employment of the crafts in furnishing and completion; and the study of geometrical draughtsmanship for technical purposes. The upper division course is for the specialized study of architectural design by students intending to become architects.

Lower Division.

Students enter upon a course, suitable for their calling, in the architecture school, upon the recommendation of the professor of their own school; such a course may be taken as preliminary to or at subsequent periods of their college career. The general syllabus of the lower division includes historical design in craftsmanship based upon studies in the Victoria and Albert Museum; lectures and exercises in design, dealing with woodwork, Renaissance ornament, the mediæval crafts; Greek studies at the British Museum; with special studies from time to time—*e.g.*, Renaissance colour decoration of buildings, the employment of sculpture, etc.

Upper Division.

This division undertakes specialized study with a view to the Associateship in architecture. The standard of admission to the course corresponds with the qualification of entrance scholars in architecture, viz., the Intermediate Examination of the R.I.B.A., It is intended for those who have had preliminary training in an architect's office for two or three years, or have undertaken art school studies in conjunction with courses in building construction. Students are advised to undertake the course of the lower division as preliminary to the specialized study of this division. The aim of the course is the special study of the art of design in architecture, its objects and means of expression. It is based upon historical studies and upon modern requirements and materials.

Students of other schools of the College who have taken the lower division course may, with the permission of the professors, prepare designs combining architecture with colour decoration or sculpture in this division.

Post Diploma Study.

Advanced studies are continued. Designs for the prize competitions of the British School at Rome and of the R.I.B.A. may be undertaken. Measured surveys of buildings away from the College may be undertaken, the drawings being worked out in the school. Collaboration with painters, sculptors, and designers in a complete scheme for a building or for an important design may be arranged under the joint advice of the professors. Special studies with a view to the student's professional career may be made under the advice of the professor.

Entrance Tests.

The following are the works to be submitted and the entrance tests to be passed for the School of Architecture:—

(*a*) The works to be submitted by a candidate are five drawings, half double-elephant size, as follows:—

(1) and (2). Examples of two of the Greek and Roman orders of architecture. Each drawing should have two columns of one order complete, the columns being not less than 10 in. high, with details three times the scale of the column, and diagrams showing the application of the drawing to the whole building.

(3). A drawing of classic detail from the round, shaded.

(4) and (5). Two sheets of measured drawings of an existing building or portion of a building.

(*b*) The examination or test of the candidate at the College consists of making a drawing, to be plotted on the spot, from measurement, and executed in five days, of some architectural object in the Victoria and Albert Museum selected for the purpose.

Time allowed: 6 days.

Leeds School of Art

The Department of Architecture and Civic Design of the Leeds School of Art was founded in 1902, by the efforts of the Leeds Education Authority, and under the patronage of the Leeds and West Yorkshire Architectural Society. Since then the department has grown in numbers and importance, and to-day it is one of the most important centres of architecture in the North of England. In 1915 the department became a "recognized school" by sanction from the Board of Architectural Education, and students passing successfully through the prescribed courses are exempt from the Intermediate Examination of the R.I.B.A.

This year a diploma course has been founded, on the successful completion of which students will be awarded the "Diploma of the School of Architecture." The diploma course, which consists of the fourth and fifth years of study, represents a much more advanced standard of professional education, and indicates a high standard of excellence in design and art generally. It is the aim of the school authorities to bring the diploma course to the standard required by the Board of Architectural Education for exemption from the Associateship Examination of the R.I.B.A. at as early a date as possible. The school authorities are at present negotiating with the Board a scheme for "recognition" of the part-time course, whereby students successfully completing this course may be exempted from the Intermediate Examination of the R.I.B.A.

An arrangement has been made whereby students of the architectural department will attend day courses on building construction, etc., at the Central Technical School. These courses have been arranged specially for the students of the department, and the syllabus of study brought into line with the requirements of the Board of Architectural Education.

The Leeds and West Yorkshire Architectural Society take a deep interest in the work of the department of architecture, and their Council nominate representatives to visit the department periodically to inspect its work. The department has, therefore, unique advantages, in that students are afforded expert guidance in general art and drawing by attending classes in the other departments of the School of Art; training in construction and allied subjects at the Technical School; and the guidance and helpful criticisms of professional architects.

No classes take place on Friday evenings, these evenings being set apart for the meetings of the Leeds and West Yorkshire Architectural Society.

Students entering the department are required to produce evidence of a secondary education, and to pass an entrance examination in drawing and geometry. Students who fail to pass this entrance examination are required to take the preparatory course, at the end of which they may again submit to examination. If possible, students take the Matriculation examination of the Northern Universities' Joint Matriculation Board, or the Oxford or Cambridge Senior Local Examinations before beginning their architectural studies.

The entrance examination held in the department is accepted by the Board of Architectural Education as exempting successful students from the Probationership Examination of the R.I.B.A.

The staff of the school is as follows: Chairman, W. H. Thorp, F.R.I.B.A.; Principal, Harold H. Holden, A.R.C.A., A.M.C.; Head of Department, Joseph Addison, A.R.I.B.A., A.T.P.I., A.M.C.I.; Assistant Master, F. W. H. Allison, A.R.I.B.A.; Demonstrator, Walter C. Bickerton, A.R.I.B.A.

Lecturers and Demonstrators: Joseph Addison (Head), architectural design, town planning, civic design, history of architecture, etc.; F. W. H. Allison (Assistant), perspective sciagraphy, and rendering; W. B. McKay, M.R.S.I. (Head, Building Dept., Technical School), building construction, building science, structural work, etc.; J. V. Priestley (Tech. School), builders' quantities; H. E. Simpson (Head, Design Dept.), colour decoration and lettering; A. W. Pope, A.R.C.A. (Head, Painting Dept.), life drawing and antique; R. T. Cotterill, A.R.C.A. (Head, Modelling Dept.), stereotomy (practical) and modelling; J. E. Corr, A.M.C., freehand drawing.

Cambridge University School of Architecture

Following is a table of the lectures proposed by the Board of Architectural Studies, 1922–1923. [*All lectures, unless otherwise stated, will be given in the School of Architecture, 75 Trumpington Street.*]

Michaelmas Term, 1922.	Lent Term, 1923.	Easter Term, 1923.
School of Architecture under the direction of Mr. Theodore Fyfe, assisted by Mr. Hughes: Freehand and Architectural Drawing, Construction, Design, Materials and Practice of Architecture. Every weekday, 9–1, 4–7. £15 15s.	The same continued.	The same continued.
Mr. Lyon. Supervision in Design.*	The same continued.	The same continued.
Practical freehand drawing (for Engineering Students). W. 2. £1 1s.	The same continued.	Architectural Sketching Class. Th. 2.15.
First and Second Examinations in Architectural Studies 1923.		
I. GENERAL HISTORY OF ART.		
Mr. Fyfe. (*Mus. Class. Arch.*) The Classical Arts to the sixth century A.D. Alternate F. 5. Oct. 13.†	The same continued.	The same continued.
Prof. E. S. Prior. (*Mus. Class. Arch.*) European Mediæval Art, A.D. 300–1150. Alternate F. 5. Oct. 20.	The same continued. A.D. 1150–1350.	The same continued. A.D. 1350–1550.
Mr. Hughes. English Architecture, A.D. 1066–1640. Tu. 5. Oct. 17.†	The same continued. T. 5.†	
Prof. Beresford Pite. Development of Mediæval Construction. W. 4.30. Oct. 18.†	Renaissance Architecture. W. 4.30.†	Renaissance and Modern Architecture. W. 4.30.†
Prof. E. S. Prior. (*Mus. Class. Arch.*) Flemish Art. Alternate F. 3.30. Oct. 27.		
Mr. A. B. Cook. (*Mus. Class. Arch.*) Greek and Roman Sculpture. M. F. 12.10. Fee 10s. 6d. Greek and Roman Architecture. Tu. Th. 12.10. Fee 10s. 6d.	The same continued. Tu. Th. 12.10.	Greek and Roman Painting. S. 10.
Mr. Kaines Smith. (*Magd.*) Historical Painting (4 lectures). F. Nov. 3. 5.30 p.m. No fee.		
Mr. Vulliamy. (*Arts School.*)		
Mr. Constable. (*Arts School.*) Italian Art in the time of Dante† (6 lectures, times to be announced).		
French Art in the 17th and 18th centuries† (6 lectures, times to be announced).		
Mr. Bullough. (*Arts School.*) General Æsthetics. W. 5.30. Oct. 18.		
II. ELEMENTARY DESIGN AND DRAWING.		
Mr. Fyfe. General review of the work of the School. Tu. 9. Oct. 17.	The same continued.	The same continued.
Mr. Hughes. Construction: the building of a house.*		
Prof. Beresford Pite. Planning (demonstrations and criticisms on design-subjects). Th. 9. Oct. 19.	The same continued.	The same continued.
III. PROPERTIES OF MATERIALS, ELEMENTARY MECHANICS, PRACTICAL MATHEMATICS.		
Mr. Moullin, Mr. Fyfe, and Mr. Hughes. Lectures and Classes.*	The same continued.	The same continued.

I. Courses will also be arranged for candidates for Parts I and II of the examination in Architectural Studies and the Special examinations in Architectural Construction and History of Art.

II. Courses in the History of Art as a principal subject for the Ordinary B.A. Degree will also be arranged. Several of the above courses will be suitable for candidates, who should consult the Secretary of the Board, Mr. Edward Bullough, Gonville and Caius College.

It should be distinctly understood that Parts I, II, and III are based on the requirements for first-year students only in the official "Regulations for the Architectural Examinations." They are not intended to cover all the requirements for second- and third-year students.

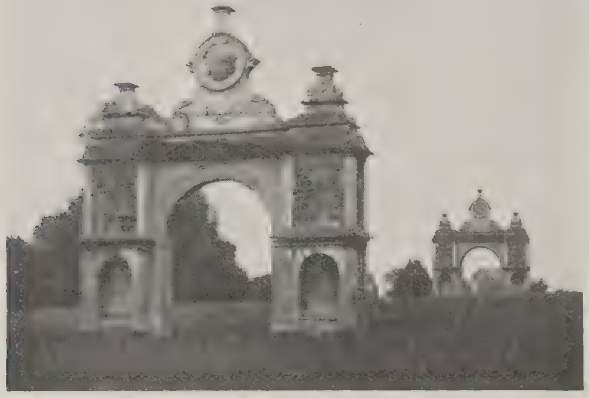
* Times to be arranged at the beginning of each Term. Students are requested to put themselves at once into communication with Mr. Fyfe, School of Architecture, Trumpington Street (opposite Pembroke College).

† External Students will be charged half a guinea.

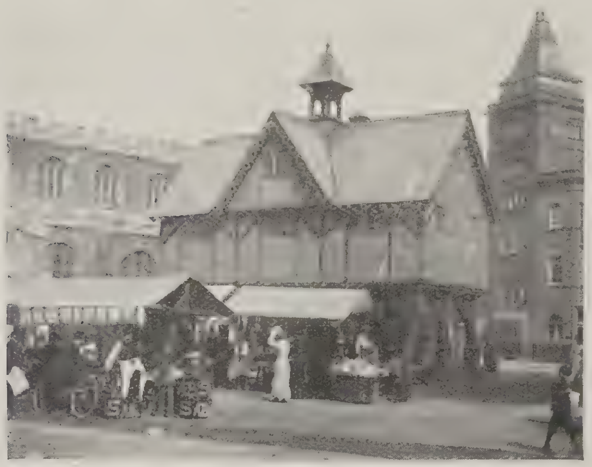
A Pictorial Review

Illustrations of Topical, Practical, or Curious Interest

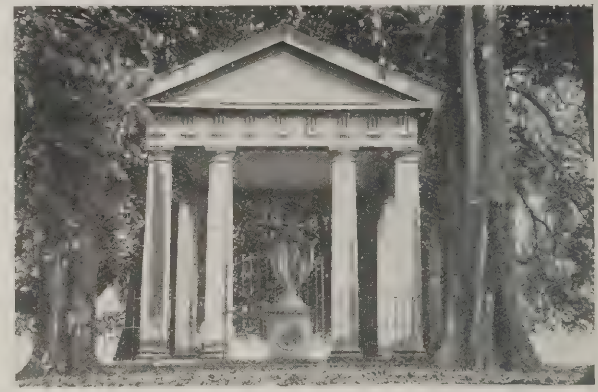
Readers are invited to send in sketches and photographs for publication in these pages. A fee of 2s. 6d. will be paid for each illustration accepted. Contributions should be accompanied by short explanatory notes.



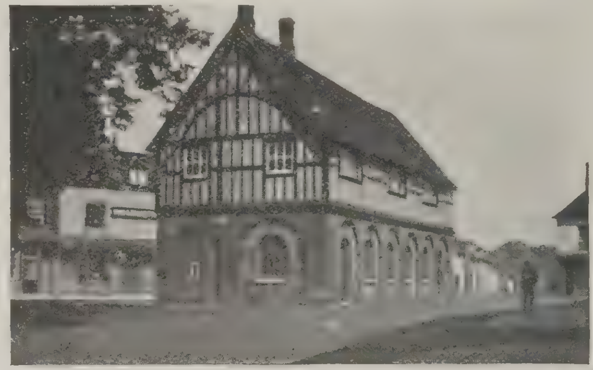
" Holmby Arches "—all that remains of Holmby House, in Northants, built in 1585 by Lord Chancellor Hatton, and referred to by Sir Thomas Heneage as " the best and most considerate house that yet mine eyes have ever seen. It shall hold the pre-eminence of all the modern houses I have known or heard of in England." Holmby Arches are interesting specimens of early Renaissance work—bearing the date 1585. They stood on each side of the quadrangle in the front of the house, which was demolished by order of the Parliament about 1647.—J. B. TWYCROSS.



In the middle of Market Harborough Market Place stands a curious structure on arches, around which on market days the traders erect their stalls. The building was once the Grammar School, erected and endowed in the seventeenth century by Robert Smyth, a wealthy citizen of London. The school is now carried on in more commodious premises.—J. B. TWYCROSS.



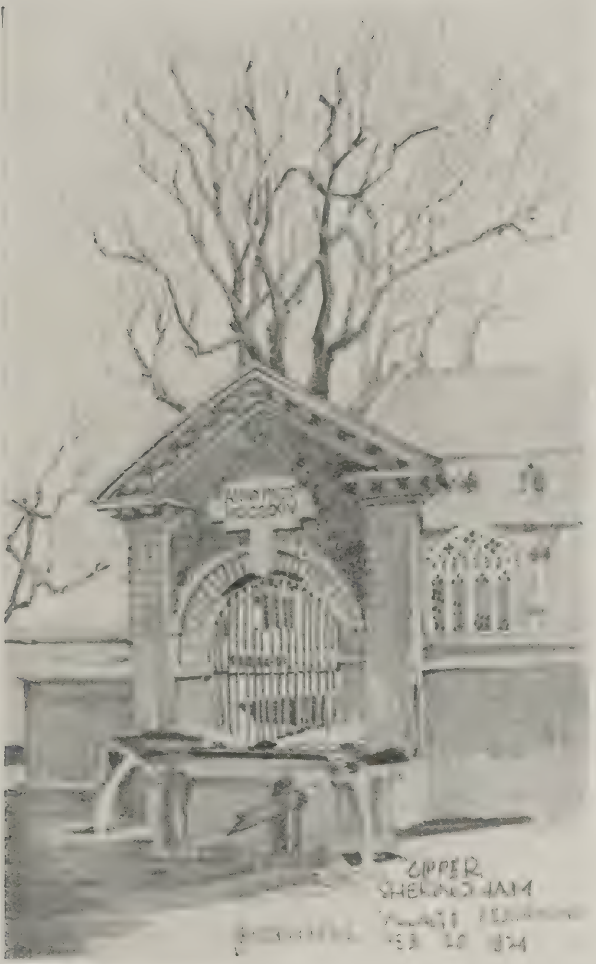
The curious eighteenth-century 'Town Hall " in Gatton Park, Surrey. Gatton was one of the most notorious of the " rotten boroughs " which were swept away by the Reform Act of 1832. In the Town Hall the free and independent electors of Gatton (who in 1832 numbered five !) were wont to record their votes. J. B. TWYCROSS.



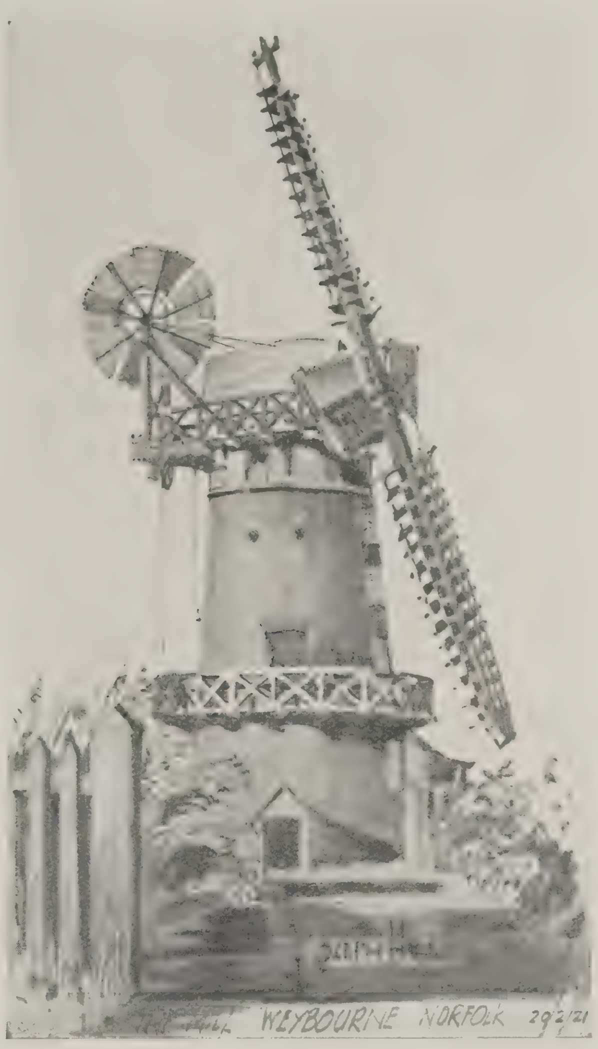
Alcester Town Hall (1600–1641) is a half-timber upper hall supported on Doric columns. The whole ground floor was enclosed by the Marquis of Hertford in 1874, and fitted up as a Petty Sessions Court.—HANKS AND CROWDER.

The Ponte Vecchio, Florence, erected in 1345 by Taddeo Gaddi, stands on the site of several older structures dating back to classical times. It is notable for its picturesque old shops overhanging the river. Ever since the bridge was built these shops have been the exclusive property of the local goldsmiths.—J. B. DOWNES.

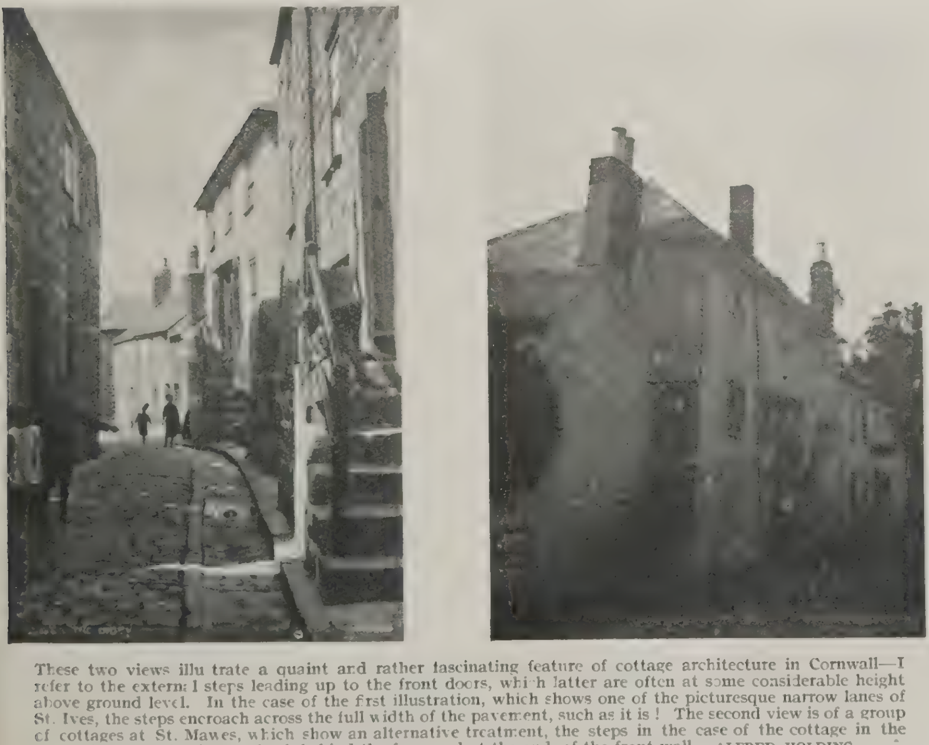
A Pictorial Review



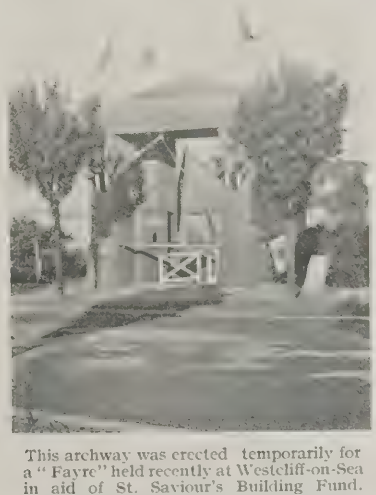
This old memorial, at Upper Sheringham, takes the form of a small reservoir, consisting of a brick basin and wall, circular on plan, and constructed around a natural source of clear water, which has been led to a point where the road is widest. Red bricks of good texture and rich colour are relieved by flints as infilling. The water flows under a wrought-iron grille of simple design into a trough for the use of horses and cattle, and the overflow passes into a drain; there are also points to draw off water for human consumption. This pleasant treatment of a subject which is utilitarian, as well as decorative in the highest sense, forms a small memorial worthy of passing down to posterity.—JOSEPH HILL.



It is unfortunate that many of our English windmills are rapidly falling into disuse and disrepair; this condition is usually followed by complete ruin, and we are gradually losing a delightful series of buildings. Throughout Norfolk there are ruins of mills to be seen in almost every village, and it is, alas! rare to find one in working order and good repair. The mill at Weybourne is fortunately well preserved, and forms a most pleasing landmark; it occupies a commanding site above the village, is well proportioned, and of great dignity.—JOSEPH HILL.



These two views illustrate a quaint and rather fascinating feature of cottage architecture in Cornwall—I refer to the external steps leading up to the front doors, which latter are often at some considerable height above ground level. In the case of the first illustration, which shows one of the picturesque narrow lanes of St. Ives, the steps encroach across the full width of the pavement, such as it is! The second view is of a group of cottages at St. Mawes, which show an alternative treatment, the steps in the case of the cottage in the foreground being set back behind the face, and at the end, of the front wall.—ALFRED HOLDING.

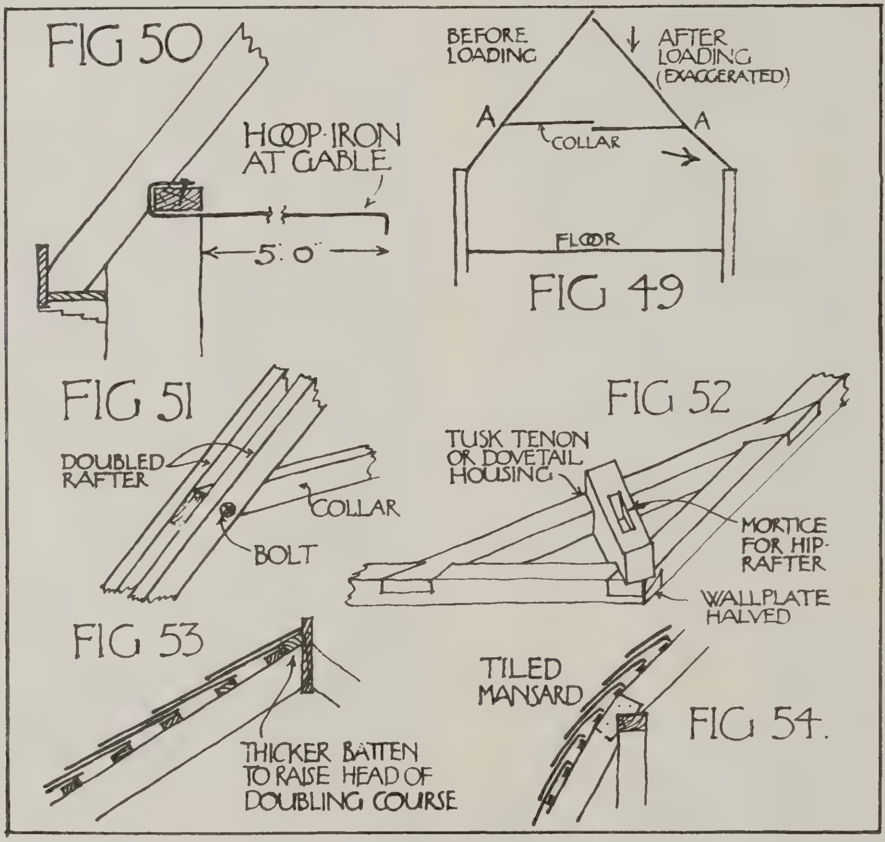


This archway was erected temporarily for a "Fayre" held recently at Westcliff-on-Sea in aid of St. Saviour's Building Fund. The construction was carried out with a light timber framing, covered in canvas, and sized, and then painted. The arch was 18 ft. wide by 23 ft. high overall. The ticket offices were placed in between the two side piers which were 3 ft. square.—S. C. C.

Little Things that Matter. XVI—Counteracting the Weaknesses of Collar Roofs

By EDWIN GUNN, A.R.I.B.A.

THE collar roof, so often used in cottage design, has several notable structural weaknesses, which, though not fatal, are troublesome unless they are counteracted. One of these is that the tie afforded by the ceiling joists does not prevent the lower part of the rafters from spreading; thus the laying of the tiling results almost invariably in a slight deflection about the point A (Fig. 49), with a consequent movement of the wall-plate—or possibly the inclination of the wall. It is desirable to counteract this tendency. At the gable ends this may be done by building in hoop-iron at the springing, as shown in Fig. 50, and carrying it back, say, 5 ft. into the gable wall, and wrapping the opposite end round the wall-plate and securing it by a spike or screw. Intermediately, every fourth rafter or so should be 1 in. thicker than the common rafters, and the collar housed in to that extent by a dovetail housing. As an alternative, two rafters of the ordinary scantling may be used, with the collar clipped between them and the whole bolted together, as in Fig. 51. This latter method is a good one in all cases where the roof is trimmed for dormers, as one of the coupled rafters remains uncut.



For the further stiffening of collar roofs, a longitudinal runner suspended on hangers spiked to the ridge is useful, particularly if it is used in conjunction with light purlins strutted therefrom. It should be noted that collar roofs are often over-timbered in the effort to stiffen their somewhat weak form. Much better results are obtained by an extra inch on the rafters than by heavy purlins. Even if the purlins stiffen the roof they add weight to the total to be borne by the rafter feet, and so often rob more than they confer.

Small valleys, such as dormer intersections, are much better without valley rafters. They should be treated merely by laying valley boards on the main slopes to receive the feet of the jack rafters, and supporting the feet of the main rafters on trimmers or beams across the opening, as shown on Fig. 20 (see issue for Feb. 22). This treatment eliminates the severe thrust of the valley rafters and avoids what is sometimes a very awkward feature in the interior, viz., a bit of timber to be wrought or cased breaking up the continuity of the plaster ceiling.

Although a hip has less thrust than a valley, it is unwise in the case of a main roof of hipped form to omit the old-fashioned dragon (or "dragging") tie (Fig. 52), even where this will necessarily show in the rooms. In the latter case the projection may be ceiled over below, and a plastered spandril formed above it. This provides a rather interesting feature, which is by no means unsightly.

I have found it helpful to specify that the end rafters next to the gables should be fixed 1 in. higher than the common rafters to assist in tilting up the tiling at the verge, and so prevent water from overrunning the gables in times of heavy rain. This is easily accomplished by reducing the notching of the end rafters over the plates and the purlins.

In slated roofs it should be remembered that the topmost batten next to the ridge should be ½ in. thicker than the remainder so that the under-ridge course of slates will bed properly and not "ride" (see Fig. 53). Tiles do not require this precaution, because they are assured of bedding well by the camber in their length, but slates, being straight, depend on the eaves' tilt for clearance, and the short under-ridge course loses this. Incidentally, for this reason, it is an advantage if the slopes of a roof intended to be covered with slates have a slight sag or concavity; therefore, if the rafters are found to have a slight curvature when fixing, the *concave* side should be placed upwards.

The camber of the tiles, which makes it possible to ignore this point in tile roofing, also renders it quite easy to pass from one slope to another, as in a curb or mansard, where the slopes do not differ by more than, say, 15 deg. (see Fig. 54). Hundreds of old roofs in the Home Counties demonstrate this, but an unnecessary lead apron is often added in present-day work.

The Manchester Town Planning Exhibition and Conference

An important town-planning exhibition and conference, convened by the Manchester and District Joint Town Planning Advisory Committee, was held in the Town Hall, Manchester, during last week. The Committee represent an area of over seven hundred square miles, embracing over seventy local authorities. At the conference, papers were read by some of the foremost town-planners in this country. The exhibition included maps, diagrams, and models showing the growth of, and the town-planning proposals with regard to, various towns in England, in America, and on the Continent. Appended are extracts from two of the papers read before the Conference. Extracts from some of the other papers will be published next week.

Regional Planning

By Professor Patrick Abercrombie

It would be difficult to say which country originated the idea of Regional Planning; but so far as I have been able to gather from some years' study, the metropolitan district of Massachusetts has been the first to put Regional Planning into execution. It must be understood that the term "Regional Planning" is intended to signify something much wider than the need that has always been felt, and has been very largely exercised in the past, for a single town to obtain control of developments which, though they may be outside the borders of its jurisdiction, are manifestly merely offshoots of its own growth. The ideas of Greater London, Greater Paris, Greater Berlin, and Greater Brussels are certainly no new things; though it may be remarked that the carrying out of these extensions of civic powers has frequently remained at the stage of suggestions and ideas evolved by the central town but resisted by the smaller communities on the score of cost: furthermore, the bugbear of city extension has always been at the back of these one-city regional schemes.

In this country there has been a danger, as has been pointed out by one or two thoughtful critics, of our perpetuating on a larger scale some of the errors of the estate development of the nineteenth century, in which schemes of development, which may be good in themselves, have not been sufficiently wide in their outlook to meet neighbouring needs.

The Commission's Report on the South Wales Coalfield, mutilated though it was in publication (owing to short-sighted notions of economy), is nevertheless the "Case for Regional Planning," as Mr. Aldridge's book is for Town Planning. Once for all, backed by all the evidence of mine owners, workers, local authorities, is the need for joint action definitely demonstrated. The South Wales Report was not really a Regional Survey (though so-called), and much less a Regional Plan, but a preliminary study and proof of the need for Regional Planning; and it is well worth reading as a text-book as to what Regional Planning means and what a Regional Plan should contain.

What was not, perhaps, laboured as fully as it might have been was the need for Regional Survey prepared in a graphic manner in order to emphasize the essential unity of the region. Whether or not it is essential to prepare a survey for an individual town (the argument against the need for one being that those who know their city well should carry the survey of it about in their heads) there can be little doubt of the need for a survey where many authorities are involved, and the facilities for study of joint problems have not hitherto existed. Roughly speaking, the more fully developed the area the greater the need for a complete survey. Where, as in the case of the Doncaster Regional Planning Scheme, the land is still largely agricultural with only one or two towns and a group of villages, the survey can be reduced to a minimum. Road traffic, the materials for a survey of which it is hoped will in future always be available from the Ministry of Transport, is naturally the first that will be demanded. In the case of Doncaster, however, there was a special need which was very largely at the basis of the whole scheme, namely, the probability of surface subsidence owing to coal working. The effect of this survey was to restrict all residential development to land above the 25 ft. to 30 ft. contour with all the consequential need for careful planning and grouping of the population. In the Manchester district the beginnings of a Regional Survey was in existence at the time the Joint Committee was formed, a survey that was prepared owing to special war conditions, and though by no means complete it is to be hoped that at least in two of its aspects, Road Traffic and Open Spaces, it will prove useful to the scheme that is at present being evolved. In the case of the Chester and Deeside Regional Planning Scheme no direct preliminary survey work was undertaken. There perhaps the most necessary thing was a study of the existing mineral resources; but again, as in the Doncaster area, the land being largely undeveloped, careful scrutiny and study on the spot was enough in most cases to make clear the general trend of developments.

It also happened that this Deeside scheme formed part of a wider Regional Survey centering at Liverpool University with its headquarters in the Geographical Department. This survey, which aims at having each section prepared by an expert in the subject, with the necessary co-ordination secured by constant meetings of the heads of sections, is the most comprehensive framework of a Regional Survey that has yet been attempted. Its promoters consider that one of the chief functions of such a survey is to give the guiding lines upon which all future development should be based, in other words, that it would not simply content itself with being a record of the existing state of affairs, but should aim at foreshadowing the lines of growth. Thus, taking, perhaps, one of the most interesting patches of country geographically to be found in the north, namely, the Wirral Peninsula, it will have to be determined, if a satisfactory scheme is to be evolved, what is the probable destiny of this piece of country. Is it to be preserved as a gigantic residential suburb of Liverpool, or are factories to be encouraged to spring up in almost any situation they wish? Both banks of the Mersey, it is acknowledged, are, and are about to be, industrialized, and the far side of the Dee, for which a regional scheme has already been prepared, has been shown unquestionably to tend towards industrial development, though of a different type from the Mersey. The Liverpool Regional Survey Association contends, and I think rightly, that this is no simple problem to be resolved offhand, but that it requires a graphic presentation of all the facts, not only of to-day but of yesterday, in order to have some possibility of visualizing to-morrow.

Turning to Regional Planning proper, it will be obvious that a different method of approach is necessary in different localities—where less development has taken place greater freedom of suggestion is possible. Thus at Doncaster, with large tracts of land debarred from housing, it was necessary to indicate clearly-marked centres at which residential development could take place and should be encouraged in order to provide communities of workpeople for the factories, which would be located on the low-lying land. Furthermore the collieries, at present situated at an average of about three to four miles apart, themselves promote the growth of separate village communities. The result, therefore, instead of a single homogeneous town of the size, we will say, of Sheffield or Leeds, should be a series of communities complete as to their civic functions, but of a size limited in most cases to 20,000, though extending in one or two cases to 50,000 inhabitants, separated by farm land or park strips, but all communicating directly with Doncaster as their natural metropolis for trade, culture, and recreation. It will be seen that a very complete and even drastic system of zoning was necessary to secure development upon these lines, and it would be interesting to watch how the town-planning schemes are adequate to realize the objects of the plan.

In the Deeside scheme there are many extremely interesting and complicated problems, not the least being that of the City of Chester itself. The rôle which Chester should play in the regional development was very carefully gone into by the Committee, and the interesting position was observed of a town voluntarily deciding to keep factory development of the "heavy trades" type at arms' length, foregoing the consequent increase of rateable value in order that its amenities should not be destroyed. While at the same time this must not in any sense be regarded as indicating that Chester was not prepared to develop very materially as a reaction to industrial development lower down the Dee, it meant that a full regional consideration showed that its true function and interests lay in other directions than directly industrial. Here again outside Chester itself it was possible to evolve an almost detailed zoning plan for the lower Dee Valley, in which the heavy trades flanked the river, the residential areas occupying rising ground on both sides, and (perhaps the most hopeful feature of the scheme) an agricultural belt separating the two. This agricultural belt is not to be used for residential purposes unless the latter were necessary for agricultural pursuits, and the only change in its use to be permitted is that it may eventually practically all be absorbed for recreation space.

The south Teeside is not so far advanced as the Doncaster and Chester ones, but there it would seem that the road question is the dominant factor. A great backbone is required to give a sense of structure to a region which for five miles is an almost continuous industrial development of comparatively recent growth; and beyond again it is required to act as the means of opening up residential development and giving access to the seaside.

The Manchester district, like that of South Wales, being already largely developed, presents greater problems for the purposes of drastic zoning, as it must be extremely difficult at this stage to impose restrictions on the limited amount of free land which is left. But it would seem that, in the direction of positive planning suggestions, there is scope as well as manifest necessity for producing a south-east Lancashire and North Cheshire Park System. If some definite standard, such as one acre per 250 people, were agreed upon, and the most likely land scheduled, it should be possible on the lines of the Boston Park System to evolve a satisfactory series of open spaces quite irrespective of the local authorities in which the different parts were situated, but distributed in such a way as to meet the needs of the populations contiguous.

Progressive Town Planning

By George L. Pepler, F.S.I., Past President, Town Planning Institute

FIRST may I be allowed to say how much I appreciate that the invitation to address this conference came from the Manchester and District Joint Town Planning Advisory Committee, under whose auspices the conference and exhibition are being held. As having had something to do with the beginnings of that Committee I may be prejudiced, but it does seem to me unquestionable that its work is already proving of immense value to this region and that its possibilities are boundless.

Many aspects of town planning are being dealt with, largely in relation to its fundamental importance in the field of economy and industrial efficiency. This is naturally the thought uppermost at the moment, as our huge war effort has left us in arrears and we are perforce beginning to appreciate that we can no longer afford the haphazard and therefore wasteful ways of the past. To-day only the nation whose business is conducted on the most efficient and economical lines can hope to survive, and it is just because this extra efficiency is now so necessary that town planning is coming to the fore; also the less money we have to spend the more important it is, by careful planning, to make it go a long way.

The American business man, although starting town planning later than we did, and even having taken longer than some of our merchant princes, such as Lever, Cadbury, Rowntree, to tumble to this aspect of the case, has recently caught up and is boosting town planning in his own city with the object of making it the most efficient and delectable spot on God's Earth.

The method of town planning is first to study and analyze, regionally as far as possible, existing local conditions and prospects (it is extraordinary how little thought has been given to this in the past, and how much ignorance there often is—because the facts have never been collected, collated, and published—as to the resources and possibilities of a neighbourhood and as to the origin of disabilities that are experienced but not understood), followed by the preparation of an outline plan assigning to each part the use that would seem best to forward the prosperity of the community, and laying down the line of intercommunication.

That is, after careful study of what is, the most skilful plan is made of what ought to be, so that as development takes place it may be diverted in the best channels. Although lack of provision in the past has landed us in much expense and loss of efficiency to-day, prophecy also has dangers and, therefore, schemes will contain elastic provisions, so that details shall not be fixed until the proper destiny of the section in question is determinable. Should the whole conditions of the district suffer a complete change, then a new scheme can be prepared to supersede the original one.

Motor traffic is increasing every day, and, therefore, in our town plans we have not only to provide for the needs of to-day, but must have regard to the requirements of to-morrow, otherwise we must expect to suffer from congestion of the arteries, a disease that saps efficiency and one very expensive to cure after building development has taken place.

Up till the advent of town planning all roads were being made of the same width and construction for whatever purpose they were to be used, and this is, of course, necessary when there is no general plan which will, in effect, dictate the use. Now that areas can be allocated to specific uses, and the direction of roads controlled, it is possible to design a road in accordance with the traffic it will have to bear, and the wasteful uniform method need no longer be followed.

Another progressive feature that will appeal to the public and to local authorities is aviation. The importance of this matter can hardly be exaggerated in connection with town planning. Firstly, sites that offer good landing facilities are not common, and therefore it is most necessary to reserve the right one; secondly, linking up the aerodrome with a good road service will enormously increase its efficiency. I believe that there is no other city in the country with such a well-situated aerodrome as the Manchester one.

I suggest it is worth considering whether the town planning committee of a council or region should not become in effect a development committee, continually investigating the town's activities, in co-operation with the people responsible for them, in order to see how the various parts are functioning, detecting the obstacles that impair efficiency, noting where there is overlapping and, therefore, waste, ascertaining for which activities there is the greatest future, and how the accomplishment of that future can be helped forward by arrangement or rearrangement of site facilities.

They would, for instance, study the vital statistics and compare them on plan with housing conditions, etc., and find out the weak spots, e.g., bad housing conditions, lack of recreation facilities, that were handicapping the progress of the town. They would similarly compare traffic statistics and find where money was being lost by traffic blocks or constant slowing down, and where accidents were happening.

They would, perhaps, discover areas neglected in favour of others further afield on account of lack of transport facilities, and that, given those facilities, might be developed to the advantage of the town by keeping it compact instead of straggling, and so save waste of time and money between home and work.

They would study the industrial areas and consider how their efficiency might be improved, both as regards the public services they depend on and as regards the possibility of expansion, or the facilities that might be provided to attract new industries, either entirely, additional, or supplementary to sound existing ones, or to supplant those that are dying.

They would put the result of all these investigations on paper, plotted so that their lesson would be obvious to the ordinary citizen, and also they would show on paper in graphic form their plans for guiding development along the most progressive lines, so that everyone in the town would become aware that they were members of a live organism, the progress and healthy development of which depended on all the citizens pulling together towards a definite end.

Also any manufacturer either local or from outside would be able to appreciate at once what were the possibilities of the district, and have firm ground on which to base his business enterprise.

It is a common complaint to-day that the ordinary man takes little interest in local government. To my mind this is easily understood, because the ordinary man has not been brought up to realize his citizenship—he has rarely ever had access to an easily read up-to-date plan of his town—and it has not been obvious that he was called upon to do his bit towards achieving a definite goal. This was a maxim of one of the pioneers of flying: "If you know what you want, you can do your part and get others to do theirs. Most people don't know what they want." Let the City Fathers show their constituents in graphic form a plan of the type of city they are aiming at, and I believe they will at once arouse their interest and enthusiasm.

Personally I would recommend doing this in sketch form before you make your final statutory plans, because you want the constructive criticism of all your citizens, especially those who are developing industries, and this can hardly be forthcoming until something tangible has been put before them.

There are many matters of principle that want to be freely discussed; for example, is it sound to let a town spread and spread from one centre, or must not that centre get hopelessly congested and, therefore, might not a better plan be to develop subsidiary centres, closely in touch with the main centre, but kept distinct by intervals of open space utilized for recreation and food production? The type of town plan you adopt depends entirely on the answer to this question, provided you are prepared to face up to the consequences of adopting the method you know to be sound.

Another problem to face is the amount of playground space that is really required in order to keep people physically fit, and how it ought to be spaced so that the drudgery of reaching it may not impair its benefit.

Questions like this can only be solved if the citizens appreciate the issues involved, balance the considerations, make up their minds what is best for the town as a whole, and support it through thick and thin. They would be in a much better position to do so if from infancy they had been brought up to understand their surroundings. Let us then encourage the modern tendency for history, geography, and political economy to be taught to pupils mainly by study of their own town and district, and let us include in that the projected plan, so that when the children grow up they shall be fully conscious of the importance to themselves and their neighbours of the prospects of the place in which they live.

The Week's News

Bournemouth Pier Improvements.

During the winter Bournemouth pier is to be repaired and the lighting improved at a cost of £15,000.

Future of Grosvenor House.

It is asserted that Grosvenor House will shortly be acquired by a financial syndicate, who propose to erect on its site a block of residential flats.

Fulham Baths.

The cost of reconstructing Fulham casual wards into public slipper baths by the Borough Council will be about £25,000.

New Forth Bridge.

A report on a scheme for the erection of a huge bridge over the Forth at Alloa at a cost of £171,000 has been approved by the Stirling County Council.

New Hotel for Glasgow.

A new hotel is to be erected in Glasgow on a site near the Central Railway Station. The promoters have acquired the corner properties at Wellington and Waterloo Streets. Plans are being prepared by Mr. W. Inglis, I.A.

The Lighting of Churches.

Lecturing on British architecture at Lincoln, the Bishop of Lincoln said it was a pity that modern church architects did not follow the example of mediæval ones, and provide plenty of windows in church.

Golders Green Tube Station.

The Ministry of Health has sanctioned the application of the Hendon Council for a loan of £1,900 as their contribution towards the cost of alterations and extensions to Golders Green Tube station.

Change of Addresses.

Mr. J. V. Downes has moved to 19 Norfolk Square, Paddington, W.2.

Mr. Hamilton H. Turner, F.S.I., surveyor, has moved to 18 Queen Anne's Gate, Westminster, S.W.1.

Brighton War Memorial.

Brighton war memorial, recently unveiled, consists of a colonnade of square piers, in the centre of which is a small domed shrine containing an altar table. In front of the memorial is a lily pond, while the tablet to the memory of the fallen contains 2,600 names.

New Theatre for Bridgwater.

It is proposed to erect a theatre in Bridgwater fully equipped for both pictures and dramatic productions, with accommodation for adequate staging, etc., the building to be also available for public meetings. Preliminary plans have already been prepared by a local architect.

Bridge or Tunnel?

The question of a bridge or tunnel between the two sides of the Mersey has been discussed, and a report is to be received from two engineers which will show the cost, and enable the municipalities to say whether they are prepared to carry out the scheme.

£25,000 Pavilion for Margate.

Margate Town Council has adopted a proposal to construct a bathing pavilion on the Marine Terrace sands at an estimated cost of £25,000. The pavilion will provide accommodation for 300 persons, and hot and cold shower-baths. It is hoped to have it ready by next season.

Public Works at Uruguay.

Nearly nine million pesos are to be spent in the building of cheap houses and administration building, the construction of a slaughter-house and a municipal bakery, public lavatories and baths, sanitary works, markets, construction and repair of roads, a public restaurant, and other public works.

£1,000,000 British Contracts.

Contracts amounting to upwards of £1,000,000 for the reconstruction of many of the devastated villages in the Department of the Aisne have been entrusted to Messrs. William Airey and Son (Limited), of Leeds. The possibility of employing British labour in France is being considered.

London War Memorials.

The 30 ft. base of the Royal Air Force memorial at the head of the Whitehall Stairs on the Victoria Embankment is nearly completed. The memorial has been designed by Sir Reginald Blomfield, R.A. Its base is of plain stone, and it is surmounted by a pedestal on which will rest a bronze eagle, the work of Mr. Reid Dick, A.R.A. The Royal Fusiliers' memorial, in Holborn, takes the form of a statue 8 ft. 6 in. in height, mounted on a pedestal of Portland stone The statue, which is by Mr. Albert Toft, represents a private of the Royal Fusiliers in full equipment, grasping in his right hand a rifle with fixed bayonet.

Eastbourne's £150,000 Scheme.

Between £150,000 and £200,000 is involved in new schemes to increase the attractions of Eastbourne. The Chamber of Commerce has sent a resolution to the Town Council asking for two big new schemes. One is the construction of a miniature yachting harbour, and the other the building of a large concrete bathing pool.

Concrete Buildings in Bombay.

In view of the proposal of the Bombay Development Department to construct a number of reinforced concrete tenements for the housing of industrial labour, it is understood that a committee of engineers representing local bodies and Government Departments will shortly be appointed to investigate the utility of reinforced concrete construction in Bombay City.

Improvement Scheme at Ramsgate.

Progress is being made with the scheme of expansion on the West Cliff at Ramsgate. A new boulevard road is to be started this month. The scheme also provides for a bathing pool, under-cliff walk, and a cliff promenade nearly to Pegwell Bay. The plans which won the third prize in the competition organized by the Corporation have been adopted for the actual lay-out.

Big City Fire.

Fire broke out in a six-floored building at 14 Chiswell Street, E.C., with an extensive front in Finsbury Street, occupied as offices and show-rooms by a number of firms. The outbreak occurred on the third floor. The lower floors of the building were affected by water. The two upper floors were extensively damaged, and the loss is estimated at several thousands of pounds.

The Birmingham War Memorial.

The clearing of the site for the Birmingham War Memorial is proceeding, and the foundation stone will be ready for laying soon after Christmas. The committee have provisionally approved of four groups of statuary representing the various arms of the service which took a prominent part in winning the Great War. They are the work of Mr. Albert Toft.

Building Trades Wages.

It is stated in the interim report of the National Federation of Building Trades Employers that wage reductions have been arranged by the National Wages and Conditions Council during the past twelve months equal to 29s. 4d. per week for craftsmen and 36s. 8d. per week for labourers, which represent a very substantial contribution by the industry towards getting back to normal post-war conditions. The effect is to stabilize conditions as to wages and hours until next spring.

Nottingham War Memorial.

The Nottingham City Council has decided in favour of the erection of an archway on the Victoria Embankment as the civic war memorial. The cost of the work is £17,400. The arch will form the entrance to the 36½ acres of ground which are to be laid out as a park and playing fields, and the levelling and making of these will cost a further £33,400. The land was given some time ago by Sir Jesse Boot. The scheme is designed by Mr. Wallis Gordon, the acting city architect.

British Industries Fair, Birmingham.

The British Industries Fair (Birmingham), which is to be held from February 19 to March 2, promises to be more imposing and attractive than any of its predecessors. Many old exhibitors have already arranged to take increased space, and steps are being taken to attract new ones. Arrangements are also well under way for inviting many thousands of the most important buyers of our own, foreign, and colonial countries. The Birmingham section of the Fair will run concurrently with the London section. The British Industries Fair (Birmingham) was first held in 1920, and has been held annually since. It is growing rapidly in importance and significance.

R.I.B.A. Archibald Dawnay Scholarships.

Owing to Mr. C. S. White, of the Architectural Association School of Architecture, being unable to take up his R.I.B.A. Archibald Dawnay Scholarship, a fresh Award has been made in favour of Mr. C. H. Hutton, of the Liverpool University School of Architecture. The Scholarship, which is £25 per year for two years in value, is intended to foster the study of advanced construction.

New Piccadilly Bank.

In connection with the erection of their new bank premises on the site of the old St. James's Vestry Hall in Piccadilly, the London Joint City and Midland Bank have engaged the services of Sir Edwin Lutyens. Sir Edwin has designed a Piccadilly frontage in harmony with the church, which will individualize the new building. At the same time, it has been pointed out to the Westminster City Council that in the new plans submitted in conformity with Sir Edwin's scheme the design is of a much less expensive character than the first, and it is doubtful whether it could be made to comply with the requirements of the lease as to expenditure unless the interior is fitted in very expensive manner. Subject, however, to the consent of the County Council to the amendments and to the observance of the undertaking to spend not less than £25,000 on building, the bank's new plans will be approved by the Westminster City Council.

Coming Events

Wednesday, October 18.

Glasgow Chapter of the Incorporation of Architects in Scotland.—"Architectural Alliances." By Mr. James Lochhead, F.R.I.B.A., President.

Thursday, October 19.

Institution of Mechanical Engineers.—Conversazione.

Friday, October 20.

Institution of Mechanical Engineers.—General meeting. Presidential Address by Dr. H. S. Hele-Shaw, F.R.S.

The Concrete Institute.—Council meeting 5 p.m. Extraordinary general meeting to confirm resolutions *re* change of title, etc. 6 p.m.

The Royal Technical College Architectural Craftsmen's Society, Glasgow.—"The Historical Development of Glasgow Cathedral." By Professor Charles Gourlay, B.Sc., F.R.I.B.A., F.S.A. (Scot.).

A. and S.A.P.U. Metropolitan Branch.—Smoking concert at Carr's Restaurant, 264 Strand, W.C. Admission free. 7 p.m.

Saturday, October 21.

A. and S.A.P.U. Metropolitan Branch.—Visit to Sir John Soane's Museum. Conducted by Mr. A. T. Bolton, F.R.I.B.A., F.S.A., Curator. Admission free. 2 p.m.

Tuesday, October 24.

Liverpool Architectural Society (Incorporated).—"The Liverpool Architectural Society (Incorporated): Its Origin and History, 1848–1901." By Mr. E. P. Hinde, F.R.I.B.A.

Thursday, October 26.

Institution of Mechanical Engineers. Midland Branch.—"Importance of Testing Materials for Manufacturing Purposes." By Mr. P. J. Worsley. North-Western Branch. Annual Dinner.

Saturday, October 28.

A. and S.A.P.U. Metropolitan Branch.—Visit to R.N. College and Greenwich Hospital. Mr. T. C. Agutter, F.R.I.B.A., architect to the College, will conduct the party.

The Grand Avenue, Stowe

As certain alarmist rumours seem to be current about the ultimate fate of the Grand Avenue at Stowe, Mr. Clough Williams-Ellis, the purchaser, would like it to be known that his sole object in securing this feature in one lot was to ensure its preservation in perpetuity, as being historically part of Stowe as well as one of the chief glories of Buckinghamshire. He felt that its destruction as an avenue or its exploitation as building land would be a calamity both for the school and the town of Buckingham too disastrous to be contemplated. As an architect practising in London with a property in North Wales he has no special connection with Buckinghamshire, and only desires that its amenities should be preserved. The conservation of natural beauties and historically of architecturally interesting buildings is one of his chief interests and a cause that he has furthered both by "direct action" and by his writings. As Mr. Williams-Ellis cannot hold this isolated piece of property indefinitely, he hopes that a local trust may be formed to take it over and conserve it intact for ever. To such a trust, we understand, he would be willing to hand over his bargain, and, if the Avenue (itself almost as much of a "National Monument" as Stowe Palace) can be thus secured against destruction Mr. Williams-Ellis will do his utmost to help the matter forward. Though the School Committee felt unable to purchase the Avenue themselves, it is understood that the suggested trust may count on their active co-operation and support. For the present the Town Clerk of Buckingham is acting as treasurer for the Avenue Trust Fund, and will gratefully acknowledge subscriptions. The Grand Avenue at Stowe, one of the (if not the) finest in England, runs in a straight line across undulating country, from the guardian lodges in Buckingham to the great Corinthian arch through which the central Portico of Stowe is seen across the park and lake.

List of Competitions Open

Date of Delivery.	COMPETITION.
Oct. 31	Essay Competition. "The True Function of the Technical Assistant in the Building Industry." Prize £5 5 0. Essays to the Secretary, Architects' & Surveyors' Assistants. Professional Union, 36 Victoria St., S.W. 1.
Nov. 1	Labour saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C.4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
Jan. 15	Hospital for a typical small community in America. Competition open to all Architects. Premiums $500, $300, and $200. Apply The Modern Hospital Publishing Company, Inc., 22 E. Ontario Street, Chicago, Ill. Closing date for applications, November 15.
March 31	War Memorial for Port Said, Egypt, to the memory of the soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during 1916, 1917, and 1918. Premiums: 250 guineas, 100 guineas, and 50 guineas. Apply High Commissioner for Australia, Australia House, Strand, W.C.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.
No Date	War Memorial at Birkenhead. Cost not to exceed £4,000. Premium 75 guineas. Assessor Major Gilbert Fraser, M.C., F.R.I.B.A. Apply Town Clerk, Birkenhead. The competition is open to all architects and sculptors of Birkenhead, Liverpool, and Chester only.

Old Cranleighan Society Cricket Pavilion Competition.

The R.I.B.A. request Members and Licentiates not to take part in the above competition because the conditions are not in accordance with the published regulations of the Royal Institute for Architectural Competitions. A similar request has also been issued by the Society of Architects.

Some Points in the Law of Heating Engineers' Contracts

MR. ROBERT FORTUNE, Barrister-at-Law, in reading a paper "On Some Points in the Law of Heating Engineers' Contracts" before the Institution of Heating and Ventilating Engineers, discussed the position of a heating engineer employed by the building owner or his architect in the character of a consulting engineer to supervise the installation of suitable heating apparatus as part of a general building on a given site. He said that unless the contract of employment was one which the parties contemplate as being about to last for more than a year, so as to fall within Section 4 of the Statute of Frauds, no written retainer was necessary, but such contracts, when made with corporations or public bodies, must be in the form required by law for such contracts. Proceeding, he said: Thus Section 174 (i) of the Public Health Act, 1875, requires that every contract made by an urban authority whereof the value or amount exceeds £50 shall be in writing and sealed with the common seal of such authority. In Hunt *v.* Wimbledon Local Board, 4 C.P.D. 48, an urban authority orally directed their surveyor to employ an architect to prepare plans for offices. The plans were prepared and approved but no building was erected thereunder because the plans were of too expensive a nature; so, although the plans were partly used, the Court held that the corporation could not be said to have received the benefit of them, and it was held that the architect could not recover any remuneration.

Now the authority of such a consulting engineer must depend upon the terms of his appointment. He may be employed to consult with and advise his employer to prepare drawings and obtain tenders and to superintend the carrying out of the scheme approved by the employer or his architect.

Generally an engineer has no implied authority to enter into a formal contract so as to bind the employer, although the tender may be for a sum not exceeding that which the employer is willing to expend, since the preparation of a formal contract is a matter for a lawyer. Thus in Hamer *v.* Sharp, L.R. 19 Eq. 108, a written request was made by an owner of freehold property to an estate agent to obtain a purchaser for it, and it was held that the estate agent had no authority to enter into an open contract for sale. On the other hand, the contract between the building owner and the contractor may provide that the building owner shall have the right to nominate or select certain specialists to execute special works or supply special materials, for which provisional sums or prime cost items are received in the contractor's contract sum, and to employ the specialist independently of the contractor; and it often happens that the building owner or his architect negotiates with such specialist the details of such special work before the order for it is placed; and this has given rise to very difficult questions as to whether the principal placing the order was, in fact, the contractor or the building owner, and whether the architect had any authority in negotiating a contract with the specialist to bind the building owner, or the contractor, in accepting the specialist's price, any authority to contract with the specialist as the agent of the building owner.

In Leslie & Co., Ltd. *v.* The Managers of the Metropolitan Asylums District, 68 J.P. 86, by a contract between the contractors and the building owners, it was provided that "the managers (the building owners) *reserve to themselves the right to employ other parties to execute the works for which provisions are made, and to deduct the full provided amount* (*i.e., the prime cost plus* 10 *per cent.*) *thereon from the contract sum.* In such cases the contractors are to allow such parties every facility for the execution of their several works simultaneously with their own. The managers are to be at liberty to omit any provisional sums or quantities. The contractors are to pay the sub-contractors the amount provided in the contract for such purpose, or less or more, as may be certified, and the payments thus made will be considered as work done by the contractors, and will be included in the certificate to the contractors next following such payment. No payment is to be made to such sub-contractors, except upon the architect's certificate. The contractors are to pay such amount as may be certified from time to time within seven days from the date of the certificate, and should the contractors neglect or refuse to make such payment within the said period, the managers shall be at liberty to pay the amount thereof to such sub-contractors, and to deduct from the contract sum the gross amount which the contractors have included in their estimate in respect of such work and their profit thereon, the amount so to be deducted not being less in any case than such amount so certified." Chimney-stacks and heating apparatus were to be provided by specialists. Specialists were appointed to execute this work by the architect, to give the orders, and did so, and the work was executed. On a claim by the building owners against the contractors for damages for delay caused by these specialists it was held that the specialists were employed by the building owners, and that the architect's negotiations with the specialists were on behalf of the building owners and not of the contractors.

In Hobbs *v.* Turner, 18 "Times" Law Reports 235, a building contract provided that the work should be done for a lump sum, and that certain provisional sums for work to be done by specialists should "*be paid and expended at such times and in such amounts and to and in favour of such persons as the architect shall direct,* and sums so expended shall be payable to the contractor without discount or deduction by the employer to the said artists or tradesmen." The architect selected H. to supply certain of this special work, and this work was sent and invoiced and debited to the contractor. The architect certified for the amount to which H. was entitled, and sent the certificate direct to the building owner. H. sued T., the building owner, on the certificate, and it was held that the building owner selected the specialist and might pay him any sum he pleased, and, on the construction of the contract, the contractor was only the agent of the building owner in ordering such work, and as there was nothing in the sub-contract restricting H.'s rights to having recourse to the contractor, the building owner was liable.

But in Hampton *v.* Glamorgan County Council, 1917 A.C. 13, the facts were as follows: A builder contracted with a county council to build a school in accordance with the specifications and directions of the council's architect for a lump sum of £13,600, the specification containing certain provisional items, including the following: "Provide the sum of £450 for a low-pressure heating apparatus," and a hot-water engineer submitted a scheme to the architect for the heating of the school for £391, and by the direction of the architect this scheme was accepted by the contractor. During the progress of the work the builder paid to the engineer £200 on account, but he was unable to pay the balance.

In an action by the engineer against the council as building owners for the payment of the balance of his account, the House of Lords, affirming the Court of Appeal which reversed Horridge, J., who had followed the case of Crittall *v.* London County Council, 75 J.P. 203, held upon the construction of the building contract that the builder was to erect the school for a lump sum, including, if required, the heating apparatus up to a cost of £450, and that the builder, in employing a specialist to put up the heating apparatus, was acting as a principal and not as the agent of the building owners, and that the action accordingly failed.

In this case Lord Shaw of Dunfermline said this, at page 23: "Coming, therefore, to the specific contract before us, I am free to admit that the argument presented to us was, up to a certain point, right. I refer to the earlier portion of the correspondence by the architects. I am willing to assume for the purpose of the argument presented that the architect in such circumstances is acting as agent for the building owner. My Lords, as is fairly well known, the position of the architect is this, that he is charged with the duty of articulately settling what are to be the items supplied under these 'specialist' contracts, and making certain selections, and even, in certain contracts, of nominating certain merchants. In the present case, however, the facts do not stop with that initial correspondence. When the stage of actual contract was being reached the architect was approached on the subject by Messrs. Hampton, and he then made his position perfectly clear. It was this: 'You must deal with the contractor.' Accordingly, Messrs. Hampton did deal with him, and they obtained, not in express terms, but by what in admission is by its implications equivalent thereto, the acceptance by Mr. Shail, the builder, of their (Messrs. Hampton's) contract."

In every case of contract it is necessary to keep firmly in mind with whom the contract is, and to be able to point to the evidence which establishes privity of contract, that is to say, a contractual relationship between the two contracting parties, the essence of a contract being that it is a relationship established by an offer by one party and the acceptance of that offer by the other party constituting an agreement upon certain terms.

As was said by Lord Esher, M.R., in Le Lievre *v.* Gould (1893), 1 Q.B. 491: "The question of liability for negligence cannot arise at all until it is established that the man who has been negligent owed some duty to the person who seeks to make him liable for his negligence. What duty is there when there is no relation between the parties by contract? A man is entitled to be as negligent as he pleases towards the whole world if he owes no duty to them."

On the other hand, a contracting party may, by contract, protect himself from almost every liability short of fraud. Thus a shipowner may, by an exception covering himself from liability for losses to consigners or consignees by "any act, neglect, or default whatsoever" of servants, protect himself from liability for losses even by the felonious acts of his own servants. Marriot *v.* Yeoward (1909), 2 K.B. 987.

The case of Hampton *v.* Glamorgan County Council to which I have referred shows the great hardship which may be cast upon a specialist who has entered into a contract with an insolvent contractor where the building owner does not desire to assist the specialist to obtain payment, although the whole of the specialist's work may have been satisfactorily performed, and emphasizes the importance of the specialist having a contract which cannot be disputed as having been made with the building owner either by the owner himself or by his architect or consulting engineer under an express authority given for that purpose.

R.A. Exhibition of Decorative Art.

The President and Council of the Royal Academy are making arrangements for the Decorative Art Exhibition to be held in January and February 1923. The exhibition is primarily intended to illustrate and promote the application of the arts, in their several forms, to the permanent decoration of buildings. It is thought that the time has arrived for a public review of the possibilities in this field of art.

The exhibition will include architectural decorations in painting, mosaic, tapestry, sculpture, carving, or metalwork; designs, cartoons, or models for such decorations, and designs for stained glass; and there will also be an arts and crafts section, which is being arranged in collaboration with the Arts and Crafts Exhibition Society, and will be limited to exhibits by members of that Society and others invited to submit works.

Works will be received at the Royal Academy on December 15, 16, and 18. Any application for forms and labels, and other information, should be made during November to the Secretary, Royal Academy, Piccadilly, W.1.

Heating and Ventilation of Cinemas

Mr. J. Stanley Beard, M.S.A., a prominent architect specializing in the construction of cinemas, has made some important experiments with regard to the heating and ventilation of these buildings. He has over twenty-seven fine picture halls to his credit. Describing his experiments in the "Cinema" he says: There are two separate and distinct systems of ventilation and heating employed with varying results to-day, one being known as the Plenum system, which consists of forcing warm fresh air into the building under pressure, and the other a vacuum system, which consists of extracting the foul air from the building by means of powerful extractor fans, and allowing fresh air to find its way into the building through special inlets, usually placed behind the radiators, to warm the incoming air.

Both of these systems have disadvantages. In the case of the Plenum system, a large hall cannot be adequately and quickly heated, as the inlets being placed in the side walls are thus 70 or 80 ft. apart, with the result that the centre of the hall is of a very much lower temperature than that of the sides.

The objection to the vacuum scheme is that in foggy weather fog is drawn into the building, thus spoiling the picture, and on a hot summer's day the building cannot be kept cool. Further, the air in the building being subjected to continual extraction, much inconvenience is caused by draughts when the entrance or exit doors are opened. During the past two years I have been experimenting with a system combining the good points of both the above schemes with gratifying results, and by this means I have found it is possible to overcome the disadvantages of both by employing only the good qualities of each.

Under this system fresh air is brought in to a properly constructed chamber, from a point well above the street level, to ensure obtaining fresh air free from dust and impurities. The air is washed, oxygenated, and heated in turn in winter and then forced into the building through specially constructed ducts and inlets. In summer the air is washed, oxygenated, and chilled. Powerful vacuum fans, to control outlets, are placed in the ceiling. Large fans, made to run in harmony with the latter, are responsible for forcing the air into the building in such a manner that the extraction is slightly less than the propulsion. By this means the air in the theatre is under a slight pressure all the time, and no draughts result from the opening of doors or windows.

To overcome the difficulty of heating the building quickly, especially the centre of the hall, a separate duct is run under the floor of the theatre, controlled by a damper. This duct is of a large capacity, and is employed to force heated air into the centre of the building before the public are admitted, and the damper is closed entirely before the patrons take their seats.

It would appear from current events that the policy of running continuous programmes is in the near future likely to be changed, and in the case of a house running, say, three distinct shows a day, my system can be employed to added advantage, as by employing the central sub-floor duct, the air in the theatre can be speedily and rapidly changed, and the theatre re-warmed with fresh air within a period of fifteen minutes.

This system represents not mere theory, but the result of practical experience, and from the tests already carried out at the New Prince of Wales Picture Playhouse, Lewisham, I am more than gratified with the result.

The Development of Building Estates

The first of a series of special lectures on building problems and materials has been delivered at the School of Architecture, Surveying, and Building, of the Northern Polytechnic Institute, by Mr. B. W. Adkin, F.S.I., vice-principal of the College of Estate Management, who took for his subject "The Development of Building Estates." The chair was taken by Mr. R. L. Roberts, M.A., member of the governing body of the Institute, who was supported by Messrs. Richard Parry, D.Sc., F.S.I., principal of the College of Estate Management, and Reginald S. Clay, B.A. (Cantab.), D.Sc., principal of the Northern Polytechnic Institute.

Mr. Adkin dealt with the subject under two headings: (1) What is a Building Estate and (2) how is a Building Estate developed? After dealing with the increase in the population, and the historic growth of the Administrative County of London, Liverpool, and Birmingham, the passing of the Public Health Acts, Metropolis Management Act, Local Government Acts, Housing of the Working Classes Act, and the Housing and Town Planning Act, the lecturer touched upon the various periods of activity and depression in residential building, and passed on to the main theme of estate development from the standpoint of a speculating builder having very moderate means, but more than a small amount of ambition.

Mr. Adkin traced step by step the progress of the negotiations and operations from the acquiring of the site, the building of the houses, the advances from the freeholder, and the creation of ground-rents to the ultimate satisfactory issue which showed both the land-owner and the builder to have obtained a comfortable profit from the building operations. Plans showing the development of two estates were exhibited, and an explanation of the guiding lines given.

The chairman, in moving a vote of thanks to the lecturer, spoke from the stand point of a building contractor, and Dr. Clay seconded the proposal.

Mr. J. H. Axten also spoke and called attention to the importance of employing competent architects in the preparation of designs for the buildings in order to prevent the monotonous repetition of houses built to the same design. He deprecated the practice of speculating builders obtaining a plan from unqualified persons engaged at a slender fee, and using it "ad nauseam." He also quoted instances of the exorbitant charges made by land-owners under the old methods of development, and instanced the gain in every direction from a modern scheme of town planning.

The next paper will be read at 7.0 p.m., on October 26, by Mr. H. R. Cox, of the Associated Portland Cement Manufacturers, on "The Manufacture of Portland Cement."

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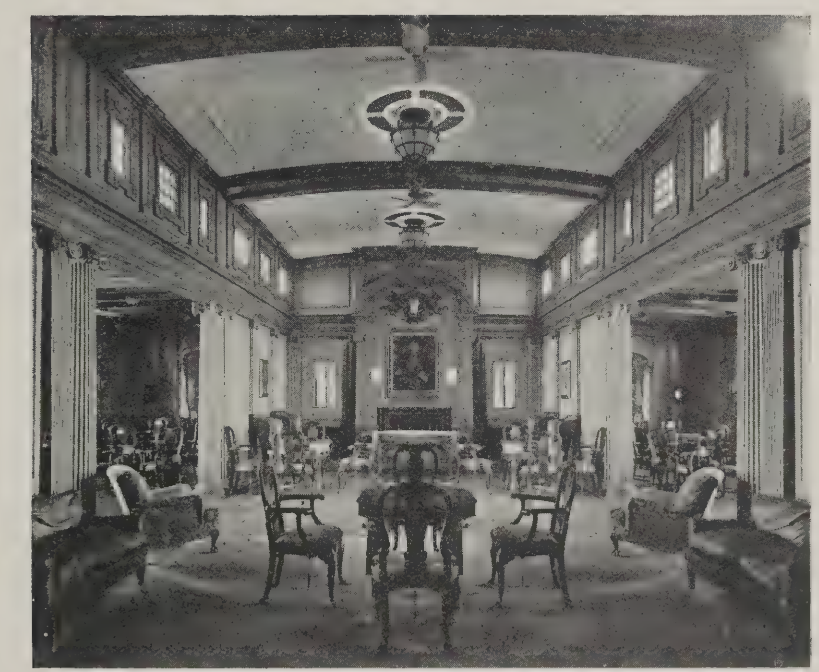
With which is incorporated "The Builders' Journal."



Canadian Pacific Steamships, Ltd.

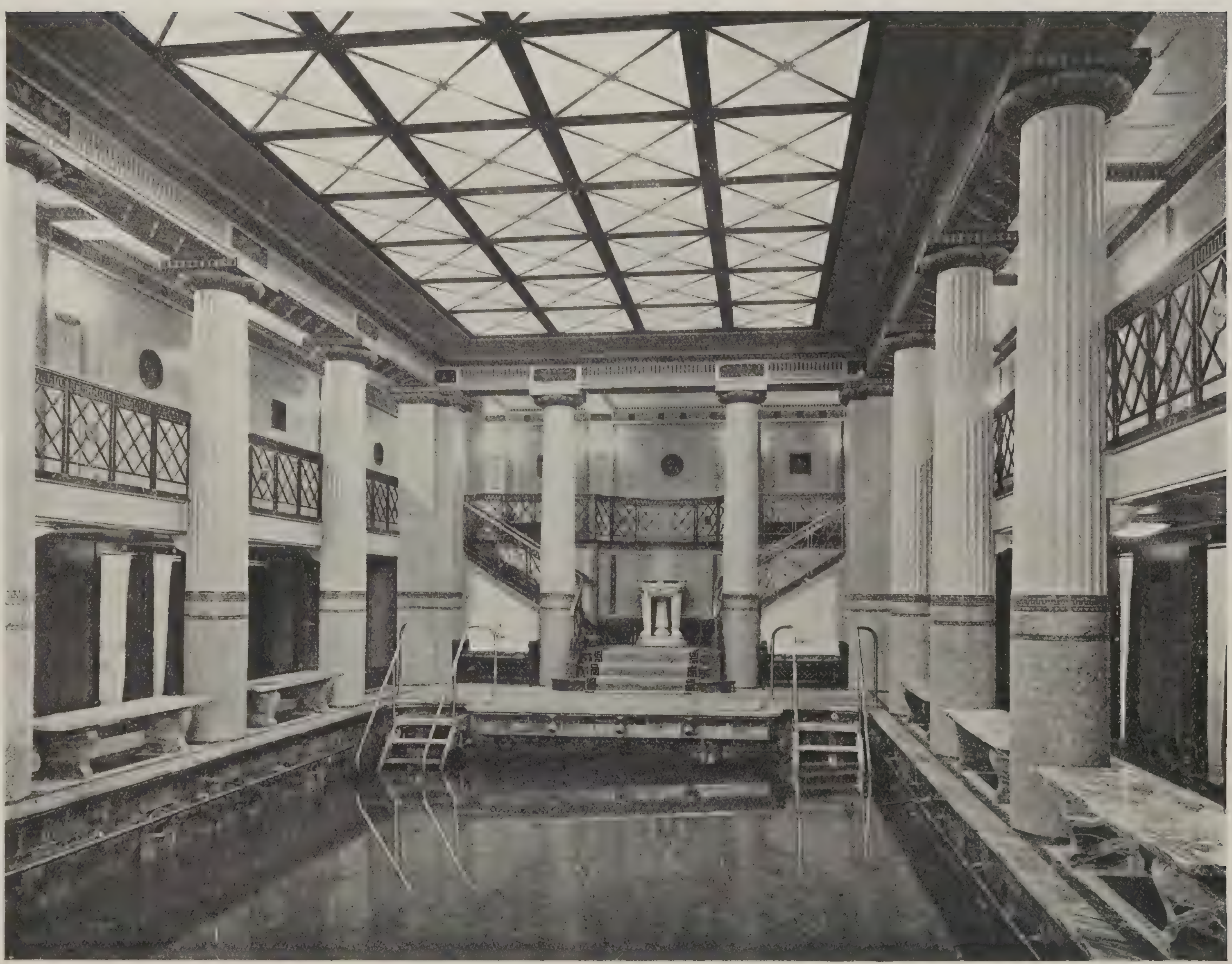
THE "EMPRESS OF CANADA": FIRST-CLASS SMOKING-ROOM.

GEORGE A. CRAWLEY AND PARTNERS, ARCHITECTS.

(See page 583.)

27-29 Tothill Street, Westminster, S.W.1.

The Swimming Bath of the "Majestic."



White Star Line.

The "Majestic" (of 56,000 tons, and the largest liner in the world) includes in its accommodation a fine swimming bath designed in the Pompeian style. Situated on the bottom deck, immediately above the boilers, and midway between the two foremost funnels, the basin of the bath has an area of 820 square feet, and a depth of 9 feet at its deepest part. There are thirty dressing-rooms for bathers. Steam and electric baths are also provided. (See also pages 562—565.)

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The Architecture of the Ship

"IT was not possible to starch the sea," wrote Ruskin, "and precisely as the stiffness fastened upon men, it vanished from ships. What had once been a mere raft, with rows of formal benches pushed along by laborious flaps of oars, and with infinite fluttering of flags and swelling of poops above, gradually began to lean more heavily into the deep water, to sustain a gloomy weight of guns, to draw back its spider-like feebleness of limb and open its bosom to the wind, and finally darkened down from all its painted vanities into the long, low hull familiar with the overflying foam; that has no other pride but its daily duty and victory. Through all these changes it gained continually in grace, strength, audacity, and beauty, until at last it has reached such a pitch of all these that there is not, except the very loveliest creatures of the living world, anything in Nature so absolutely notable, bewitching and, according to its measure, heart-occupying as a well-handled ship under sail on a stormy day. Any ship, from lowest to proudest, has due place in that architecture of the sea; beautiful not so much in this or that piece of it, as in the unity of all, from cottage to cathedral, into their great buoyant dynasty."

So Ruskin wrote in the "Harbours of England" nearly forty years ago. But steel and steam have revolutionized the building of ships, and "the great wall-sided liner" has a different beauty, though still a beauty all its own.

It is in the interior that the greatest changes have occurred. The smoky cabins with their swinging lamps, in which one could never forget, even in dead calm, that one was at sea, have been succeeded by the Corinthian-columned, white-marbled, soft-carpeted and rubber-floored saloons of the ocean greyhounds of to-day. The savour of the sea does not penetrate; the ship's bell is not heard. Wherefore most passengers sail unmindful of the perils of the deep that encompass them, and only the sudden stopping of the engines can give them any alarm. As a contributor points out in an article in this issue, on "The Ocean Liner," it is a very human weakness for some to want to imagine themselves on terra-firma, to escape from all thought of the ship —"and the steamship companies and their architects have to take cognizance of this." By the use of familiar and traditional forms such as column, architrave, and entablature, a feeling of land security is created which gives the unwilling seafarer the atmosphere, if not of his home, then of his hotel. Apparently it matters not if, in a heavy sea, the orders of architecture roll from side to side like a temple on rockers, or if the fireplace at one moment yawn beneath and at the next arch above one's head. Perhaps in a few years our great ships will float as smoothly as though on rails, when these phenomena will not occur.

But it has become a very nice question as to the propriety of decorating a sea-going ship into the semblance of a grand hotel; as to the following of tradition, or the allowing of some architecture of the sea to develop naturally along its own lines. "We have had the 'gin-palace' design, and we have had the 'period' design; shall we not by intimate realization of what a ship is, in the future be able to arrive at the 'ship' design?" Modern construction is, unfortunately, upsetting all the accepted art forms, from the ribbed back of the early folios to the half-timbered walling of a Tudor house. If, nowadays, we wish to have these before us, they are empty shams, existing not from sheer necessity, but from the doubtful desire of ornamentation alone. And a modern liner being what it is, a thing of steel plates and girders and rivets, it would seem to be no worse to clothe it with plaster and paint in one of the orthodox land styles, than to affect some sentimental sea-style reminiscent of Trafalgar and the "wooden walls."

It is quite clear, however, that a very good opening for original treatment presents itself. Again and again we have been told that we cannot get away from column and entablature because they were a natural development of post and lintel; in ships there comes the opportunity to break away at last. Stringers and iron-frames, garboard strake and web-frame, foremast and wire-stays, iron keels and deck-beams, side-plates and rivets—is there no inspiration in these out of which something new might be born? And the bow? Ruskin tells us that the sum of navigation is in that. "That rude simplicity of bent plank, that can breast its way through the death that is in the deep sea, has in it the soul of shipping. Beyond this, we may have more work, more men, more money; we cannot have more miracle. . . . For there is first an infinite strangeness in the perfection of the thing as work of human hands. I know nothing else that man does which is perfect, but that. . . . The boat's bow is naïvely perfect; complete without an effort. . . . You may magnify it or decorate it as you will; you do not add to the wonder of it. Lengthen it into hatchet-like edge of iron, strengthen it with complex tracery of ribs of oak, carve it and gild it till a column of light moves beneath it on the sea, you have made no more of it than it was at first."

In designing ship interiors the architect might bear in mind the criticism of Sir Westcott Abell, given at a meeting of the R.I.B.A. in the spring of this year. The modern fashion of decorating a ship, he said, does not express the spirit of the ship. The beautiful lines of the ship are not reflected in its interior. All that goes to the making and running of a ship is so essentially efficient and economical; the lines of a ship express that wonderful austerity, that elimination of all that is irrelevant. In the internal decoration of ocean liners one gets all the semblance of bricks and mortar and the weighty and bulky materials of land building. That is in itself inconsistent with the clean efficiency of the ship's structure. Will it not be possible in the course of time to evolve a style of decoration more in keeping with the structure and peculiarities of ships? The answer, we imagine, is in the affirmative. Land architecture is undergoing a slow and painful process of evolution, and it is reasonable to assume a corresponding development in the architecture of the ship. Here, in any case, is a fine field of activity for the architect.

Notes and Comments

Higher Buildings Again

Higher buildings for London are once more "in the air," or, it seems, soon will be, for this time the case is being pressed, not by architects or mountaineers, but by a large combination of business interests. Again and again architects have had before them the evidence for the erection of taller buildings in congested areas, but generally the consensus of opinion has been against any extension of the London Building Act, and the question has dropped. But the planning of garden cities and satellite towns, and the provision of quicker and more comfortable means of transit, can only defer, and never settle, the problem. Clearly it must be faced, and it would have been all the more to the good had it been faced by organized architects in a body rather than by a group of business men. However, so long as there is a proper conformation to good æsthetic standards, and a systematic protection of the lives and health of the people, there seems no reason why the proposals now being put forward by the committee for submission to the London County Council and the insurance companies, should not be actively encouraged by architects and laymen alike.

Too Many Memorials?

When one looks back over the centuries, comparatively few particular figures are discernible—the works and names of the great bulk of mankind are forgotten. And it is wonderful how, faced with this obvious futility, the desire and the attempt to be remembered persists. Memorials for this, memorials for that, are found upon the public buildings and open spaces of every town, while, perhaps, the very act they are there to commemorate is forgotten. Yet when a thing is beautiful and true to its purpose, even when its purpose is only half-remembered, it will be preserved and beheld by generations to come; if it is not beautiful, then it will be doomed. The memorials of the Great War are probably more numerous than those erected for any other purpose since the beginning of Time. Thermopylæ and the burning of Troy themselves have handed down to us only a few broken stones and undecipherable coins. Every village green now has its cenotaph or sculptured group, and where the designing of these has been entrusted to architects—instead of being left in the hands of local stonemasons—they are usually memorials of character and strength.

National Libraries

The annual conference of the Libraries Association is always fruitful in good counsel and common-sense philosophy. Mr. John Ballinger, presiding at this year's conference, which was held at Cardiff, spoke hopefully of the outlook for the library movement. He considers that the time has arrived for the institution of "some kind of national library service as opposed to a number of unconnected individual libraries," and he foretold the appointment of a national committee to go into the whole question. He further suggested the formation of a central library authority to co-ordinate and assist local effort; and the whole of his presidential address supplies yet another clear indication of the modern social trend. "Free institutions," "local self-government," "village autonomy," and similar clichés, are losing the force that seems to have been a heritage from the barbaric days of government by tribes, and the concept of interdependence is everywhere rapidly superseding that of over-independence and comparative isolation. Certainly libraries, of all our "free institutions," should be co-ordinated for mutual help and more efficient national, rather than merely local, service. With a national central library authority we may reasonably expect better collections of books and better buildings in which to house them. There are several respects in which library organization on co-operative lines should be prolific of public benefit. For one thing, the central authority should be empowered to purchase and distribute judiciously approved technical works, thus offering a wider field for the dissemination of useful knowledge and greatly encouraging the most useful kind of authorship. Then, again, scientific and technical periodicals, and the publications of the various learned societies, British and foreign, should be made much more free of access than they are now, and a central organization should put this item in the front rank of the reforms to be introduced without delay.

The R.A. and Decorative Art

It was hoped and expected that, under Sir Aston Webb's presidency, the Royal Academy would show increased energy in developing the applied arts. So far the anticipation has not been disappointed; and the influence of the architect President is surely to be traced in the project for the Decorative Art Exhibition which is to be held at Burlington House in January and February of next year. For the exhibition "is primarily intended to illustrate and promote the application of the arts, in their several forms, to the permanent decoration of buildings." The scheme has breadth. It implies more than the decorative application of paint to wall and ceiling. Sculptor, carver, metalworker, stained glass designer, are invited to exhibit; and the Arts and Crafts Exhibition Society will co-operate. This exhibition will achieve a splendid result if it can demonstrate to a sceptical public that fine art and applied art are not two irreconcilably different things, and that "all art is one" is a true saying. The exhibition should also serve to convince artists as well as the public that the decoration of the home is an object that should stimulate the highest ambition. The R.A. Winter Exhibition should bring about a sorely needed revival of the art traditions of early Georgian days, when no art was considered too good for house decoration.

House-painting for Health!

Looking through a volume of lectures delivered by Sir Thomas Oliver, M.D., before the Royal Institute of Public Health in 1914, we came across the following remarkable statement concerning the antiseptic properties of paints. "Two years ago," says Sir Thomas, "Professor H. J. Hutchens and I carried out a series of experiments with various paints to test their germicidal powers. The micro-organism used was the *bacillus coli*. . . . We found that vapour from drying paint at 37° C. possessed definite bactericidal properties. It retarded and prevented the growth of micro-organisms. Paints which had been dried for forty-eight hours exercised a similar influence, but after five days they no longer possessed such power. Similar results were obtained by H. A. Gardner. Like myself, he attaches considerable importance to the circumstance, for by painting chambers with an oil pigment we have an efficient means of destroying bacteria in rooms which have been occupied by persons who were the subjects of contagious disease." He adds the practical observation that during painting the rooms should be well ventilated, but when finished they should be closed for a day or two, to allow of the vapours exercising their antiseptic influence upon the walls and contents. This is distinctly worth knowing by the general public, who will accept the assurance of the doctor of medicine whereas they might suspect the decorator of self-interest, because the antiseptic property of paint is an additional excellent reason for using it "frequent and free."

The Historical Development of Ship Decoration

By T. W. MacALPINE

THROUGHOUT the ages the ship has called forth wonder and admiration. Man's adventurous spirit, fertility of mind and skill in handicraft, have all contributed to produce her, and he has found pleasure in adorning her with his art.

Nature shows us countless examples of beauty in form, exquisite colour, spectacles of great magnificence and grandeur, and grace in motion. Where man has followed nature, some of these attributes are to be seen in his art, albeit on a lower plane of excellence, and they are also to be found in those other works which owe their existence to his original genius. But perhaps the great sailing ship can alone claim to combine in herself all these attributes, for she alone, of all his works, has grace in motion.

From the earliest times of which records of nautical affairs exist, and right down through the centuries, there is evidence of decoration in ships. In colour, carving, and the devices displayed, the earliest decoration was of a minatory character and, in this respect, followed the practice of savage warfare, where an attempt is made to strike terror into an opponent by means of a menacing spectacle; the war canoe of the savage provides an example of this primitive type.

Sometimes in later, but still ancient, days, ornamentation was intentionally ostentatious, where the owners of the vessels were kings or potentates vying with one another to exhibit their wealth and power. Owing to the fact that she visited many countries, the ship provided an ideal means for this display, and art was pressed into the service of ostentation, more generally with incongruous results. But often the ship has been regarded as an object worthy in herself of the exercise of the artist's talents. The beginnings of this decoration may be traced to two main motives :—

1. All true seamen have an affection for a ship and, in some cases, a belief that she is a living creature on whom they ought to lavish their best gifts.

2. History shows that a ship, owing probably to her warfare with the elements, has always been referred to in terms implying worth and high esteem, and this, again, has caused man to render a grateful return.

But there is yet one more reason : it is a matter of observation that some cannot live without attempting to decorate their environment; and while it appears that the true artist takes more pleasure in the exercise of his powers than in the contemplation of the finished work, the latter is for many others an end in itself. And if such spend the greater part of their lives at sea (and it was usual for mariners to do so from the earliest ages of deep-sea navigation down to the middle of the nineteenth century) we should expect them to direct their efforts to the adorning of the vessel; and, indeed, we know that much of the later development in ship decoration owed its inception to the mariner.

The decoration in ships falls within the category of the domestic; the motive which caused the ancients to lavish their best work on temples to provide worthy dwellings for the gods and to propitiate them, had no influence in the case of the ship, although in mediæval times it was not uncommon to find pictures of saints shown in prominent positions, and sometimes large paintings of sacred subjects were displayed on the sails. The figure-head, too, was often a single figure or a group of sacred imagery; doubtless the supplications of the saints during storm and tempest were desired.

Most of the earliest historical records deal with ships of the Mediterranean Sea and the large rivers and waters adjoining, and we have a fairly connected account of the development of ships from about 1000 B.C., and a disjointed record extending back two thousand years earlier.

In addition there is some rather scanty information on the early Chinese and Arabian vessels. While we are pretty certain that most, if not all, types from the earliest ages are known to us from the records, we could wish that there were more particulars in regard to details. These comprised war galleys and merchant ships carrying grain; and the merchants who were conveying their manufactures and wares to and from the fairs and markets of the countries of the ancient world; and pirate vessels; and wherever illustrated records remain, it is obvious that pleasure was taken in decorating the ship.

Development in type of vessel proceeded infinitely slowly, and some centuries of our era had passed before considerable change appeared. Thus the field for the display of decoration changed but slowly, and this fact—the permanence or transientness of the field—must always have some influence on the development of art.

The sea imposes so severe and searching a test on man's contrivances, and has always been so threatening to his life, that he has always been slow to make experiments in naval architecture; if he has contrived something which serves him fairly well, he has generally shown a tendency to remain content with it. We know that in ancient times, and through a great part of the Dark Ages, the sea and storm and other phenomena, commonly called the forces of nature, were regarded as animate enemies by many races; and experience of the sea makes the naval architect and mariner conservative. This effect may be detected even to-day. It is only the growth of scientific knowledge and the consciousness that, in consequence, he is standing on firmer foundations, that has caused man to be bolder in his experiments in ship construction; for it is almost entirely through science that he has entered into a sympathetic understanding with inanimate nature and has gained thereby the means for more rapid and certain progress.

The main difficulty in tracing the history of decoration in ships is due to the fact that they have always been built of somewhat perishable materials, and most of the ancient and much of the mediæval history of the subject has come down to us in tablets, sculpture, mosaics, documents, frescoes, paintings on vases, reliefs, coins, etc., whereas the archæologist, dealing with architectural remains in stone and brick, often finds the object of his study in a fairly good state of preservation. But in some cases it has been our good fortune to discover remains of very ancient vessels which have been buried in mud and thereby protected, and the structural and other details have been found in good condition.

It is, perhaps, of interest to note that wherever old illustrated records are found showing the decoration on those ancient ships, the character of the decoration generally follows fairly closely the types associated with the country from which the vessel hails.

The maritime traffic in the Mediterranean and adjacent seas and rivers has been extensive throughout all ethnological history, and a glance at the map will show that the sea was the most direct and convenient means of communication between the many nations scattered along the Mediterranean littoral. When we consider that all ancient architecture in Southern Europe, Northern Africa, Asia Minor, and Asia was born and developed within, at most, a few miles of the sea or large navigable rivers, with a few not very important exceptions, it will be seen that the ship must have played a great part in the dissemination of knowledge of art and architectural styles.

These ships frequently carried passengers capable of appreciating the architectural achievements which they saw in the many countries and cities visited, and, doubtless, conveyed much of this information from nation to nation. The shipowner and mariner were thus brought into contact with many different architectural and decorative features; nevertheless, the decoration of the ships still continued to reflect the characteristics of the country from which the vessel hailed.

History of art shows that there has always been taking place, more or less slowly, an interaction of styles resulting in a copying of one from the other, albeit with modification and adaptation in the transit; hence, the fact that the decoration of a ship changed very slowly, notwithstanding the great opportunities presented for the assimilation of other features, would seem to indicate that this apparent inertia was the result of a natural bond of sympathy between a nation and the expression in art which it had developed through long ages. Of course, their art was a language almost as truly national as the articulate speech of daily use. In this connection we may recollect that architecture, building, and the arts were the staple "trades" of ancient and mediæval peoples; and after mankind had emerged from savagery, and on through the long ages down to the end of the eighteenth century, there was a long epoch which might be called the leisured ages of art. The ship came under the influence of art in common with most other things.

All nations are becoming more and more mercantile in their attitude towards life in all its aspects; and it is surely of interest to ask whether art can find sustenance in a commercial age, and command once again the allegiance and appreciation of all peoples. It is hoped that some remarks on the modern steamship appearing later in this article will supply a partial answer to this question.

From the fifth century or, perhaps, rather earlier, down to the twelfth century, there was the great Viking epoch in maritime affairs, and here again, these northern seamen strove to decorate their ships, albeit with somewhat rude effect. These mariners made voyages to the countries of Western Europe and to the Mediterranean and visited many cities famed for their art and architecture.

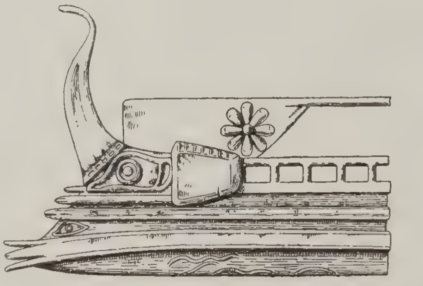
In view of the fact that the Vikings and other branches of the Scandinavian nations were the forbears of the Normans, and that many Norsemen also settled in this country in post-Roman days, it is interesting to reflect on the probability that knowledge of architectural styles found its way to Northern and Western Europe by these voyagers.

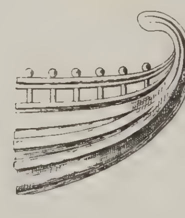
Of course, the origin and development of the architecture of Normandy and England are well known in the main without having recourse to this explanation; nevertheless, the ship in her many voyages to and from the great cities of the ancient world was doubtless a contributory cause. In this connection it is necessary to bear in mind that art and architecture not only received greater appreciation from all classes in those ancient times than is usual to-day, but, on the other hand, there were far fewer counter attractions to divert the attention of the traveller. Circumstances thus commanded the attention of the observer and made him consciously or sub-consciously a channel of communication in a world in which travellers were the main channels of communication.

But it is from A.D. 1300 that nautical history becomes fairly full and connected. In the early years of the Renaissance in Southern Europe the ship came under the influence of the broadening ideas which were finding renewed expression in art and architecture, and from this time all maritime nations expended greater efforts on the decoration of their vessels.

In all ages, but more particularly in the Middle Ages, it was not uncommon for the merchant venturer or explorer to own a single vessel in which he made voyages which

PROW OF A WARSHIP, ABOUT 300 B.C.
(From a Coin of Cios, in Bithynia.)





STERN OF A WARSHIP, ABOUT 500 B.C.
(From a Coin of Phaselis, in Lycia.)

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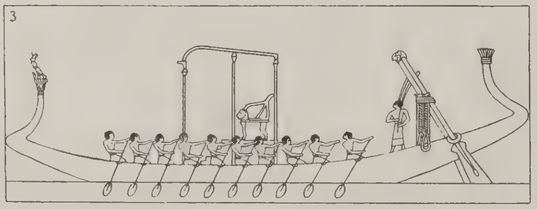
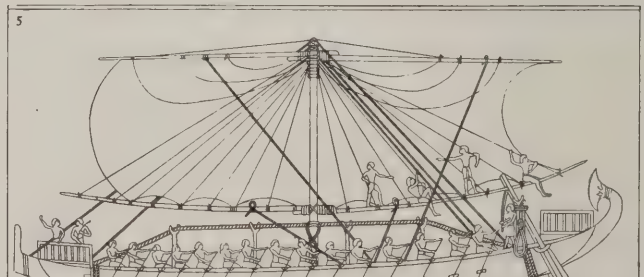


BOAT ON THE NILE, ABOUT 1250 B.C.

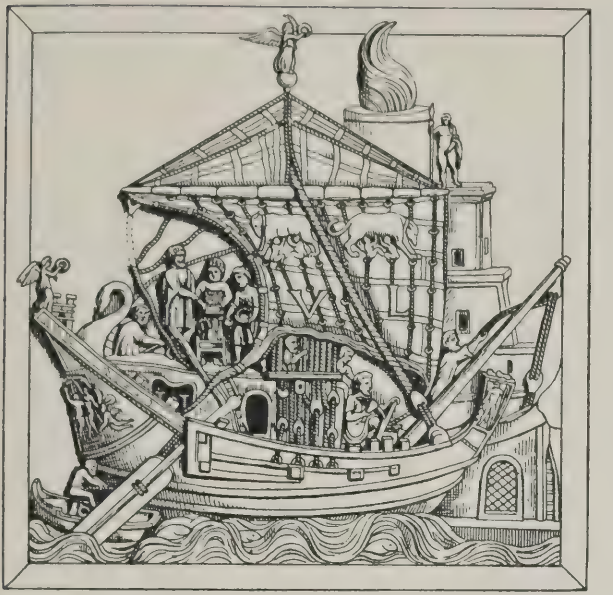
5



EGYPTIAN SHIP ON THE RED SEA, ABOUT 1250 B.C.

From Reliefs in the Temple at Dêr-el-Bahari, built by Queen Matkarā, of the Eighteenth Dynasty.

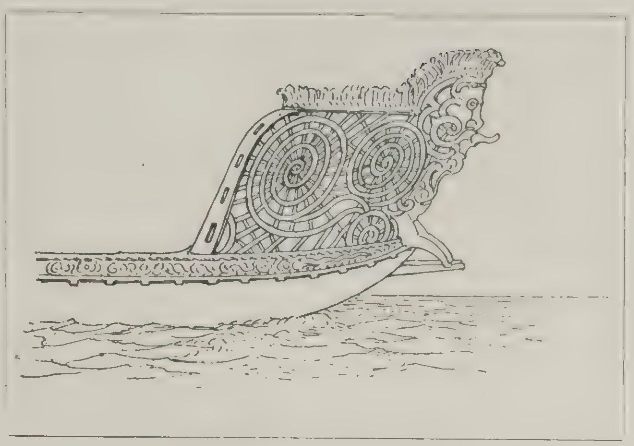
(From Torr's "Ancient Ships.")



MERCHANT SHIP, ABOUT A.D. 200

From a Relief found at Porto, near the mouth of the Tiber.

(*From Torr's "Ancient Ships."*)



HEAD OF A NEW ZEALAND WAR CANOE.

(*From Leslie's "Old Sea Wings."*)

were often, nay generally, long and hazardous; the ship was his home for months together, and in many cases his only home. While his brother on shore was turning attention to the beautifying of his house, the shipowner also did much to adorn his ship, and usually with most pleasing results, as shown by old prints and a few remaining models. But we have rather meagre information on the details of the interior of the living quarters in these mediæval ships, although we can easily imagine that when so much care was lavished on the exterior, the interior was a worthy counterpart, but much simpler.

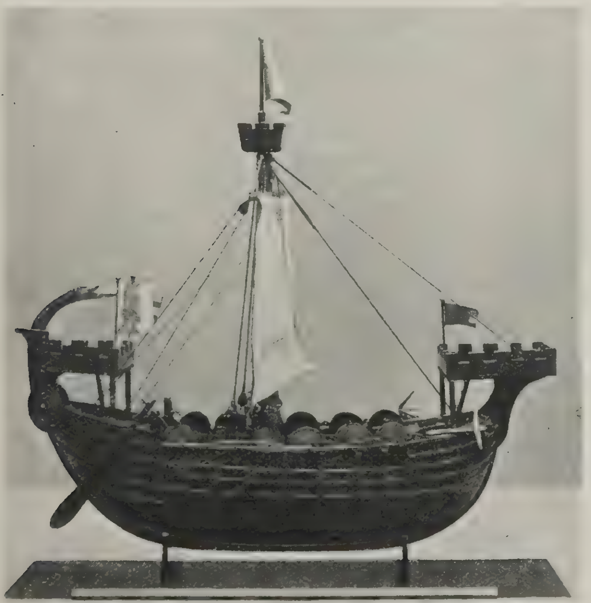
In all ages prior to A.D. 1800, or thereabouts, much more effort was expended in adorning the exterior of a vessel than the interior. From the earliest times, and down to about A.D. 1550, very little interior decoration is to be found in the majority of ships, but commencing about this date, and continuing to about A.D. 1850, hard woods, such as oak, mahogany, and many decorative woods were employed for panellings, mouldings, and wood carvings in the cabins.

The development of the interior planning and decoration from A.D. 1850 to the present day is very extensive, but a separate article would be needed to do justice to it.

The exterior ornamentation reached its highest point during the two hundred years from about A.D. 1575 to A.D. 1775, and, in that epoch, England, France, Holland, and, perhaps, to a lesser extent, Spain and Portugal, built beautiful vessels. Fortunately the Vanderveldes, father and son, were living during a great part of this period, and their drawings and paintings have preserved much of the best of the detail.

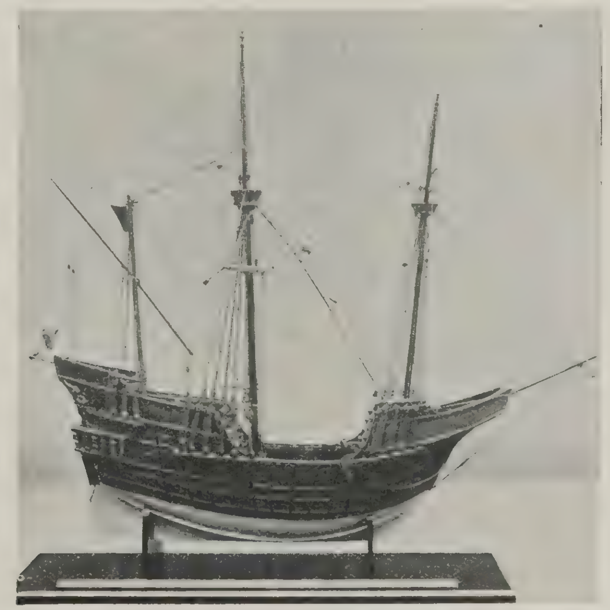
Excluding from our consideration the spars, rigging, and sails which, while adding much to the outward appearance of a ship, are mainly of interest to seamen, it may be remarked, in passing, that the spectacle of a ship was much enhanced in all ages prior to about A.D. 1600 by means of variety in the colour of sails and by exceptionally large and multi-coloured flags and banners.

The two hundred years epoch referred to above saw the finest examples of the grand stern and quarter galleries



KING'S SHIP OF THE NORMAN AND EARLY PLANTAGENET PERIODS (11TH TO 13TH CENTURIES).

The shields and banners of the knights were hung on the castles. The vessels were decorated with heraldic carvings and painted in bright colours, red being a favourite.



From the Science Museum, South Kensington.

TYPE OF SHIP DEVELOPED BY GENOESE, PORTUGUESE, AND SPANISH DURING 14TH AND 15TH CENTURIES.

Columbus and Vasco da Gama made their voyages in vessels of similar type. The overhanging forecastle and the superstructure at the stern were developed from the fighting castles of earlier date.

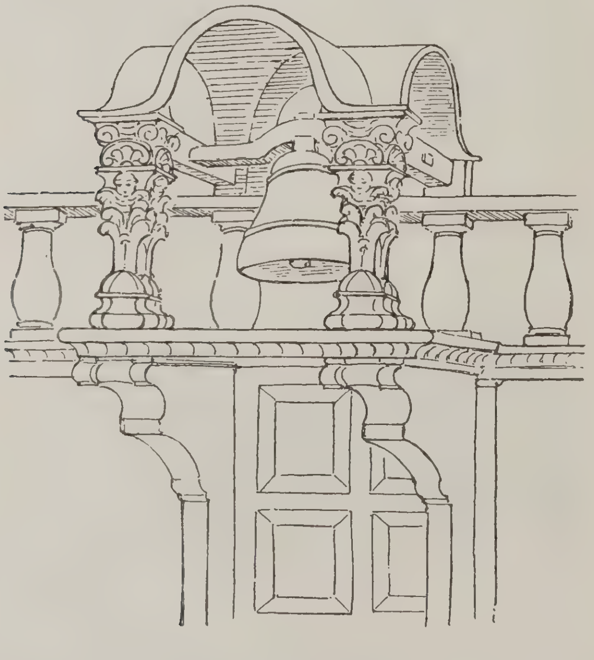
with their carved figures and heraldic devices, and tiers of windows and balconies surmounted by great lanterns. At the bow the figure-head, finely carved—the lineal descendant of the beaks which appeared at the prows of the galleys of Egypt, Greece, and Rome—was painted or gilt. The figure-head surmounted carved and gilt scrolls which were employed essentially as constructive features to strengthen the prow or stem. Along the outside of the bulwarks, figures, festoons, coats of arms, and other heraldic symbols were cut in relief, and gilt or painted, and superposed on a background, often of blue.

Many vessels were entered by a beautiful portal placed about amidships, and along the decks fittings essential to the working of the ship were adorned with fine carvings. The ship's bell was hung in a carved belfry, and the catheads, knightheads, fife-rails, mast-bitts, and cavels were nearly always decorated with carving, while the forecastle and sterncastle—the latter the antecedent of the later poop—were surrounded by gracefully moulded balusters and rails.

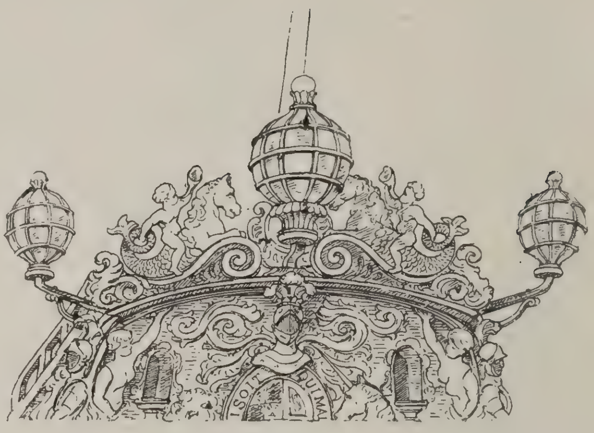
Naval architects and seamen pay much attention to the form of a vessel's hull—the lines or model, to give it its technical name. The general efficiency of the ship depends in great measure on this form, but, in addition, graceful lines—and a ship's lines can be very graceful—never fail to command the admiration of naval architects and seamen.

Engineers sometimes use the expression: "If a thing is good, it looks good." Of course, by this they intend to convey that a piece of mechanism, or a structure, well designed or adapted to serve its purpose with efficiency, will have a pleasing and satisfying appearance. To what extent this expression is true need not be inquired here, but it may not be out of place to remark on the coincidence that a very beautiful curve, or family of curves—the parabola—is known from experience to produce a very efficient hull form.

About the beginning of the eighteenth century we find the merchant shipowner becoming possessed of several ships, and with a rapidly increasing commerce. In consequence, he finds it more convenient to live on shore and conduct his business from a home port, the ships and all transactions connected therewith being committed to captains and to agents in foreign ports. To an increasing degree the merchant ceases to be a shipowner, but, on the contrary, hires a vessel or vessels to transport his cargoes; the chartering system so well known to-day was in operation then.



A CARVED BELFRY.
(*From Leslie's "Old Sea Wings."*)



ARRANGEMENT OF SEVENTEENTH-CENTURY POOP LANTERNS.
(*From Leslie's "Old Sea Wings."*)

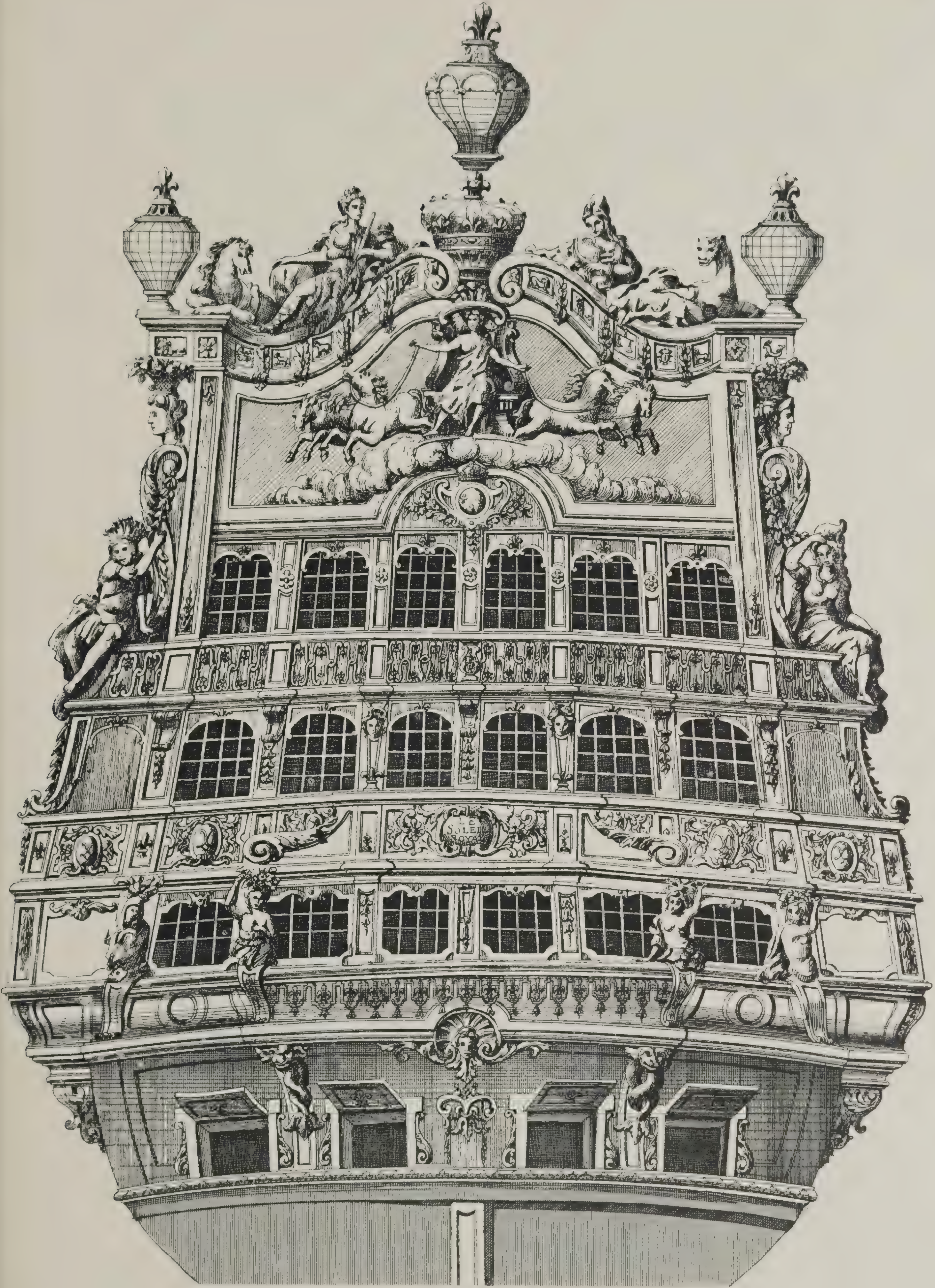
From that time less effort is expended in decorating the ship, and though the change is hardly appreciable at first, there is, nevertheless, a steadily growing tendency towards commercial utilitarianism—the effect of the mercantile mind is becoming evident. Perhaps, as in other and similar cases, the owner had not the same interest in incurring expenditure on the decoration of a vessel in which he no longer lived.

We know that the merchants of antiquity and of early mediæval times were relatively few in number, and generally occupied a position much inferior to that of the nobles with their large territorial interests and holdings. And it was mainly owing to the growth of towns and the compact commercial communities which sprang up in these centres, that the merchants were able to wrest bit by bit from the kings and nobles the rights and powers which became associated with the guilds, companies, and municipalities of mediæval and subsequent times. The wealth of these towns grew rapidly, as international trade developed, and the ship, of course, played a great part in this trade, so much so, that the majority of the wealthy cities of the ancient and mediæval world were to be found on or near the sea coasts or on navigable rivers—their wealth and power were in great measure due to seaborne commerce.

When this system had reached its highest state of perfection in the mediæval age the merchants were closely connected with the municipality, the citizens were proud of their city and jealous for its welfare, and the community was compact and domestic. For centuries these cities were patrons of the arts, and, within their boundaries, there accumulated, gradually, a vast wealth of art and architecture very much of which remains to the present day in European cities and also in this country. But throughout the greater part of our era it was mainly owing to the ship and the enormous commerce connected with her, that this state of affairs became possible in towns and cities.

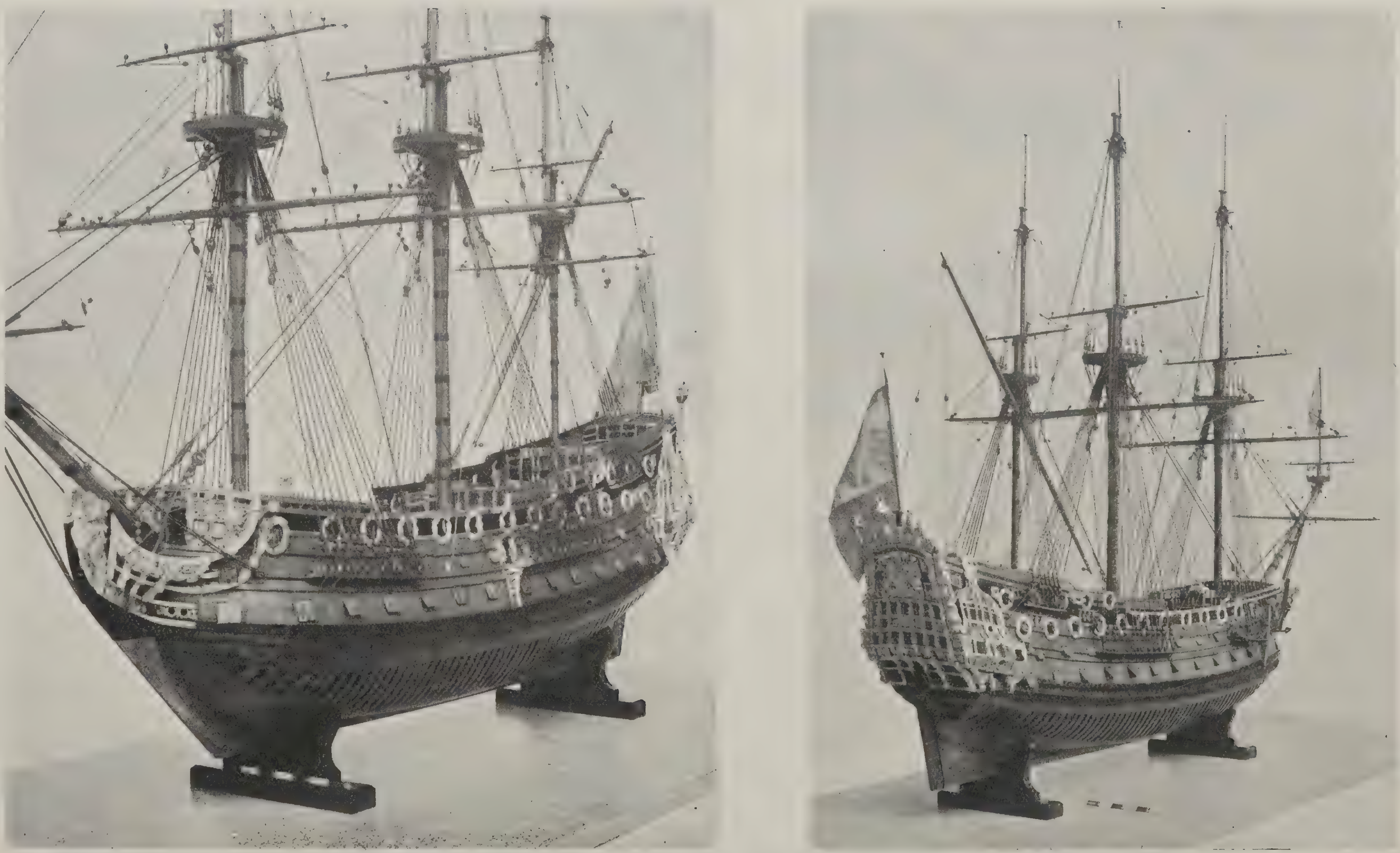
Thus far, trade had been carried on in a somewhat domestic manner, but about the middle of the eighteenth century it began to be realized that if groups of workers could be gathered together in factories, workshops, and mines, the owners of these workshops and mines would be able to acquire wealth rapidly. This was the beginning of the period of intensive generation of wealth—the conditions we know to-day in which factories are filled with men and machinery. *Pari passu* with this development in commerce, art and architecture in general declined, because the accumulation of wealth became an end in itself, and, incidentally, much of the physiological architecture of the workers in these factories also declined.

Now, it is perfectly clear that economic conditions of this kind are essential to modern requirements of life, although there may be still ample room for improvement in socia conditions. But we are interested in discovering whether



THE STERN OF "LE SOLEIL ROYAL" (PERIOD OF LOUIS XIV).

After a Design by Puget.



A SHIP OF THE LATE XVII CENTURY, SHOWING ENGLISH DESIGN AT ITS MOST DECORATIVE PERIOD.

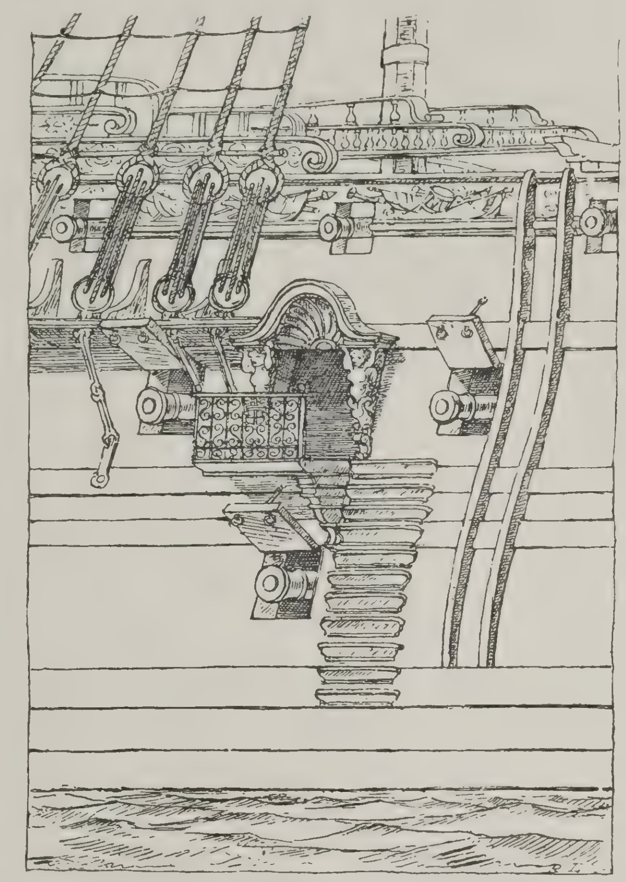
(From a Model in South Kensington Museum.)

the fine arts and architecture can once again regain full vigour in our mercantile age; and the ocean liner, in respect of interior decoration, is going to contribute her share to the solution of this problem. And, strange though it may at first seem, the plutocrat, perhaps unwittingly, and the masses in their revulsion from a life largely devoid of inspiration, are calling the fine arts to their succour.

Prior to A.D. 1575 the chief employment of the ship had been, in war, for fighting and the transport of armies; in commerce, for the conveying of merchandise and merchants to and from the large commercial centres and fairs, and the carrying of the faithful making pilgrimages to distant shrines, and for exploration. But compared with present-day conditions passengers were relatively few, and travelled generally under extreme necessity.

From about A.D. 1600 we find the emigrant in greater and greater numbers leaving the old countries to found settlements in the new lands overseas. But for all overseas travellers before this date and, indeed, for nearly two centuries later, hardship was regarded as a concomitant of the sea voyage, and no very special provision was made to ameliorate the harsh conditions prevailing.

These hardships continued in the sailing ships till about A.D. 1840, and, on the advent of the ocean steamship, we find the latter to be very little different in hull and interior from the sailing ship which she eventually superseded. This is another example of continuity in change, albeit too often associated with the sterile mind unable to perceive that new circumstances admit of new methods of treatment and that precedent no longer determines the course to be followed. This is well exemplified here, for the sailing ship requires a clear and roomy deck so that the crew may work the vessel without being impeded; as a consequence, practically the whole of the passenger accommodation had to be located below this deck, and it was low, dark, and ill-ventilated.



ENTRY PORT OF AN EIGHTEENTH-CENTURY SHIP.
(*From Leslie's "Old Sea Wings."*)

In the steamship clear decks are not a prime necessity, and thus it is possible to arrange a great part of the passenger accommodation in the superstructure: the rooms are relatively lofty, with ample natural light and more easily ventilated. And this form of planning is followed to-day, as far as possible, in all up-to-date steamships; but many years passed before designers availed themselves of the new opportunities provided by the steamer, and there is room still for improvement in planning. In extenuation it must, however, be admitted that some of the early steamships occasionally set canvas, and this would tend to retard the improvement of planning in respect of passenger accommodation.

Before 1850 there were, compared with to-day, very few transoceanic voyagers, and they were obliged to endure considerable hardship at sea; the comparatively poor emigrant who crossed the ocean from an old to a new country rarely made another sea voyage in his life, and he was generally content to endure hardship and discomfort without complaint. But a little later commercial men in ever-increasing numbers are found among the passengers, and they were by no means content to accept without criticism anything that the shipping companies might choose to provide. They began to demand comforts at sea approximating to those found in hotels on land, and, moreover, they were powerful enough to make their voices heard, and also to enlist the support of the Press.

Constant criticism was the main influence which was instrumental in causing the shipping companies to improve the amenities in their vessels by means of better planning and decoration of the passenger accommodation; and the shipowners awoke to the fact that it was to their own interests to meet the demands of the passengers in this respect. These influences have been operating ever since, and the leading shipping companies now study the interests of the passengers with a care unsurpassed in any hotel ashore.

To-day there is a searching after excellence in the planning and decoration of the passenger accommodation on shipboard in all classes, first, second, and third; and if the results are not always satisfactory, it is not because the shipping companies are niggardly in regard to money allotted for this purpose, but rather because those who are responsible for this architectural work have not made full use of their opportunities. While the first class is often ostentatious, restrained and pleasing decoration is to be found in the second and third; fortunately fine architecture and decoration are possible in all classes on shipboard, and all are impressed, consciously or subconsciously, by good art. If all passenger steamship companies could be induced to call in land architects, the planning and decoration of the accommodation would be handled with much more method, variety and originality, and probably at a reduced cost.

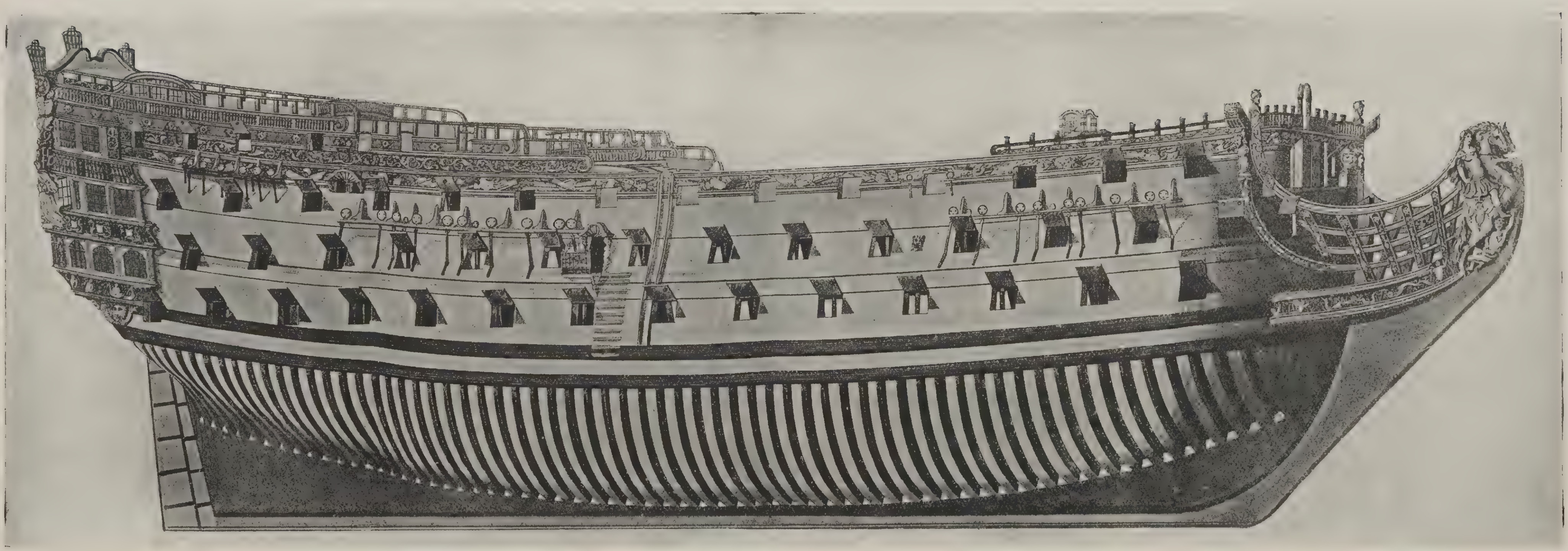
It is fairly obvious that transoceanic travel will increase by leaps and bounds, with the result that the passenger fleets must grow rapidly in the coming years. Hence, it is in the interests of the shipowners to avail themselves of the best architectural advice in the planning and decoration of the space allotted to passengers. It is not unusual for vessels to become unsuitable for the service on which they are engaged, not because they are unseaworthy, but because improvements and developments in marine architecture and engineering, or passenger accommodation, have rendered them obsolete. And a better planning of the accommodation would have tended to increase the length of the ship's useful life.

Those interested in following up this subject will find a mine of authentic information on the decorative features of ships extending back over 300 years or so, at: The Science Museum, South Kensington, London; The Royal United Service Museum, Whitehall, London; The Naval Museum, Greenwich.

A British Man-of-War of the Eighteenth Century

The "Royal George," launched in 1756

(From Charnock's History)



The "Royal George," modelled on the Spanish ship "Princesa" (captured in 1740), was laid down at Woolwich in 1746, launched ten years later, and lost at Spithead in 1782. Reference to the illustration shows that the high poop which formed the chief feature of late seventeenth-century ships has by this time been considerably reduced, while the top sides of the ship tend to horizontality; but the excessive "tumbling home" of the side walls, characteristic of earlier ships, is continued. The prow has been raised in sympathy with the horizontal topsides and the stern. The decorative attributes of the "Royal George" appear to have followed contemporary architectural lines; such features as the door and hood mouldings to the gangway with balcony and wrought-iron railing, the stiff pilasters to the divisions of the stern galleries, and the carved terms finishing the ramps from the beak being of architectural interest.

The Ocean Liner

A New Field for Architects

SINCE the war, many persons, and architects in particular, have been gravely exercised as to whether the architectural education at our principal schools is in the right direction. The question is whether the young architects trained in these schools will ever have the opportunity in after life to carry into practice the lessons they have learned and the teaching they have absorbed.

With, perhaps, one notable exception it may be said that practically all our leading schools follow more or less on the lines of the French Beaux-Arts.

More than anything else the new training differs from the old in the magnitude and compass of the problems set the students.

Can the extended study of these great projects of plan and elevation lead to any definite and valued results? The war has left us, along with the other European countries, depleted in pocket and to a certain extent in energy too. Yet our schools go on as if we were a country of unlimited wealth with great and tremendous building problems in front of us.

And the schools are right. It is a remarkable fact that practically all our post-war efforts in building have been along the lines of what may be described as large scale buildings.

"Crowd Architecture"

Whether it be Government Housing Schemes, with the cottage unit and the resultant village or small town, the modern hotel, the large drapery store and business premises, the extensive factory and great mill, or the enormous modern home for the "movies"—all are problems demanding the greatest exercise of our talents in lay-out and design. Compared with the problems of the old world we have to feed, house, clothe, amuse, and transport great crowds of people, with the result that, as architects, we have to express this modern crowd life in terms of "crowd architecture."

In the middle of nineteenth-century industrialism we erected our "crowd" buildings haphazard and anyhow, but an awakened public sense of orderliness is demanding that the problem of these buildings shall be properly handled, both in conception and execution. The architect of to-day has unrivalled opportunities for the exercise of his talents—opportunities that the past never afforded, and it is up to him to take full advantage of them.

One of the very newest fields for architectural adventure is the great ocean liner—the floating town that connects the life of continents.

In an instructive and stimulating paper recently read before the Royal Institute of British Architects, Mr. Arthur Davis set out the problem for the land architect who is called upon to help in the decoration of the ocean liner.

The writer of this article had the unique opportunity of visiting Southampton recently when four of the largest liners in the world were in dock there. These were the "Majestic," the "Berengaria," the "Mauretania," and the "Olympic," and it was as a result of seeing over these ships in company with a naval expert, who is as enthusiastic for good design (in the ordinary sense as understood by land architects) as he is for good construction (in a ship sense), that the idea occurred that it might be of interest to architects generally if some of the impressions gleaned were set down.

The first thought that occurs to one in going over one of these monsters is that any land architect who may be lucky enough to be called in to design the decorations of the principal rooms (and it is quite possible, as the writer hopes to show, that he might helpfully do far more than this) must know his job thoroughly.

The purely naval part of these ships is so efficient, so thorough, both in design and construction, that it is intolerable that any lower standard should apply to the finish and the decoration.

Unfortunately in the past a very much lower standard has been applied, and it was not until the comparatively recent advent of the land architect into the sphere of ship decoration that anything like an adequate artistic treatment was given to the habitable parts of ships.

A year or so before the war some of the great steamship lines in this country and abroad made the daring innovation of employing a land architect in conjunction with the sea architect (or as Mr. Davis succinctly calls them, "dry" and "wet" architects), and the experiment was more than justified.

The Naval Architect

In his own province the naval architect is superb, unapproachable, is in his own way a great artist as well as a great engineer, and he is amazingly efficient—his is a constant warfare against natural forces, and nature does not condone mistakes, particularly mistakes upon the sea.

His creations are surprisingly beautiful—the least imaginative of us have stood spellbound by the sheer beauty of line and form of these great birds of passage.

The beauty is in a large measure unconscious, is the result of an exact use of material and of a scientific application of ends to means—perhaps, as Professor Beresford Pite would have us believe, the greatest beauty, whether in a ship or in a building, is unconscious; however that may be, there is no question but that along his own lines the naval architect is a great artist.

It is when he leaves his own sphere and descends into the regions of the less happily circumstanced land architect that he is not quite so successful. Or rather when he hands over that portion of his ship to the mere decorator, for it is well-nigh impossible to believe that any man who can lay down the lines of a great ship could condescend to the trivialities and vulgarities that mar the public rooms of so many of our great liners.

One magnificent ship which we visited, considered as a ship was ruined by the low note of its decoration. The dining-room with its carved and twisted mahogany of tortuous shapes, highly polished and inlaid with masses of mother-of-pearl, its windows of the crudest stained glass, suggested nothing so much as a glorified gin palace.

The lounge or drawing-room was not much better; instead of mahogany there was oak carved with nasty little squiggles which vainly imagined themselves to be indicative of Louis XV, and furniture that would have disgraced the worst type of suburban lodging house.

"Aquitania," "Berengaria," "Majestic"

By contrast there are ships such as the "Aquitania," the "Berengaria," and the "Majestic," where the planning and the decoration of the passengers' accommodation reach a very high standard; one need scarcely add that in each case a land architect collaborated with the naval architect to produce this happy result.

In the design of the public rooms of all these ships one may discern the influence of Versailles, and this is, perhaps, inevitable.

Versailles is the historical example of the planning and architectural treatment of great suites of rooms. It impressed itself strongly on the people of the eighteenth century, and, indeed, on all subsequent peoples; and until we have a tradition strong enough to supersede it it may be reasonably assumed that the Versailles models will be followed for similar problems.

How far it is permissible to follow architectural features familiar to land architecture on board ship is a very debatable point.

The Problem of Architectural Form

Mr. Davis, in his paper, pointed out that many passengers wish to escape from all thought of the ship—they want to imagine themselves on terra-firma—and the steamship companies and their architects have to take cognizance of this very human weakness.

It is contended that familiar and traditional forms such as column, architrave, and entablature create a feeling of land security which gives the unwilling seafarer the atmosphere, if not of his home, then of his hotel.

For the comfort of passenger and architect alike, it is probably desirable that the design should follow along traditional lines.

When one is in robust health and full of the joy of life, one may with great enjoyment spend a night in a spare room at a friend's house or an hour or two at the moving-picture house decorated in the latest and most daring jazz manner; but there are very few who would choose to spend a week in such surroundings whilst all the time a prey to violent sea-sickness.

But even accepting the psychological value of traditional forms, it might be contended that a certain amount of mental unrest is caused by unsuitability of treatment.

For instance, a column that is of standard stone or marble proportions might even, if constructed of stucco, have a very unsettling effect when slightly oscillating under the influence of a heavy sea; and a fireplace, the design of which suggested heavy brickwork or masonry might under similar conditions be even more unpleasant.

As a general rule there is not a great deal of movement on these big ships, but there is some, and when all is said and done, a ship is not a building in the land sense of the word.

Without violently departing from tradition, would it not be possible to design the decoration of an ocean liner in a way that would satisfy the sea-sick passenger and critical æsthete alike?

We have had the "gin palace" design and we have had the "period" design; shall we not, by intimate realization of what a ship is, in the future be able to arrive at the "ship" design?

When the Americans adopted the brick and stone "Georgian architecture" of this country for their own colonial use they did not slavishly copy our brick and stone forms. The abundant timber of their own country dictated the terms of their building, and we have the fully-developed American colonial architecture no whit less fine than our own, but a beautiful variant.

Some Suggestions

Now, much in the same way that the timber of America determined the use of the slender wooden columns in "colonial" work, cannot the practical requirements of the ship suggest architectural forms which shall be pleasing and satisfying?

The naval architect's incessant demand is for reduced weight (particularly on the upper decks), and for economy of space, and this in itself would appear to suggest a scheme of architectural treatment widely different from the stone proportions of our land buildings.

If, instead of the column of Classic dimensions, we could give him a column of "colonial" or timber proportions designed so as to give an appearance of being securely held at top and bottom, should we not be in a fair way to treating one feature at least in a shiplike manner?

Another focal point causing much trouble and tribulation to the soul of the architect is the design of the fireplace. It may be said straight away that a fireplace in a modern passenger ship with its centrally-heated rooms is a mere luxury; it serves no practical purpose beyond an attractive centre around which to group armchairs.

When it is a real fireplace with a real fire burning, in it there may be something to be said in its favour even though it be a luxury.

But when, as would more frequently appear to be the case, it is nothing but an electrically contrived sham—which does not even serve as a ventilating shaft, then even the purely psychological value of such a feature is doubtful. As a rule, where there is no fireplace, and the room or apartment is adequately heated, no need is felt for a fireplace—though nothing can be so cheerless as an empty fireplace even in a well-warmed room.

And there are many alternatives to the fireplace when considered simply as a focal point around which to group chairs; there is the well-designed niche, the large scale painting or tapestry, the mirror (though the unconsidered use of mirrors is a grave pitfall for the unwary), even the design and arrangement of the furniture, and many others which will occur to the resourceful architect.

These suggestions are only made tentatively and with a view to giving food for thought and discussion.

No one realizes more than the present writer the magnitude of an architect's task in the decoration of these huge ships. There must be a graduated and carefully considered treatment for the first, second, and third class passenger accommodation. The public rooms of any one class equal in size and complexity of design a large public building!

Many of the private suites of rooms on the larger ships are of the extent of a small house or flat, whilst in addition there are hundreds of cabins forming long streets all demanding consideration and treatment at the hand of the architect. As has already been said, there is an unlimited scope for the land architect in connection with big ships; and when it is remembered that the life of these ships is only some twenty or twenty-five years, so that new ships are constantly being built, the importance of the subject becomes very apparent.

An Opportunity for the Schools

One would like to see the leading architectural schools taking up the problem of ship design and decoration as part of their curriculum—by design here is meant the design of the passenger accommodation only—the design of the ship proper being entirely an affair of the naval architect.

It would be singularly suitable if such a school as, say, the Liverpool School of Architecture, located as it is at one of our most important passenger ports, were to encourage its students in these problems of marine design, possibly with the aid of the great steamship companies who might be induced to help such a departure by the provision of prizes and scholarships. So far it appears to have been the general practice to employ the land architect on the decoration only, though this is sometimes stretched to include the planning of the main entertainment rooms together with the approaches and staircases, etc.

But it is an open question whether the land architect's activities could not extend to the design and treatment of the whole of the passenger accommodation in conjunction and close collaboration with the naval architect.

It is quite obvious after visiting several of our large liners that there is a good deal of variety in the planning and lay-out of the passengers' quarters, and that whilst in some ships these quarters are laid out on good straightforward lines, in others the planning is not so good, and there is ample room for improvement and the infusion of new ideas.

The passenger accommodation on the largest ships might be said to equal that of three large hotels, and the problems to be solved are not dissimilar.

In ship design there are many pitfalls for the unwary land architect, and many difficulties, which will be quite new to him, that he will have to overcome if he is to do his work properly.

The Corridor System

In going round these liners one was struck with the extraordinarily long dull stuffy corridors with internal cabins artificially lighted and ventilated, and one wondered whether after all the corridor system was the only system, or whether something better could be devised.

The passenger accommodation should be planned to permit of easy and quick egress in case of fire, and at the same time direct approach for fighting the fire. It should be so arranged that an outbreak may be restricted as far as possible to a definite section.

Fire at sea is the sailor's nightmare, and should an outbreak occur it is very difficult to keep it localized, and consequently large sections of the ship may be gutted before the fire is brought under control.

Again it is open to question whether long and narrow passages filled with smoke are convenient for the passenger escaping from the fire or for the fireman fighting it.

The need for the employment of fireproof materials as far as possible is so obvious as to require no stressing here.

Another point for the untutored is the question of vibration and the possibility of consequent rattle.

All parts of the structure, fittings, details, etc., in the sleeping cabins, state rooms and public rooms should be so designed and fitted that the vibration of the ship does not cause them to rattle; also it is desirable to avoid using flexible surfaces likely to vibrate and produce a drumming sound. Everything must be well and firmly fixed. All parts of the accommodation should be planned as far as possible to admit of easy ventilation with fresh warm air and without draught.

Ventilation

The system of ventilating trunks should be as simple as possible, and if it can be dispensed with at any part of the ship without detriment to the ventilation so much the better. The temperature in sleeping cabins and state-rooms should be, and usually is, entirely under the control of the occupier, but we often find in a ship with accommodation designed as at present, narrow passages, thin partitions, and indifferent ventilation—so that if the occupier of one cabin has the taste of a salamander, he inflicts considerable discomfort on the passengers in surrounding cabins by reason of the excessive heat which penetrates through on all sides.

Water Supply

Coming to the question of water supply, even on the most modern liners there appears to be a great waste of labour in connection with this. Only the most important suites and cabins have water laid on; in the others small receptacles have to be filled every day.

There does not appear to be any good reason why fresh water should not be laid on to every sleeping cabin and state-room, provided it is borne in mind that fresh water on board ship is somewhat costly, inasmuch as it is produced almost entirely by distillation, and as every sailor knows the conservation of the water supply is of primary importance.

Warm water is also costly, as steam must be expended in heating it—but it might be possible under some carefully contrived system of rationing to lay on both hot and cold water to all cabins and so save an infinite amount of labour. It might be of interest to the uninitiated to know that the fresh water is pumped throughout the ship from the engine-room distillation plant.

Sanitary Arrangements

Another point in connection with passenger accommodation design on which the land architect might bring to bear rather usefully the results of his land experience is the sanitary system. The sanitary system on shipboard is very similar to that of a large hotel with its lavatories, bathrooms, and water supply to some or all of the bedrooms and dressing-rooms. And just as in the case of an hotel the architect has to consider the discharge of the sewage into the drainage system of the town, so, on board ship, the designer of the passenger accommodation is concerned only with the arrangement of the pipe system in such a way that the sewage may be delivered to the sewage pump cesspool.

On some of the large liners there does not appear to have been as much brains expended on the sanitary system as on the other parts of the ship.

In particular, the grouping of the lavatories and w.c.'s would appear to leave room for much improvement. In some ships we find that whilst a certain number of bathrooms, lavatories, and w.c.'s are grouped in sanitary towers, others are dotted about in the most haphazard manner.

Whilst on the best modern liners the pipes, runs, and sanitary fittings are carefully concealed from view, in others they sprawl all over the ship in the most unsightly fashion, whilst the lavatories and bathrooms proper have the appearance of homes for petrified snakes!

Probably in the treatment of the sanitary fittings the American sanitary engineer is in advance of the British and might teach us much in the proper furnishing of our sanitary apartments.

Suitability of Materials

It must be remembered that cleanliness—desirable everywhere—is especially desirable on board ship. It is very difficult to keep a ship absolutely free from vermin such as rats, cockroaches, and other pests; on some routes in certain parts of the world it is absolutely impossible to do so—and the designer of the passenger accommodation should have this constantly in mind. In considering the suitability of materials for decoration and design of the passenger accommodation, it is necessary to remember that a ship in her many journeys over the world may experience all extremes of atmospheric temperature and humidity.

As far as the exterior of the ship goes, the land architect gets very little opportunity. The one last piece of decoration left him is the ornamental work on the counter at the stern—even this is rigorously cut out on some modern ships. It is the last relic of the great and glorious poops of the old sailing ships that is left to us.

Sometimes one must admit that this work had better be omitted, but when it is well-designed, as, for instance, on the "Berengaria," it gives an additional touch of tradition that adds to the interest and beauty of the ship.

Naval architects call this work "gilt ginger-bread."

It is impossible within the limits of this article to deal adequately with all the problems that arise in the design and fitting up of the passenger accommodation on board the passenger-carrying liners, but it is hoped that enough has been said to indicate the field of operation open to the land architect should he ever get the chance to employ his talents in this direction, and to arouse his interest and awaken his ambition. In the decoration of the mighty suites of the public rooms there is enough scope to satisfy the most ambitious-minded, and though for obvious reasons the help of the sculptor is denied the architect in connection with this work, there is ample opportunity for the employment of the painter and the tapestry weaver.

As has been said, the life of these ships is limited to a few brief years; and at the back of his mind any architect who is worth his salt longs to put his work in a permanent setting, in bronze and stone in preference to wood and plaster. But it must be remembered that there is a greater permanence to be achieved than the mere material permanence of enduring materials—the permanence of a great tradition; and it is hoped that the architects of the greatest seafaring nation the world has ever known will gradually but surely build up a great tradition in connection with the passenger accommodation of our ocean liners.

R.N.V.R.

The "Aquitania"

MEWÈS and DAVIS, Architects

THE "Aquitania" has many fine architectural apartments. The decoration of the restaurant is in the Louis XVI style, and the woodwork is in panelled mahogany. The whole is enriched with carved ornament, pilasters and columns. Between the pilasters and on the panels of the vents are hung decorative paintings, representative of the work of masters of the eighteenth century. Two big decorative paintings are hung above two console tables. In the ceiling of the well is a decorative painting representing the Triumph of Flora. The well is surrounded by a rich wrought-iron balustrading, with motifs forming panels representing the monogram of the company and of the ship, with two anchors crossed on a trident, symbolical of Neptune, the God of the Seas.

The general scheme of decoration in the Palladian lounge (first class) is reminiscent of the work of Sir Christopher Wren. The colour scheme is wine-red and grey. The centre of the room, which is 18 ft. in height, is ornamented with a genuine old ceiling painting on canvas, signed by Van Cuygen. Large Georgian windows overlook the garden lounge. The spandrels at the end of the room, on each side of the arches, are copied from old panels representing the Elements—Fire, Earth, Water, Heaven, after Jean Baptiste Van Lee, 1684–1745. A semi-circular stage or platform is planned at one end of the room and is decorated with a coffered vault, under which is a reproduction of the famous Mortlake tapestry representing the Battle of Solebay. The floor is of oak and suitable for dancing.

The Carolean smoking-room (first class) is an adaptation from Greenwich Hospital, the period being late Charles II. It is 76 ft. long and 52 ft. wide, and has a lofty central portion and five spacious rooms adjoining. On all sides are carved trophies and coats-of-arms in the earlier manner of Grinling Gibbons. Much of the carving has been executed out of solid oak. In the centre of the high portion of the room are two large decorative painted panels, in richly carved old gold frames, representing the "Embarkation of St. Ursula" and a "Seaport with Figures." The lower portions of the room have a rich oak-beamed ceiling, and the window treatment suggests the Admiral's Walk on an old battleship. The electric light fittings are copied from an old Dutch ship lantern.

One of the many architectural features comprised in the "Aquitania" is the grill-room. Its decorative treatment, which is early Jacobean, derives certain features from a carved oak-panelled room from the Palace at Bromley-by-Bow, which dates from the beginning of the seventeenth century, and is now at the Victoria and Albert Museum, London. The room is furnished in the same style, the curtains being of an Elizabethan needlework pattern. Blue Delft china ornaments help to complete the scheme.

The Adam drawing-room (first class) is a reproduction from the best period of the brothers Adam, 1780. The principal feature in the ceiling is an oval dome with lunettes. Lead mouldings and ornaments, after the brothers Adam, hold in the glass. The principal features in this room are Cuba mahogany bookcases with a delicately carved and interlacing moulding in the door panels; and also mahogany console tables, with tall gilt three-light frames. The large windows of the period are also noteworthy. The chimneypiece is of carved statuary marble with a figure plaque in the frieze. The doors in the room are made of Cuba mahogany with carved mouldings. The walls are hung with blue tabourette silk, and are adorned with a collection of mezzotints of eighteenth-century beauties.

The panelling of the sitting-room (Gainsborough suite) is in eighteenth-century style, and the furniture is of carved mahogany of the period preceding Chippendale. Two French windows, with finely carved architraves, lead on to the private veranda, which is decorated with trelliswork. The ceiling is adorned with a double loop of fruit and flowers, and a cut-glass electric light dish. At one end of the room is a white marble fireplace. Antique mezzotints of notable pictures by Gainsborough are hung on the walls. Indeed, they form a prominent feature of the decoration of the rooms of this suite.

The period of decoration chosen for the salons is Louis XVI. The camel-covered carpet and the Persian rugs harmonize with the colour scheme of grey and gold and the embroidered silk curtains in purple and old gold. These are draped in manner similar to those in old French châteaux. A large mirror is placed in a recess after the style prevailing at Fontainebleau. Two large painted panels, reproductions of the work of Hubert Robert, add to the charm of these apartments. The furniture is reproduced from famous models of Bergère chairs, settees, occasional chairs and writing tables in mahogany and finely engraved ormolu. The rooms are illuminated by cut-glass dish electric lights.

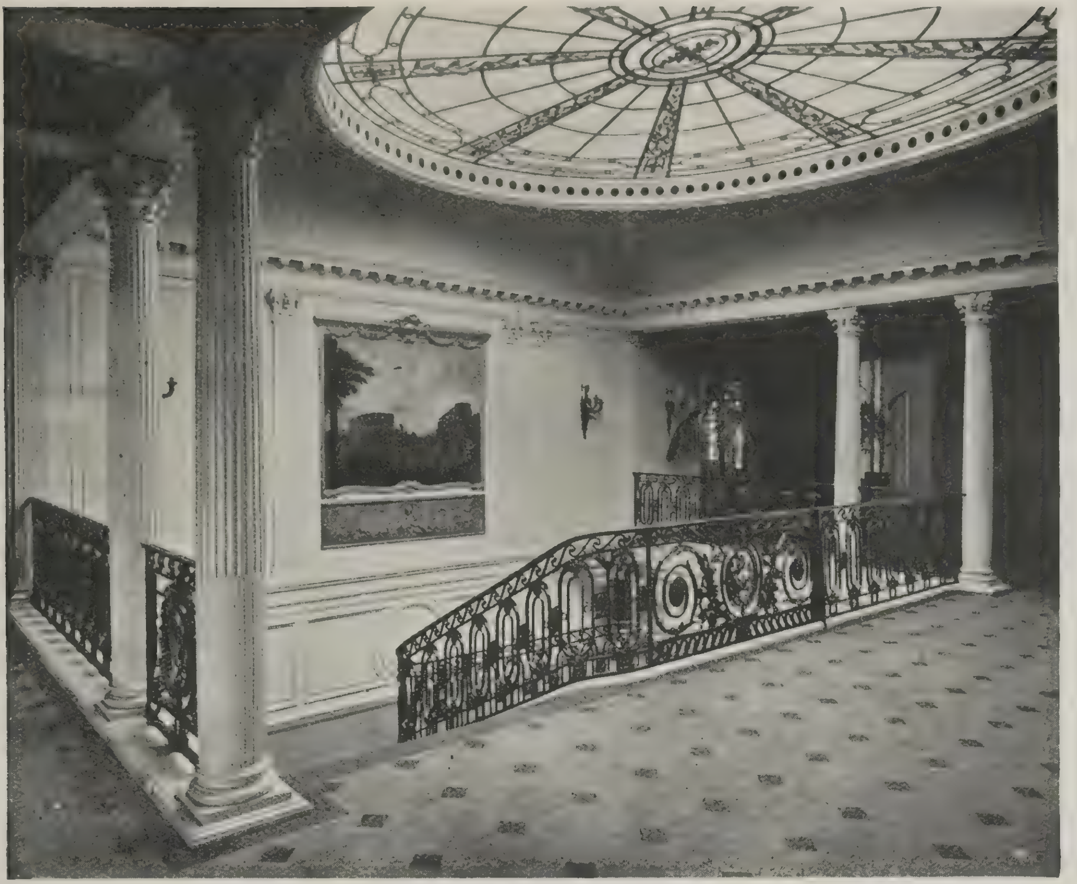
Another feature of the "Aquitania" is the garden lounge. The endeavour here has been to obtain the effect of an old garden by means of trellis in natural teak on walls treated to represent stone. Glazed windows at the sides and at the after end afford protection, if desired, from the wind. The furniture consists of wicker chairs, settees and tables.

The second-class dining saloon is in the style of Pergolesi. The panels on the walls are decorated with paintings adapted from work by that artist, and are surrounded by enriched mouldings in wood, taken from fine old examples. The ceiling is composed of large panels of plaster with modelled enrichments. It is supported by four Ionic columns copied from an old house in Fitzroy Street, London. The dome over the saloon is surrounded by a plaster frieze, and above this is a wrought-iron balustrade copied from an old Adam balcony still in existence. The staircase leading from this room to the deck above has also been copied from an example by the brothers Adam.

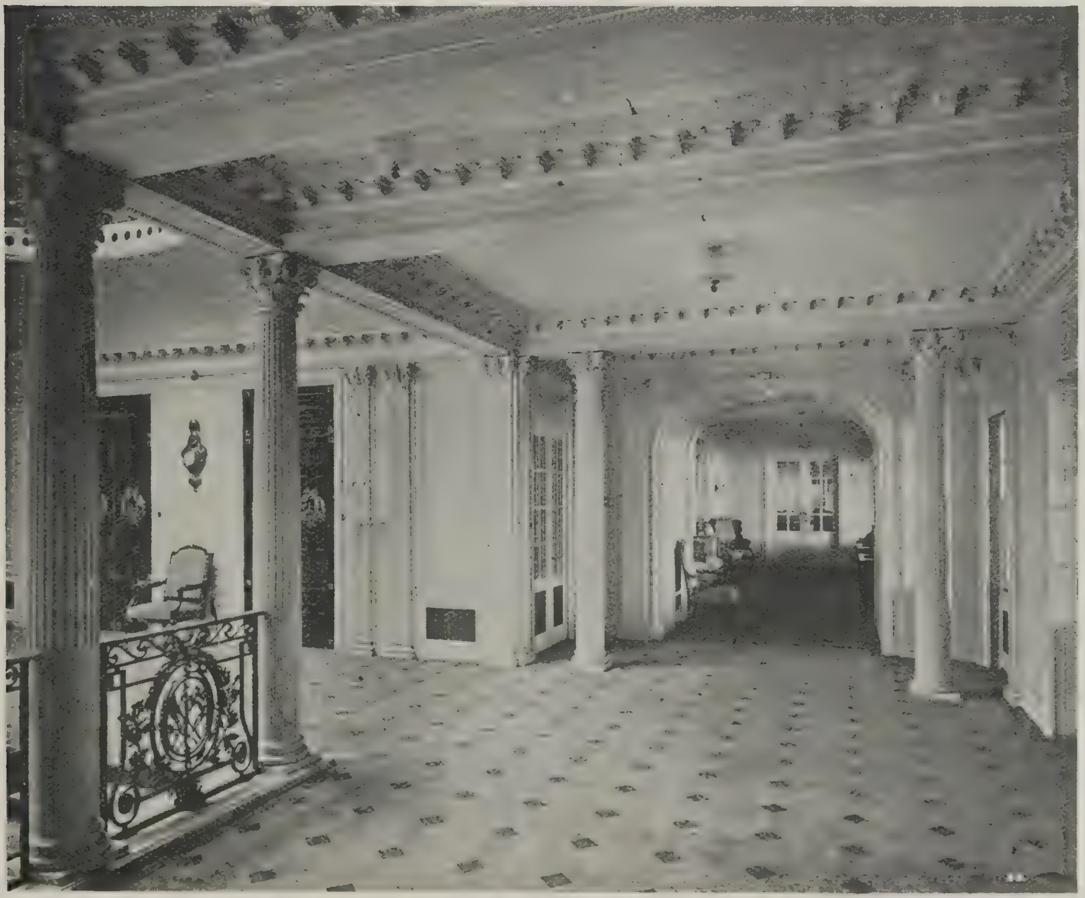
With ordinary windows, similar to a Georgian house on shore, and antique mahogany Heppelwhite furniture, there is little in the appearance of the Adam drawing-room (second class) to suggest a room on a ship. It is decorated in the Adam style, and the wall panelling is relieved with enriched mouldings. The whole of the decoration of this room has been reproduced from existing old examples. Above the beautiful marble chimneypiece is fixed a gilt overmantel. The dome, supported by fluted columns with Ionic capitals, has a fine enriched modelled plaster frieze. The ceiling, also in modelled plaster, has two wrought iron lay-lights.

The Kensington Palace smoking-room (second class) adjoins the Veranda Café, which commands a view over the stern of the vessel. The general decorative idea has been taken from a room in Kensington Palace, and the panelled oak walls, with a beautifully carved fireplace at one end, give it a dignified and restful appearance. Large chairs and spacious settees modelled from old examples add to this effect. The floor is covered with black and grey rubber tiling, and a series of columns and pilasters with carved caps support the ceiling—a fine reproduction of the old Georgian style.

The contractors were as follows: Thornton-Smith, Ltd.; Lenygon and Morant; Paul Turpin; G. Jackson and Sons, Ltd.; Trollope and Colls; Waring and Gillow, Ltd.; Robson and Sons, Newcastle-on-Tyne; P. H. Remon and Sons, Paris; M. Boulanger, Paris; Wylie and Lochhead, Glasgow; R. Crittall & Co.; N. F. Ramsay & Co.; Bagués Frères; Elkington & Co., London and Birmingham; Robert Adams, and Doulton & Co., Ltd.



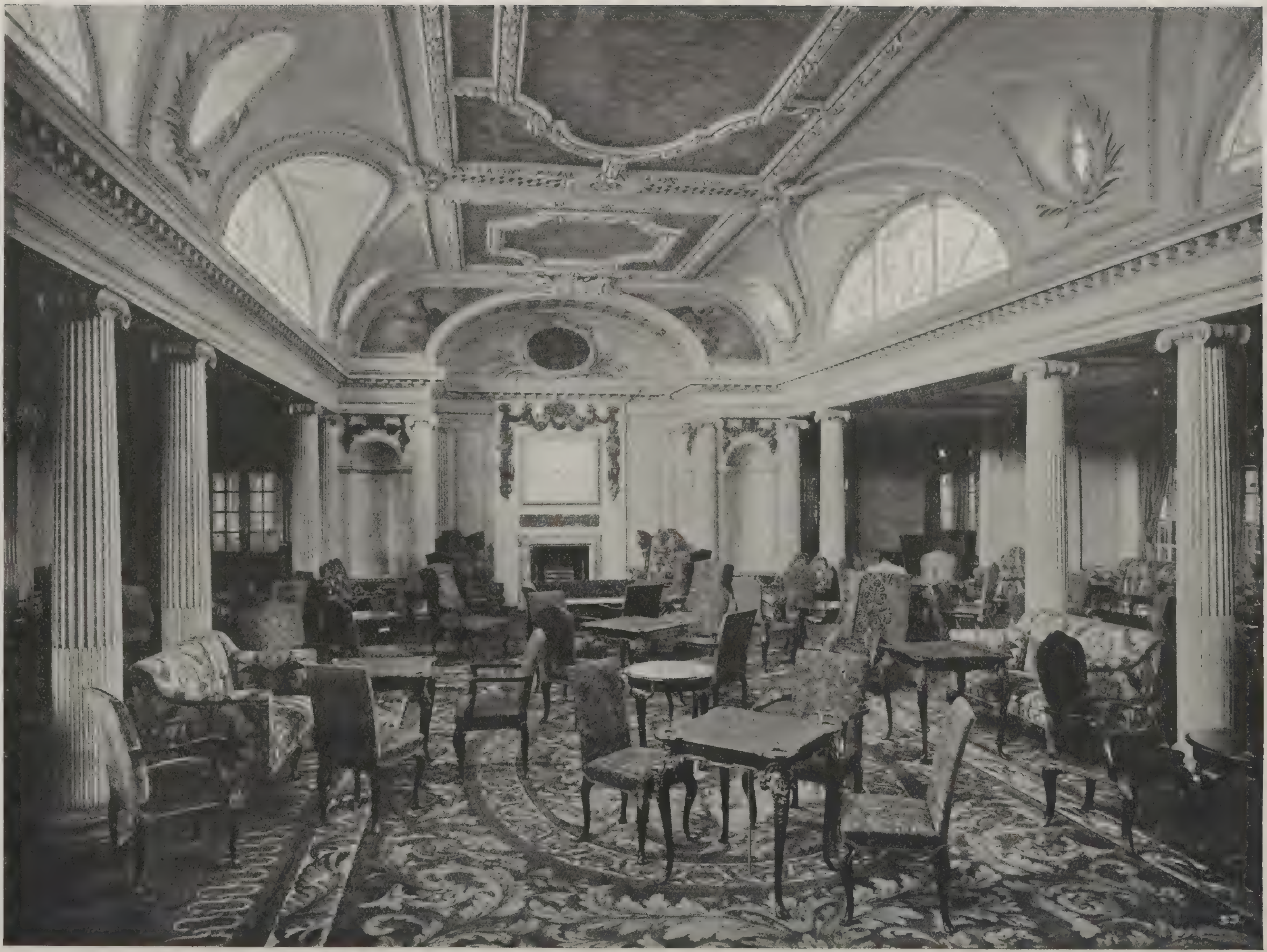
MAIN STAIRCASE.



Cunard Line.

STAIRCASE LANDING.

THE "AQUITANIA." MEWÈS AND DAVIS, ARCHITECTS.



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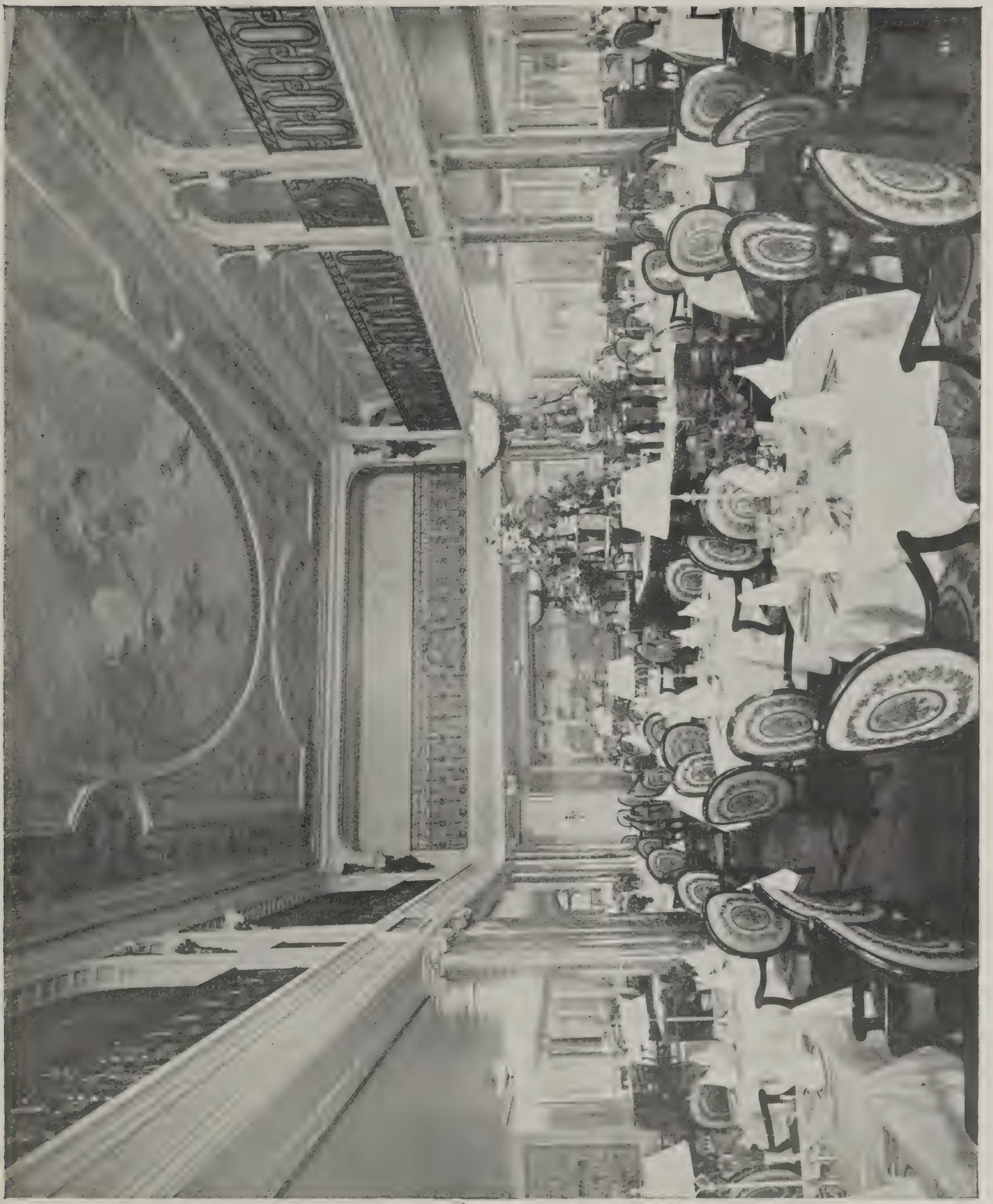
THE FIRST-CLASS LOUNGE.

THE "AQUITANIA." MEWÈS AND DAVIS, ARCHITECTS.



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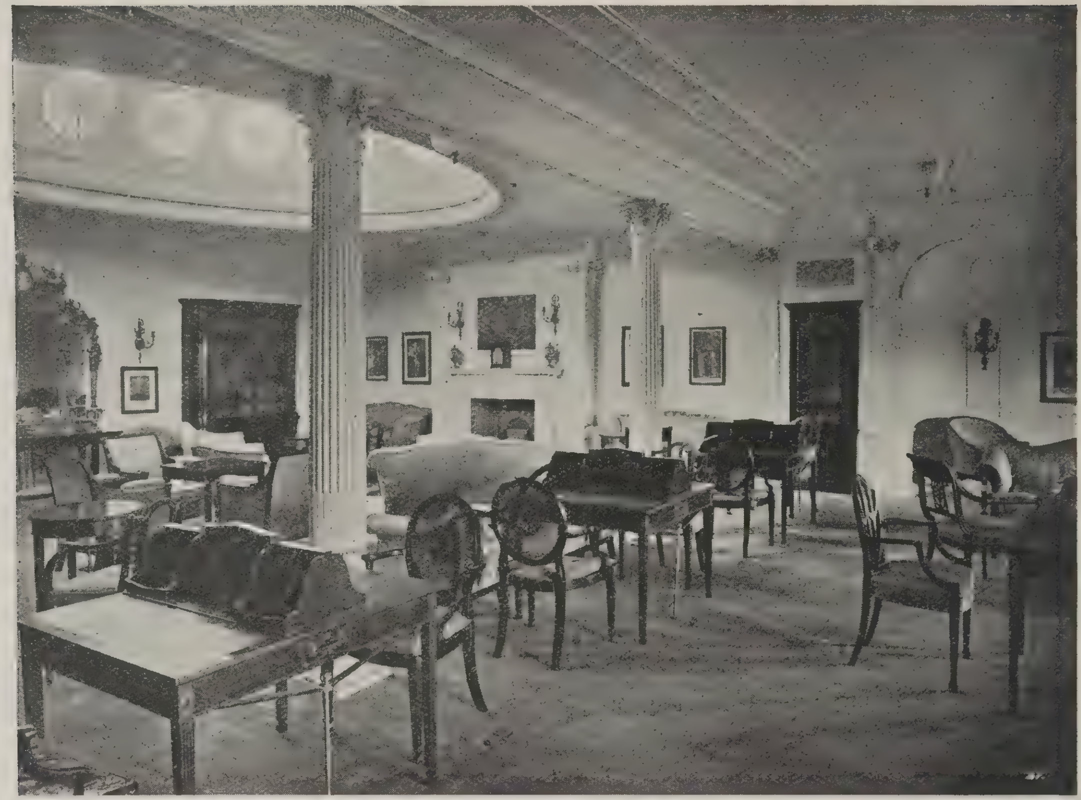
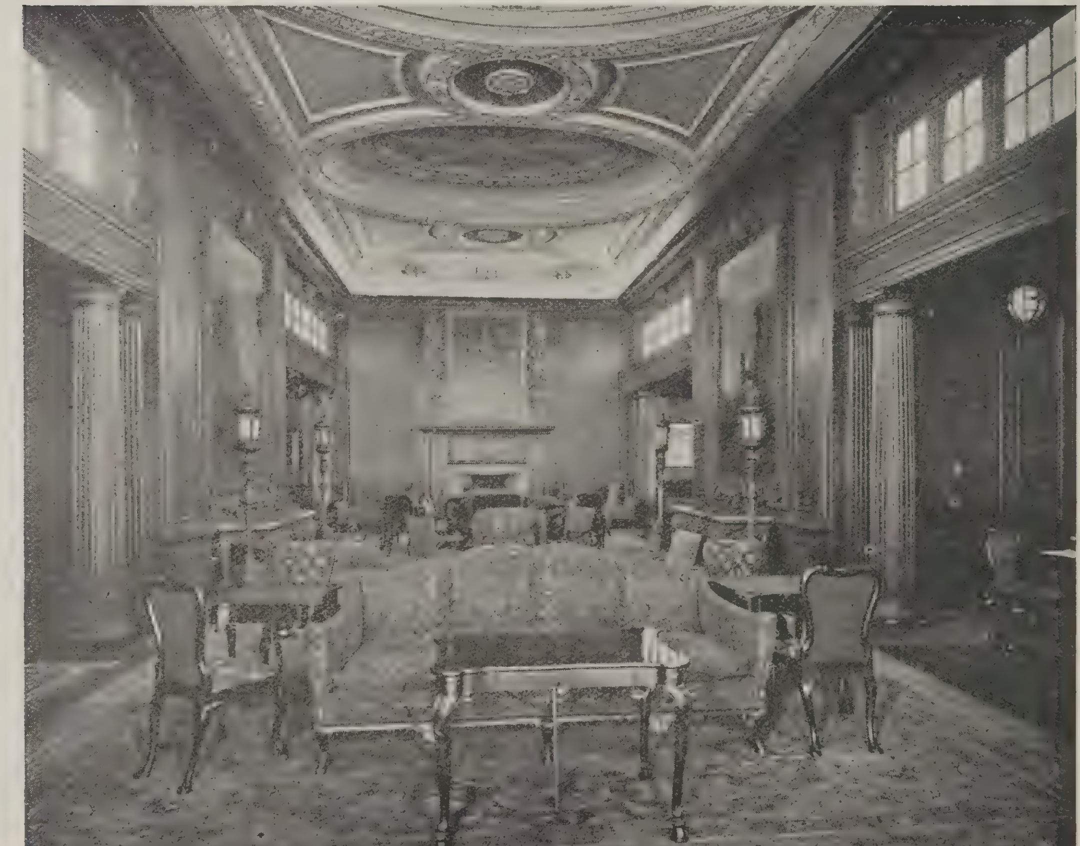
THE RESTAURANT.

THE "AQUITANIA." MEWÈS AND DAVIS, ARCHITECTS.



FIRST-CLASS DRAWING-ROOM.



Cunard Line.

FIRST-CLASS SMOKING-ROOM.

THE "AQUITANIA." MEWÈS AND DAVIS, ARCHITECTS.

The "Berengaria"

MEWÈS and BISCHOFF, Architects

THE "Berengaria" has a tonnage of 52,000, and is one of the trio of giant liners which carry out the Cunard Express Service between Southampton, Cherbourg, and New York, the others being the "Aquitania" and the "Mauretania." The saloon accommodation includes an immense domed dining-room, a ladies' room, writing-room, lounge, palm court, smoking-room, swimming bath, state-rooms, numerous *en suite* rooms, and large suites which include bed and dressing-rooms, drawing-room, veranda, and entrance hall.

The "Berengaria" was the first big liner in which glassed-in verandas were successfully introduced. The one illustrated forms part of what was formerly known as the Kaiserzimmer (imperial suite). It has a particularly delightful effect, with its trellised roof and delicately coloured panelling.

The state-room forms part of the Kaiserzimmer, and is decorated in "modernized empire" style. An excellent effect is produced by the light mural decorations in contrast with the dark coloured carpet.

The state-rooms are mostly fitted for one, two, or three passengers, and all are supplied with running water. A very large number have their own private bathrooms adjoining, and practically all are also fitted with beds in the place of berths.

The numerous private suites are furnished throughout in the styles of the great French and English masters. Several of these suites comprise no fewer than ten apartments.

The decoration of the staircases, halls, and corridors of a liner is a most difficult problem. The lack of height necessitates the use of very simple styles and light colours, in order to obtain a good result. This has in this case been successfully accomplished, Louis XVI style being employed. The wrought-iron balustrade of the staircase, executed in black and gold, gives a note of richness to the whole.

Few hotels in the greatest European capitals can boast of a more magnificent dining-room than the "Berengaria." It is a finely proportioned room, and extends across the full width of the ship. Including the cupola, the room rises to the height of three stories. It is decorated in the style of Louis XVI, and the quiet dignity of its grey walls is enlivened by the coloured tapestries with which the chairs are upholstered, and by the ornamental balustrade to the balcony. The cupola ensures unusually good ventilation. In both the upper and lower tiers are numerous small tables, so that friends can enjoy their meals in the comparative privacy of their own particular party.

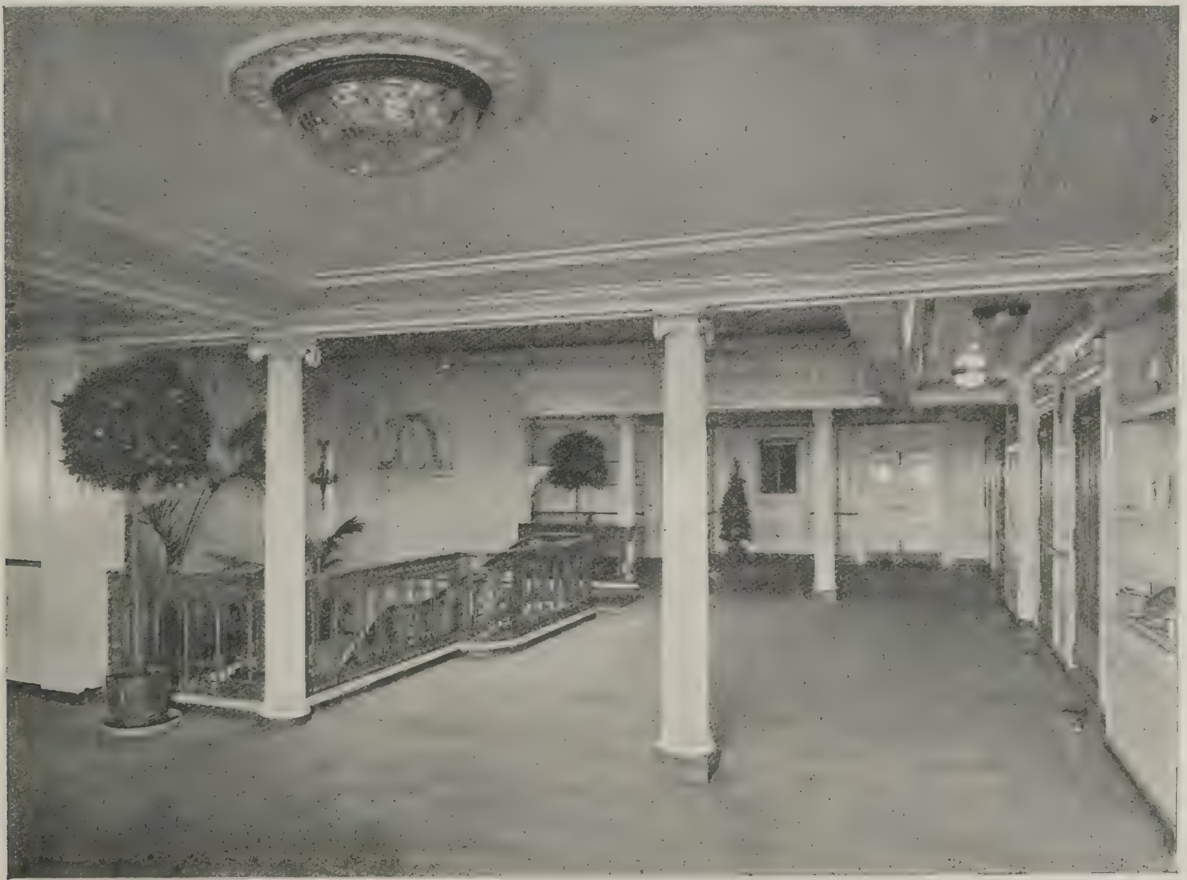
The extensive range of kitchens which adjoin are fitted with the latest culinary devices in which electricity plays a chief part.

A feature of the lounge apartment is the entire absence of supporting pillars to the roof, so that with the exception of the space occupied by the promenade decks outside, the lounge stretches across the full width of the ship.

The palm court gives a winter garden atmosphere, and the smoking-room, which is in the style of an old English Tudor room, contains some fine carvings and panels.

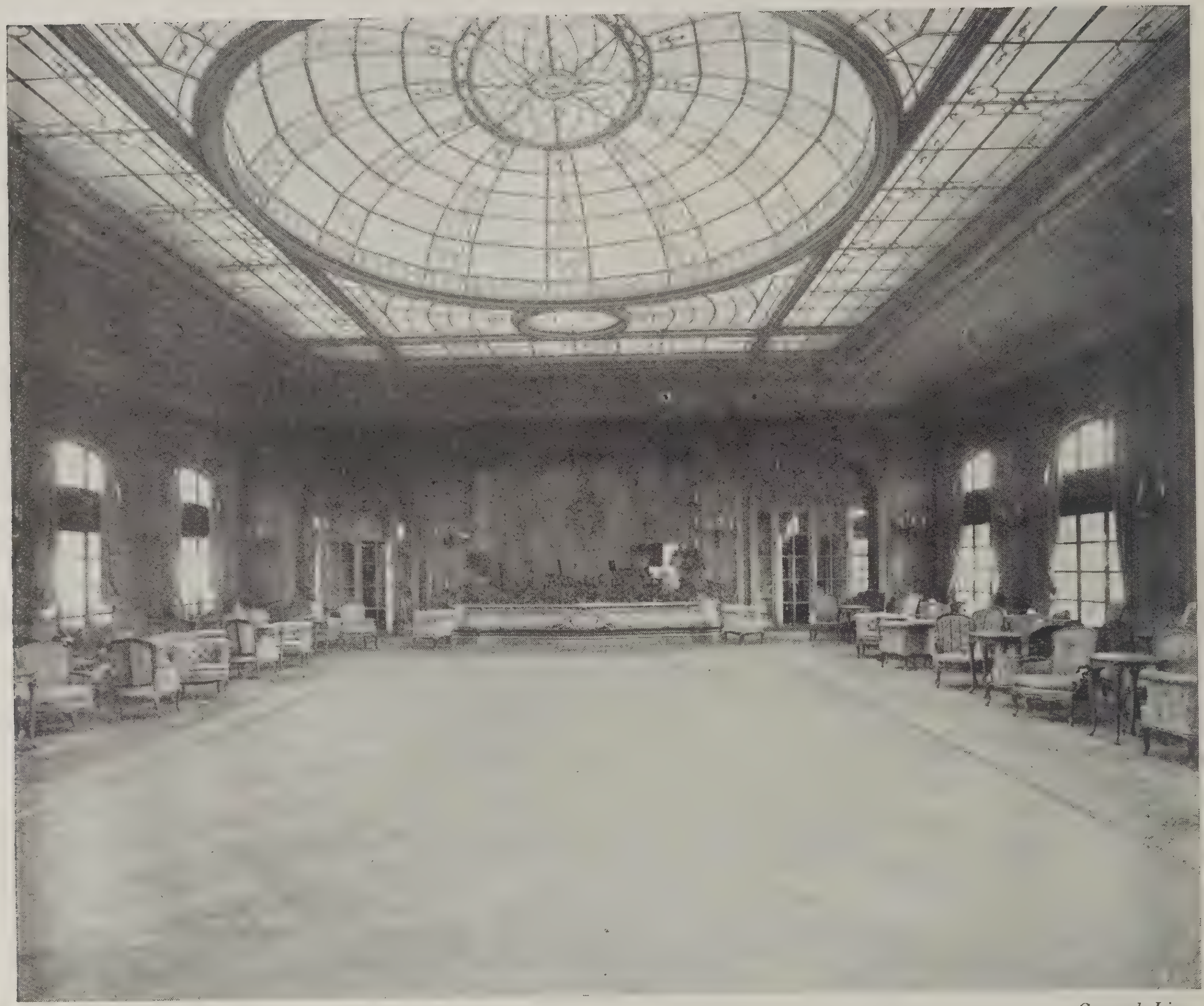
There is also a spacious ballroom with a dancing floor to accommodate some 250 dancers.

The immense size of the "Berengaria" has facilitated the provision of unusually lengthy and broad promenade decks, both open and covered. The gymnasium is full of all kinds of athletic appliances. The swimming bath is situated next to the electric and sun baths, provision being made for a complete course of physical training.



Cunard Line.

THE "BERENGARIA" ENTRANCE HALL AND MAIN STAIRCASE.



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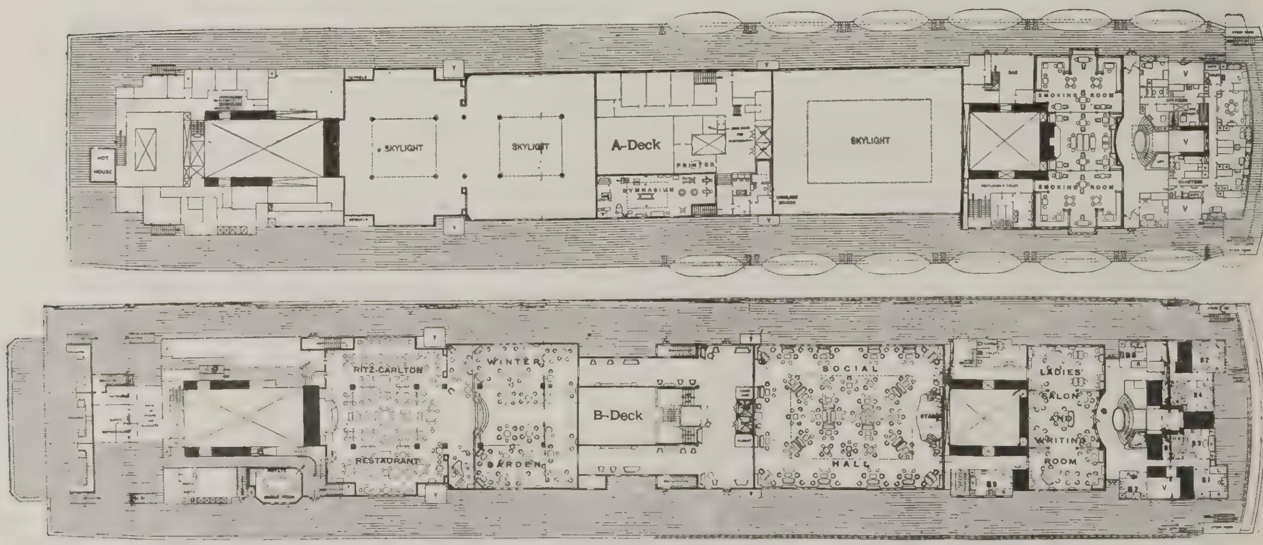
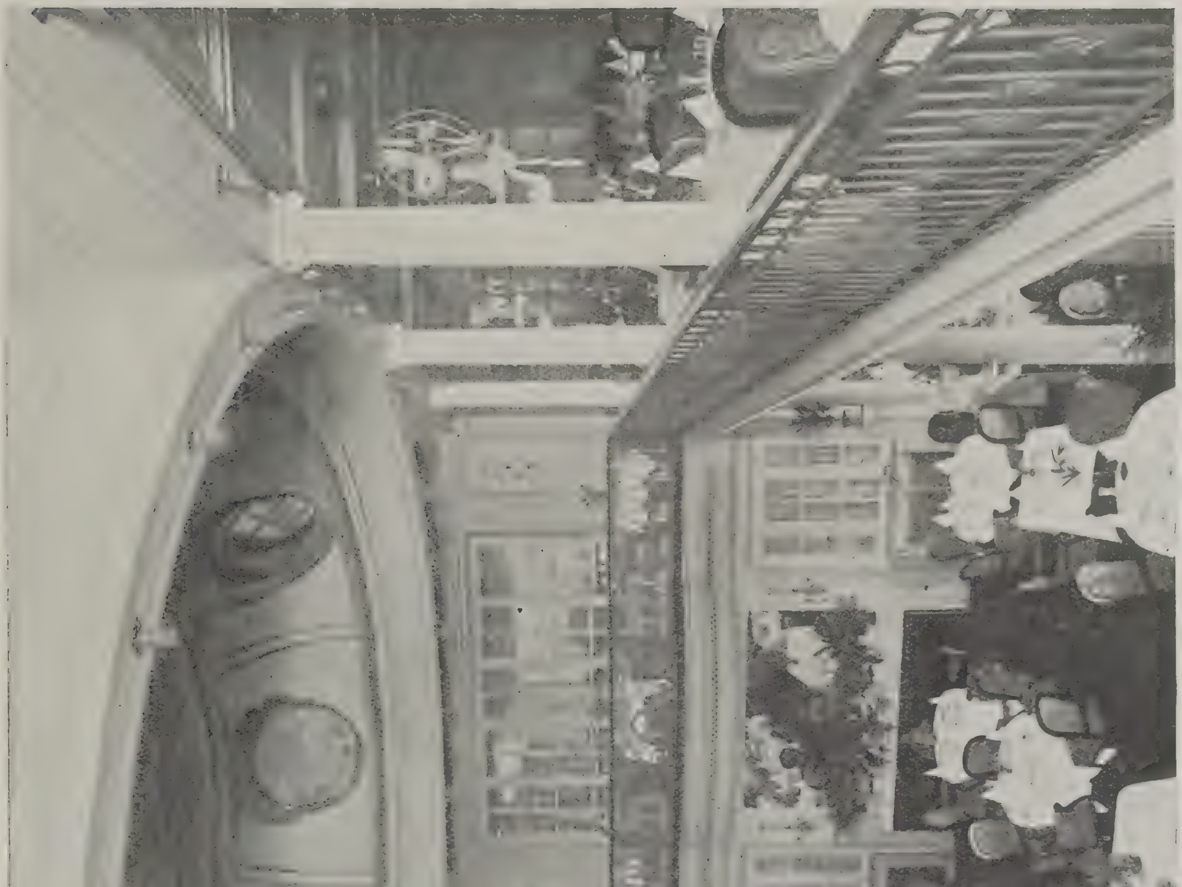
THE BALLROOM.



THE "BERENGARIA": PLANS OF "A" AND "B" DECKS.



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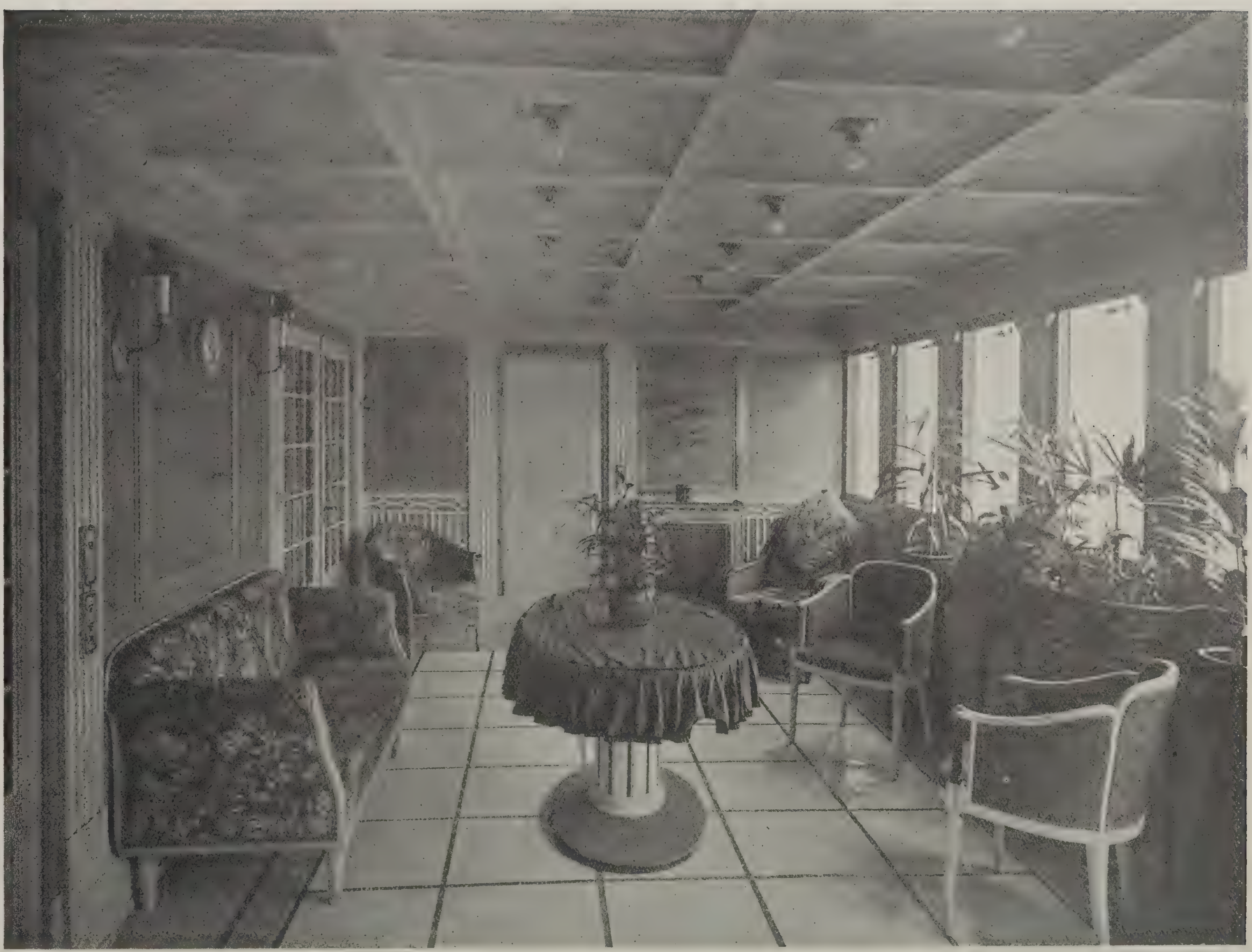
FIRST-CLASS DINING-ROOM.

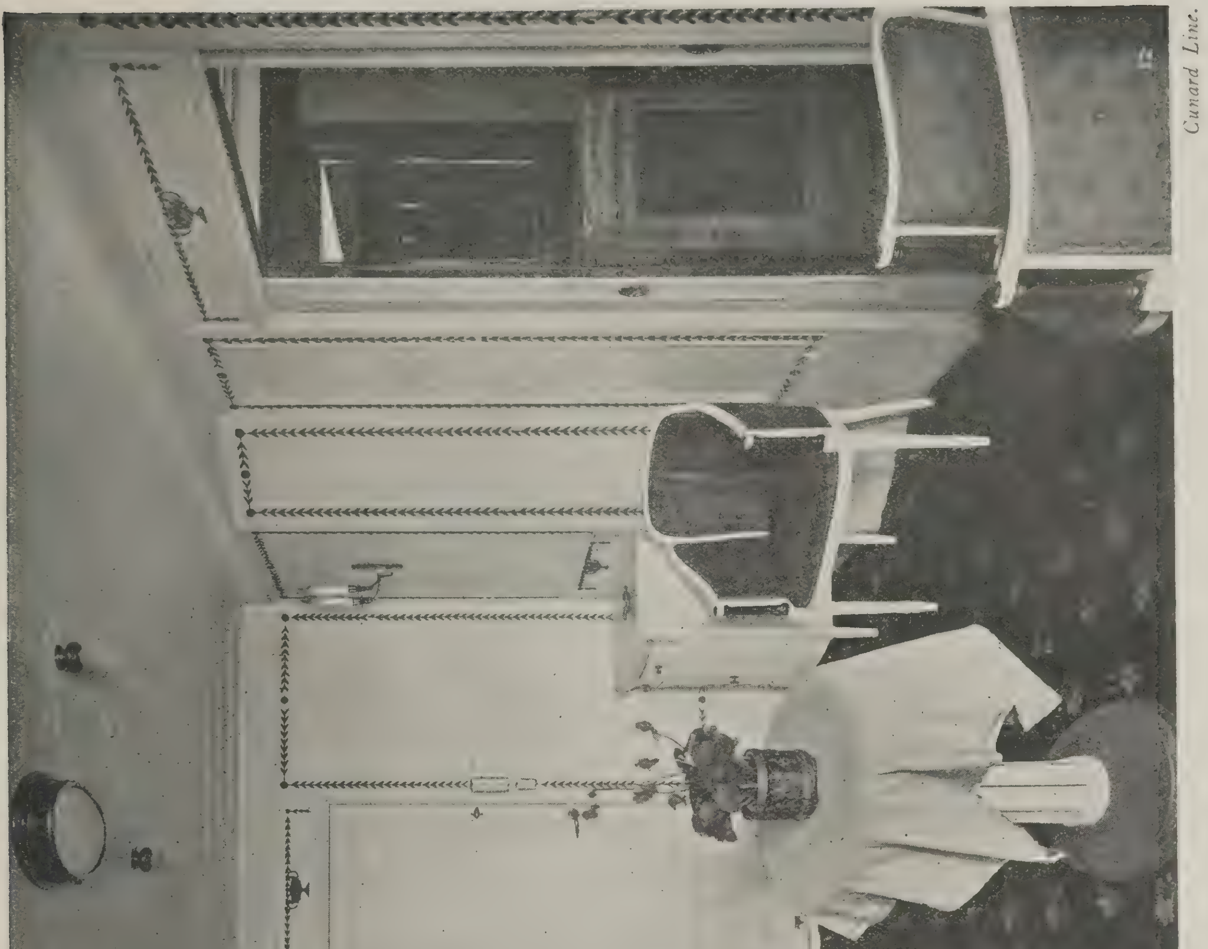
THE "BERENGARIA." MEWÈS AND BISCHOFF, ARCHITECTS.



Cunard Line.

VERANDA OF ONE OF THE SUITES.

THE "BERENGARIA." MEWÈS AND BISCHOFF, ARCHITECTS.



Cunard Line.

SITTING-ROOM OF A SUITE.

THE "BERENGARIA." MEWÈS AND BISCHOFF, ARCHITECTS.

The "Majestic"

In the "Majestic" (56,000 tons) accommodation is provided for about 4,000 passengers in three classes. This accommodation is arranged upon eight steel decks, four of which are erection decks covering half the entire length of the ship. The first-class passengers are accommodated on seven decks amidships, and the ingenious construction of the boiler casings forms a remarkable architectural feature in this part of the vessel. Instead of being situated centrally, these casings are placed towards the sides of the vessel, and only join above the uppermost deck to form a central superstructure for the funnel. By this means practical use has been made of the great breadth of the vessel in the disposition and size of the state-rooms, and the architect has been enabled to design on the promenade deck a suite of public rooms unhampered by boiler casings. This gives a central perspective from the stage in the lounge at the forward end to the after part of the palm court restaurant, a distance of 250 ft.

The main entrance is situated almost amidships, and is represented by a vestibule of the arresting dimensions common to all the public rooms of the vessel. Here the separation of the two boiler casings (which appear at the sides of the vestibule and are scarcely noticeable) shows one of its characteristic effects, permitting a free view into the dining saloon.

The principal entrance to the dining saloon is situated centrally, and on either side of this electric passenger elevators are arranged. In addition to these, two main staircases, one on each side of the ship, have been erected. The vestibule is repeated throughout five decks, from each of which a wide central corridor leads to the other first-class staircase, which is situated in the forward part of the accommodation. The main staircase ends on the level of the vestibule between the lounge and palm court, 11 ft. above the promenade deck, and giving access to the wireless station and the gymnasium.

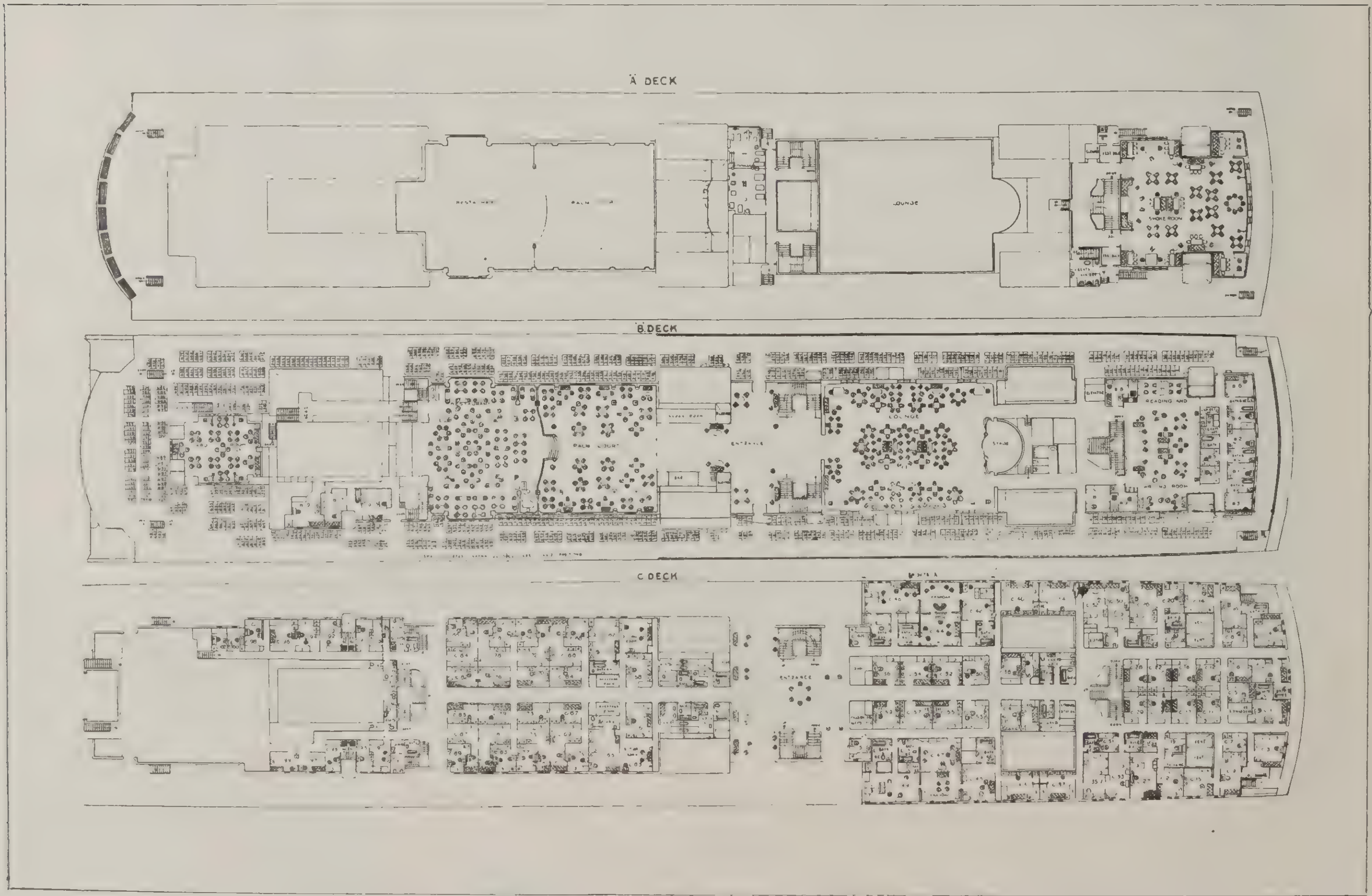
An outstanding feature is the method adopted in the construction of the three public halls on the promenade deck, called "the lounge," "the palm court," and "the restaurant." It is said that never have steel houses of such dimensions—and partly roofed with girders—been constructed on an uppermost deck of a ship with so few internal obstructions.

The lounge, opening aft of the grand vestibule, has an area of 4,000 sq. ft., and a height of 26 ft., while the area of its glass dome is about 3,800 sq. ft. Access from the vestibule to the palm court is gained through a wide portal formed by the two boiler casings and their junction above the boat deck which, at the same time, gives the necessary support to the funnel.

The palm court and restaurant, which form one steel house 23 ft. high, with an area of more than 5,600 sq. ft., have, however, two different floor levels. The restaurant is raised 3 ft., a partial steel deck being arranged at this height, supported by special girderwork below the platform in order to obviate vibration.

In connection with the public rooms, it is claimed that the dining saloon is the loftiest ever built in a ship. The middle part, of 2,300 sq. ft., has a height of 31 ft. between the saloon deck and the steel plating of the covering deck above. This is supported by wide spaced Ionic pillars placed on the sides of the room. The total area of this fine apartment is 11,350 sq. ft.

Forward from the main entrance, in front of the dining



PLANS OF "A," "B," AND "C" DECKS.

A VIEW IN THE PALM COURT.

saloon, is the swimming bath. The basin has an area of 820 sq. ft., and a depth of 9 ft., but is only filled up to 8 ft., and the floor has two levels, one part being of a suitable depth for those who are unable to swim. The bath can be supplied with about 120 tons of warm sea water in about 25 minutes. There are thirty dressing-rooms for the bathers, and, adjoining the main room and the gallery for spectators, there are special steam and electric baths.

Another popular feature of the "Majestic" is the well-stocked and comfortably-furnished library. This apartment is situated near the lounge, and has an area of 1,600 sq. ft. The bookcases with which the room is fitted have a capacity for 4,000 volumes.

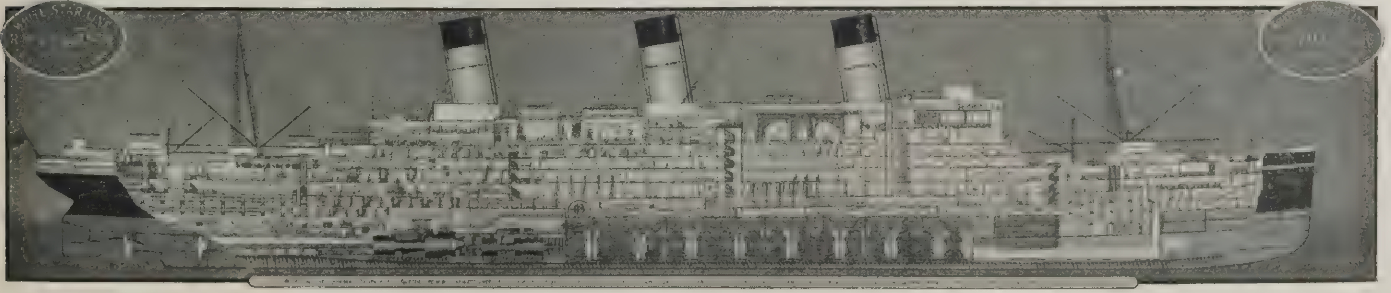
Above this is the smoking-room, which is placed at the forward end of the erections on the upper boat deck, and, through great square glass windows, gives a view to the sides of the ship and forward.

Nor should the card-room be forgotten, this being an innovation which proves exceedingly popular among enthusiasts who like a quiet rubber, free from the distractions unavoidable in apartments not solely devoted to the game.

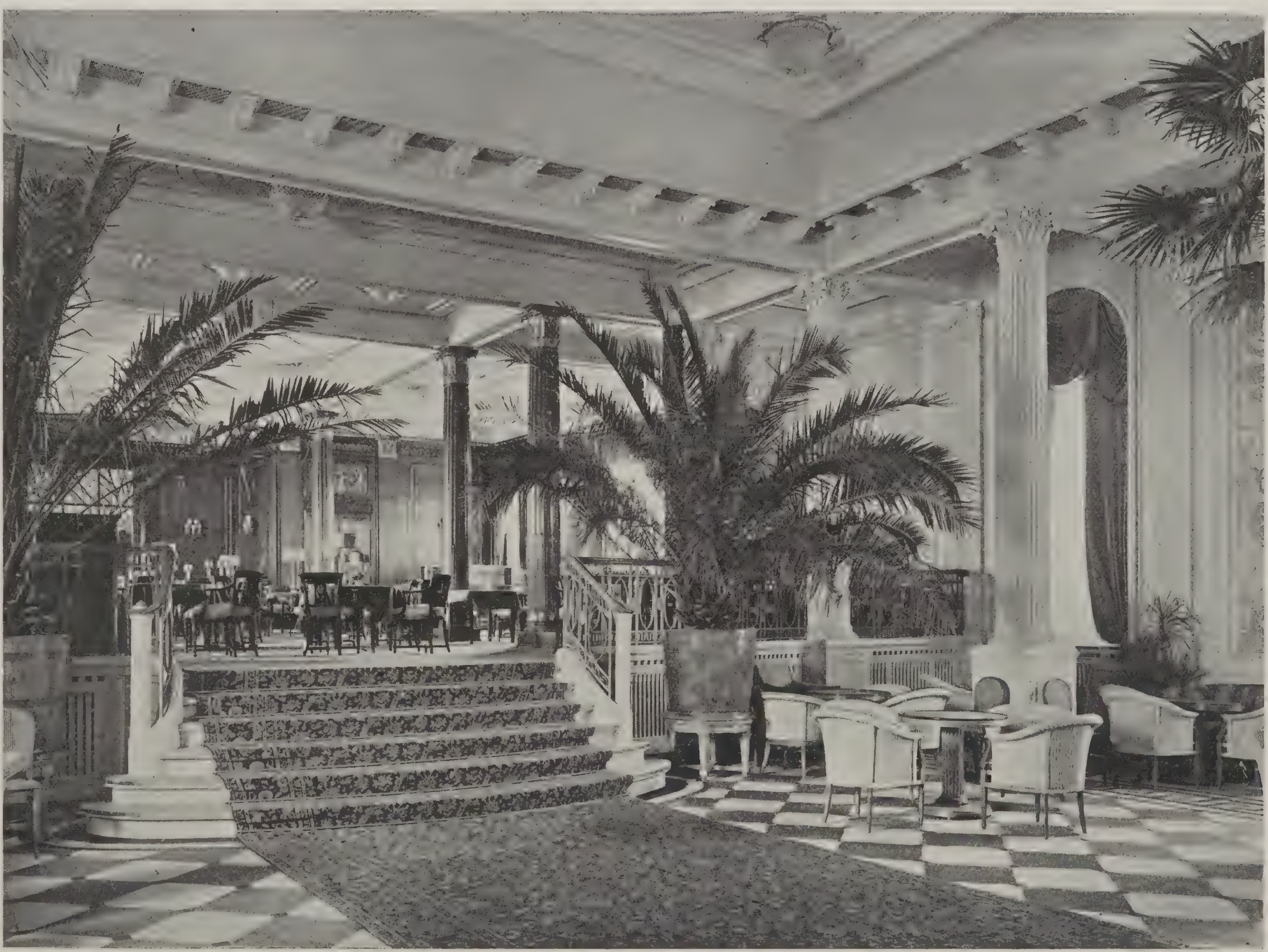
The galleys and pantries for both the first and second classes are abaft the first-class dining saloon, and have an area of 13,500 sq. ft. There are no less than eight galleys in the vessel, separate ones being provided for the Jewish passengers and for the crew.

The second-class dining saloon, situated immediately behind its culinary department, is above the two state-room decks of its class, which accommodate 545 passengers in cabins, with two, three, or four berths. The main staircase and electric elevator for this class are situated in front of the dining saloon; they extend from here two decks down and two decks up, on the promenade deck, in a wide hall, from which there is direct access to the smoking-room and to the gymnasium, while round the deckhouse is a promenade.

850 third-class passengers are accommodated on four decks aft of the second class in two-, three-, or four-berth cabins. They have their smoking and ladies' rooms, as well as extensive promenade space. The third-class dining saloon in this part of the ship is situated on the deck above the uppermost state-rooms, and below the public rooms of this class, and with the easiest access from both. Adjoining are the pantries, and a special galley serves this room. In the forward portion of the "Majestic" 1,542 third-class passengers are accommodated on six decks, two of which are partly promenade spaces, washrooms, and sanitary rooms. Another dining saloon is provided in this section, and is connected with its galley by an electric elevator as well as by staircases. For this accommodation there are special provision storerooms in the lower 'tween decks, on account of the great distance of this part of the ship from the main provision stores aft.

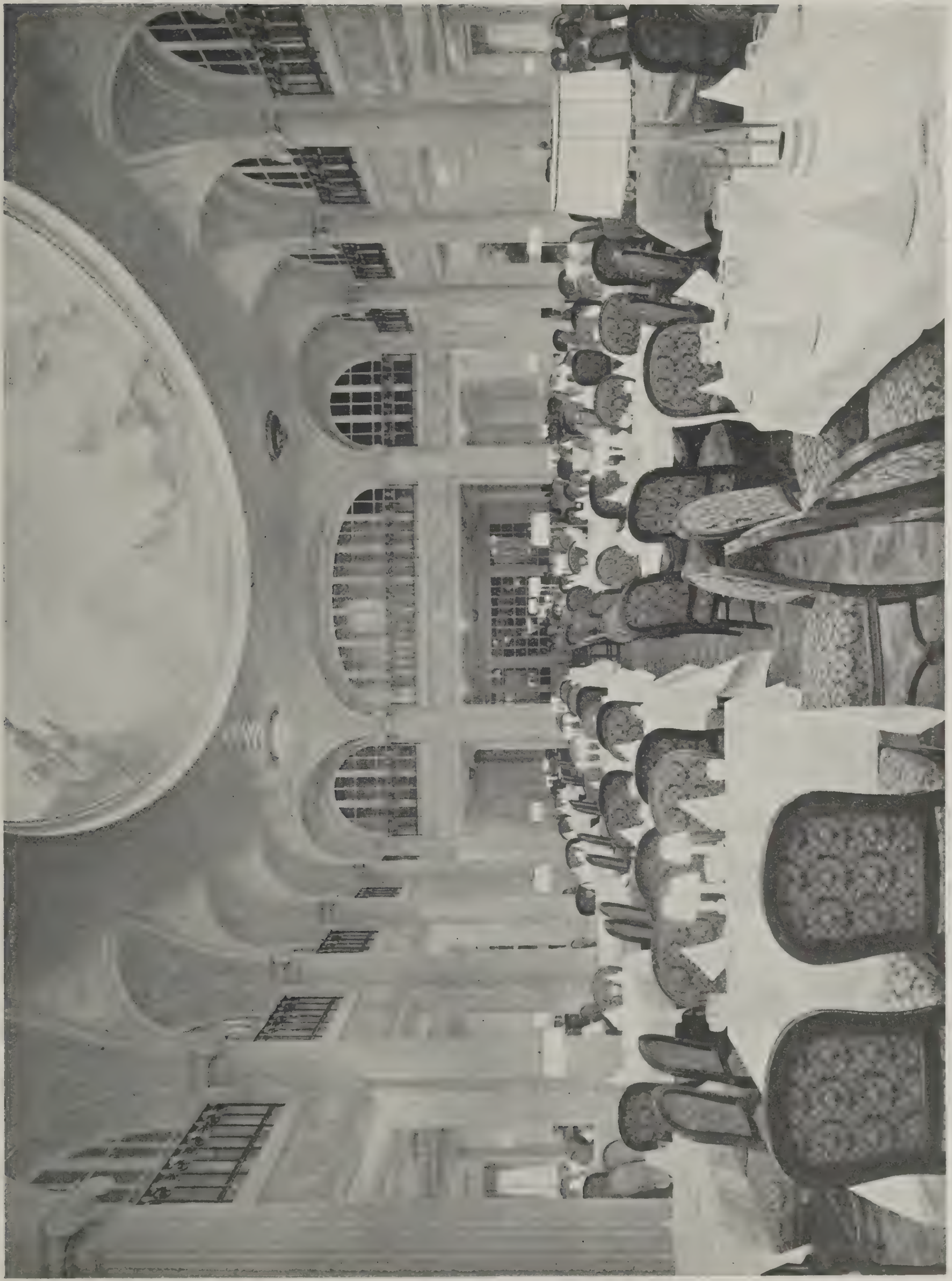


A LONGITUDINAL SECTION THROUGH THE "MAJESTIC."



White Star Line.

THE "MAJESTIC": PALM COURT TO RESTAURANT.



THE "MAJESTIC": DINING SALOON.

White Star Line.

The "Tuscania"

ADAMS and HOLDEN, FF.R.I.B.A., Architects

IN the decoration of the "Tuscania" the architects have employed a concordant scheme for the various rooms, thus gaining a delightfully harmonious effect.

The first-class smoking-room is panelled in English oak with lime wood carving. A notable feature is the cast-iron firegrate surrounded by Pavonazza marble, and surmounted by a handsome mirror. The cornice is finely plastered.

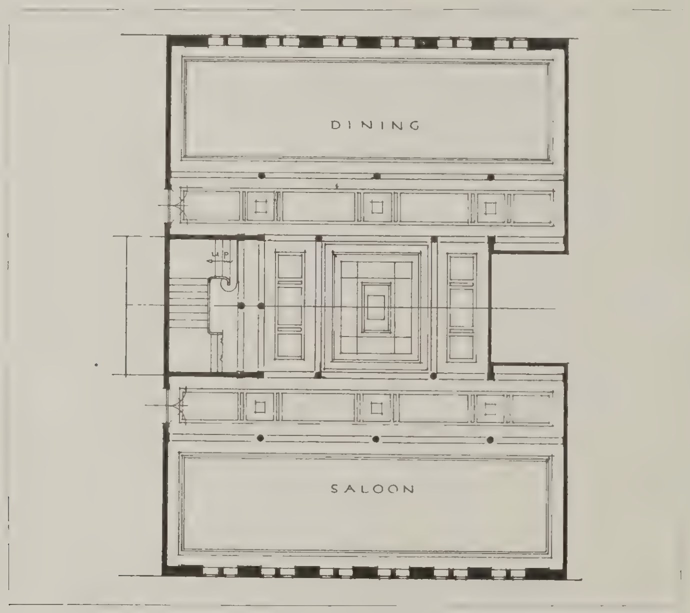
The first-class lounge is painted in warm grey tones, the ceiling being again ornamented with plaster enrichments. The pillars are of scagliola in pure white with fine black lines. Particularly happy are the proportions of the old marble mantel, taken from a house in Gower Street, which accords delightfully with the scale of the room. The sash windows are framed in teak.

The first-class dining-room is painted in shades of putty and cream, and the colours of the scagliola columns have been arranged to harmonize with the general colour-scheme of the room. Some fine ironwork is noticeable in the balcony of the musicians' gallery and the grille in the dome. In this, as in the other rooms, Ruboleum floors are laid.

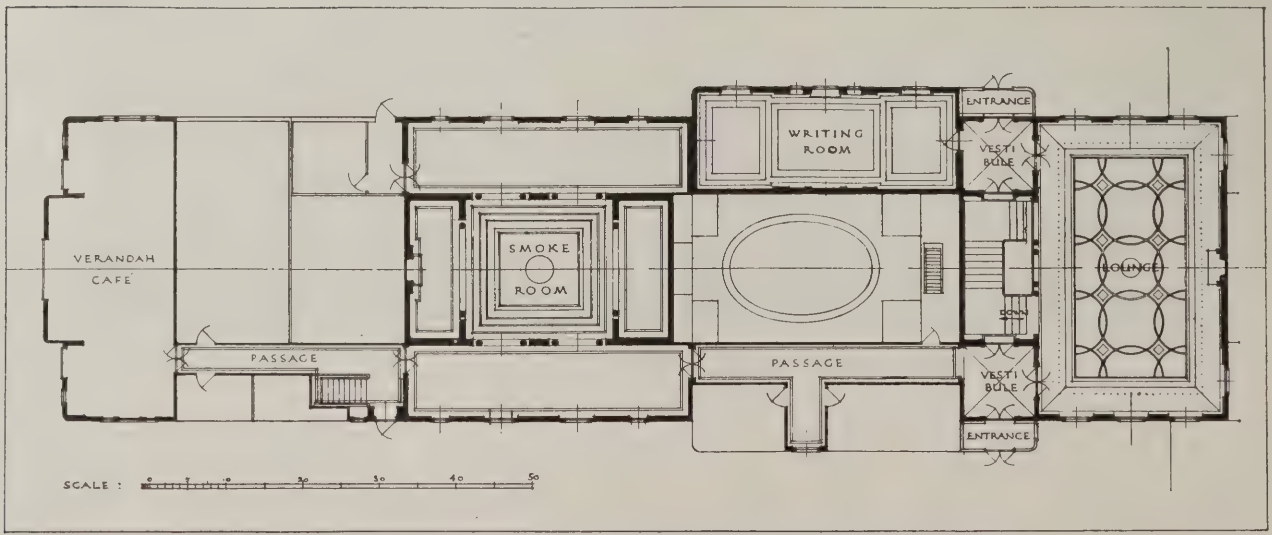
The writing-room is panelled in English walnut of fine figure, veneered, the panels being opened and reversed. A green pile carpet introduces a pleasing touch of colour, and the furniture, also of walnut, completes the general scheme.

The following contractors were associated with the work: Messrs. Korkoid and Ruboleum Tile Co.; Plastic and Modellers Association; Kingsmill Art Metal and Electric Co.; A. Broadbent; Yannedis & Co.; McGeoch & Co., Glasgow; Robbins & Co.; Bellman, Ivey and Carter, Ltd. (Scagliola); Birmingham Guild, London and Birmingham; Berry's Electric, Ltd.; Geo. Rome & Co., Glasgow; and E. Levasseur, Ltd.

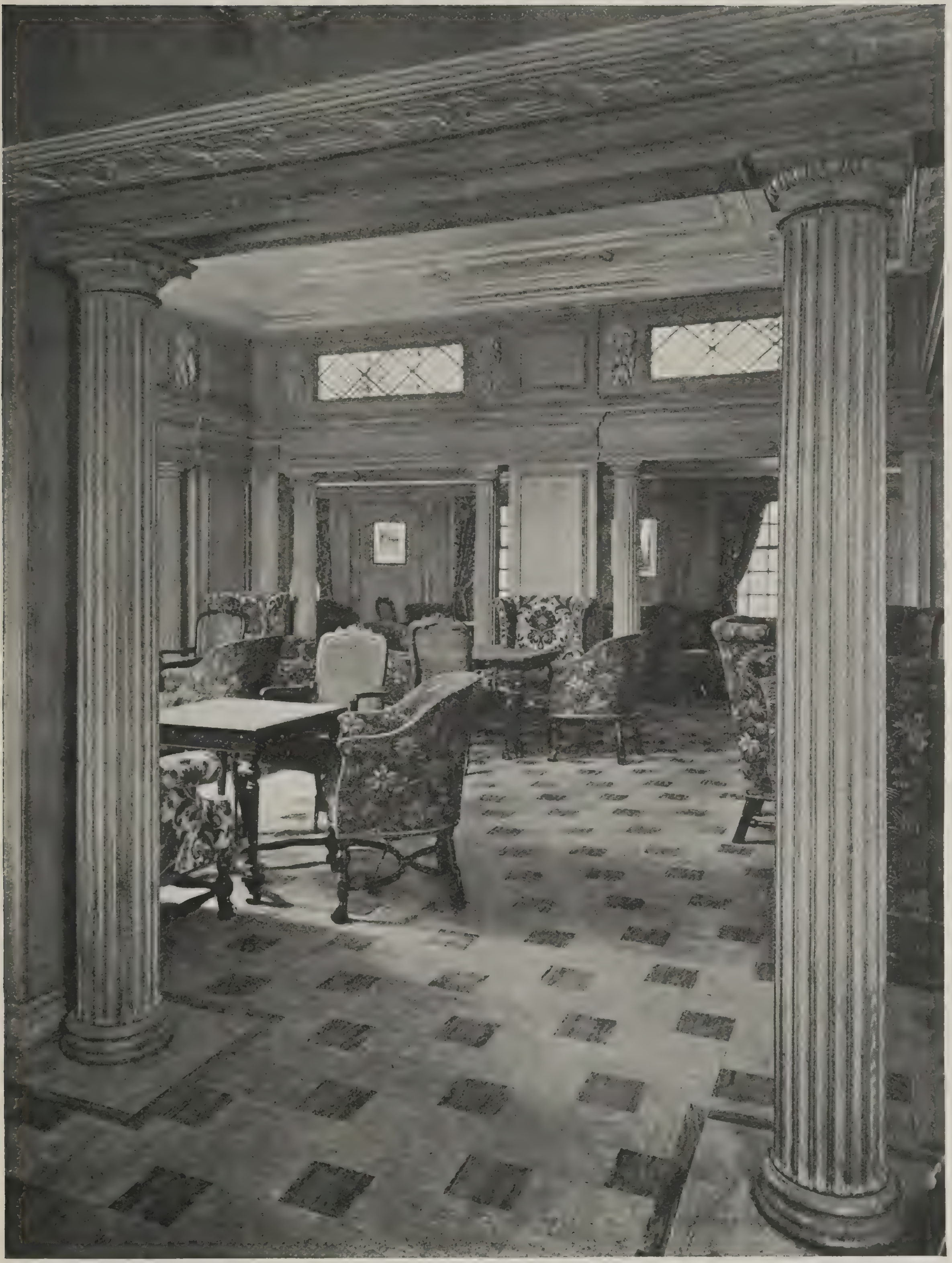
Messrs. Waring and Gillow, Ltd., carried out the whole of the decorative work in the following first-class apartments: dining saloon, smoke-room, lounge, writing-room, and entrance and vestibules. This firm also constructed and decorated the first-class main staircase which leads from the lounge on the upper promenade deck into the first-class dining saloon.



PLAN OF FIRST-CLASS DINING SALOON ON "E" DECK.



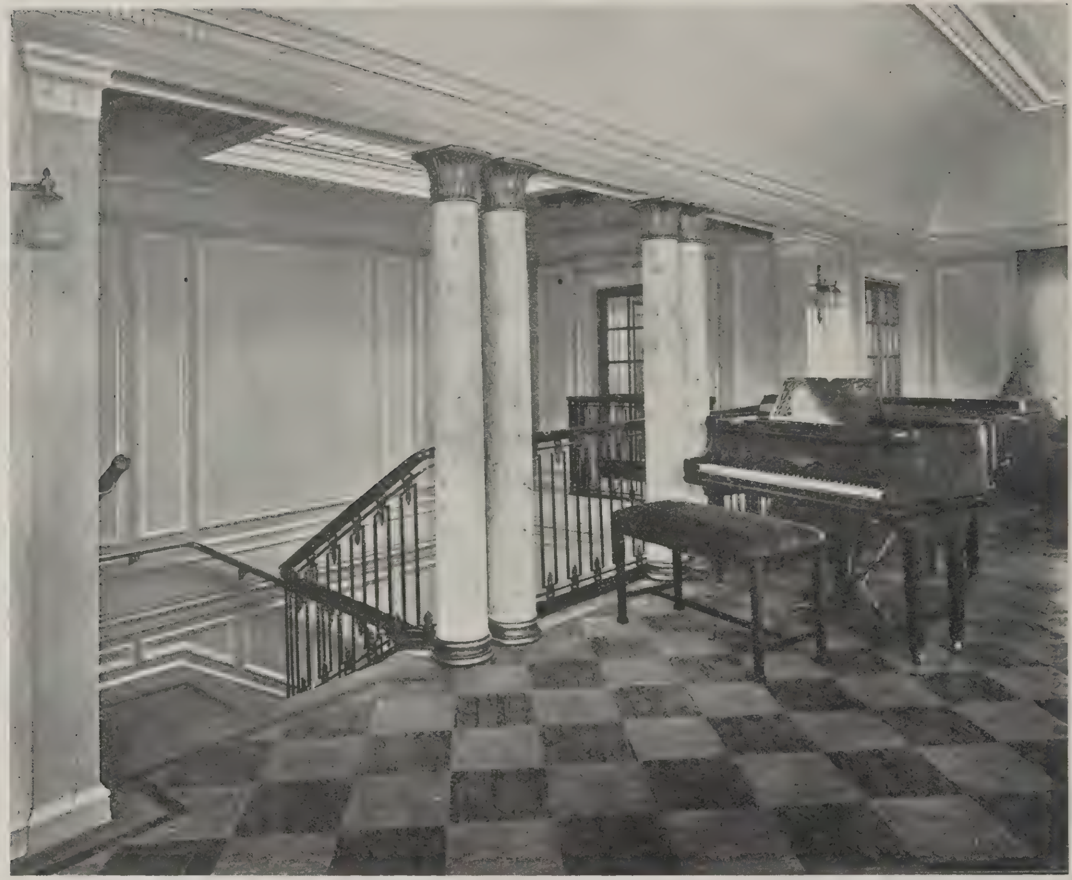
PLAN OF FIRST-CLASS PUBLIC ROOMS ON "A" DECK.



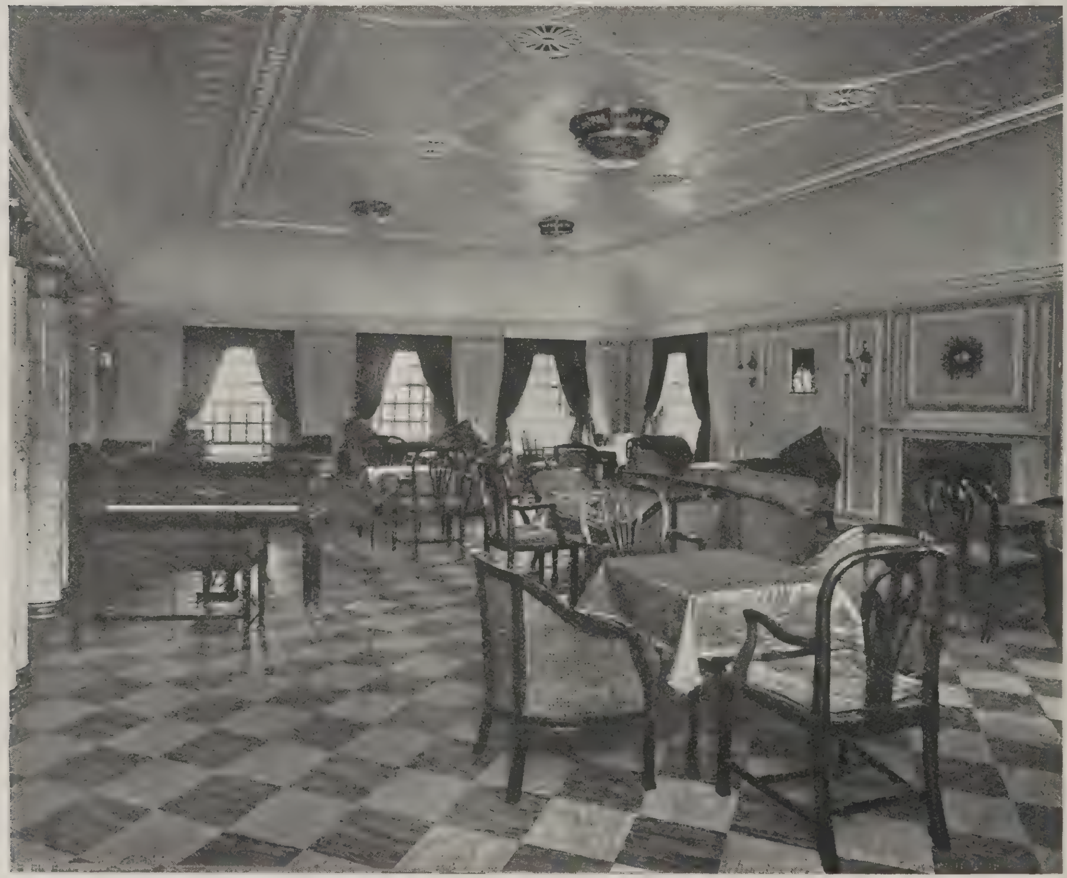
Anchor Line.

FIRST-CLASS SMOKING-ROOM.

THE "TUSCANIA." ADAMS AND HOLDEN, FF.R.I.B.A., ARCHITECTS.



STAIRCASE TO FIRST-CLASS LOUNGE.



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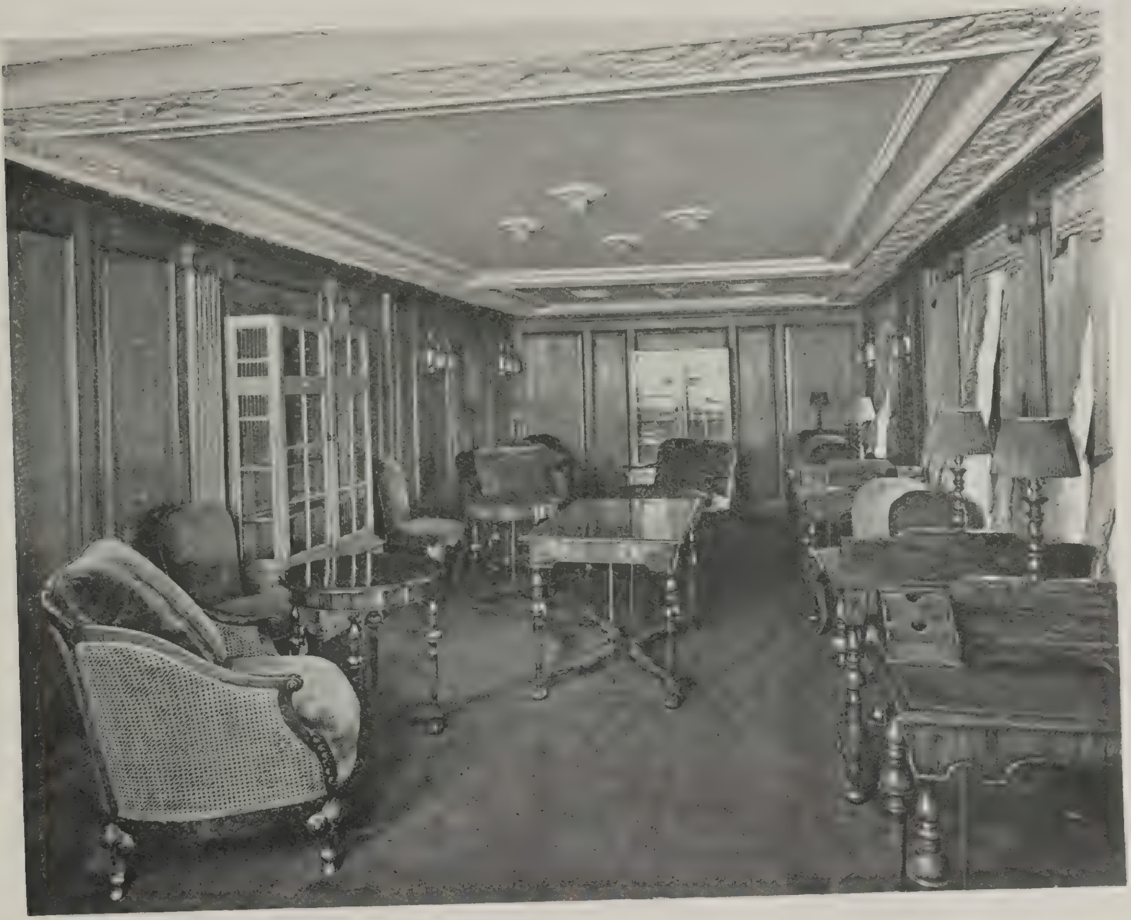
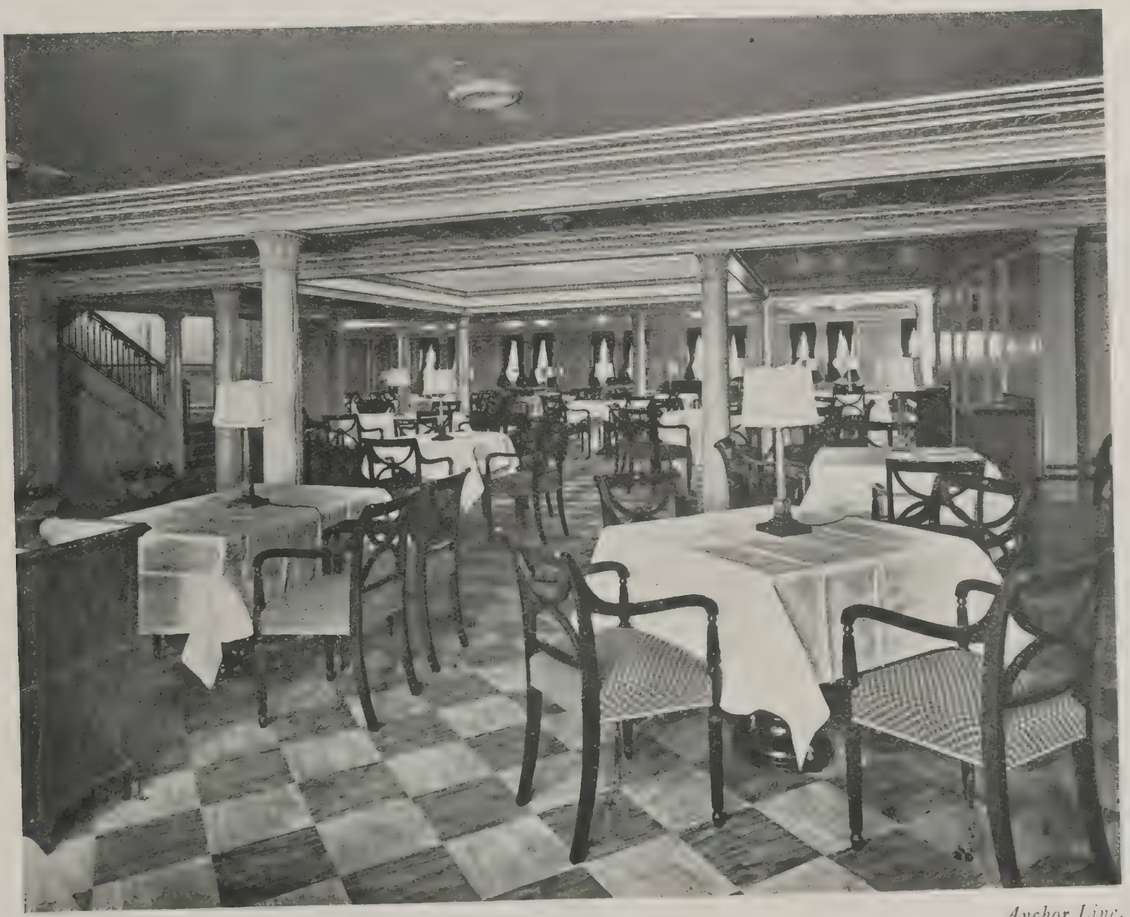
FIRST-CLASS LOUNGE.

THE "TUSCANIA." ADAMS AND HOLDEN, FF.R.I.B.A., ARCHITECTS.



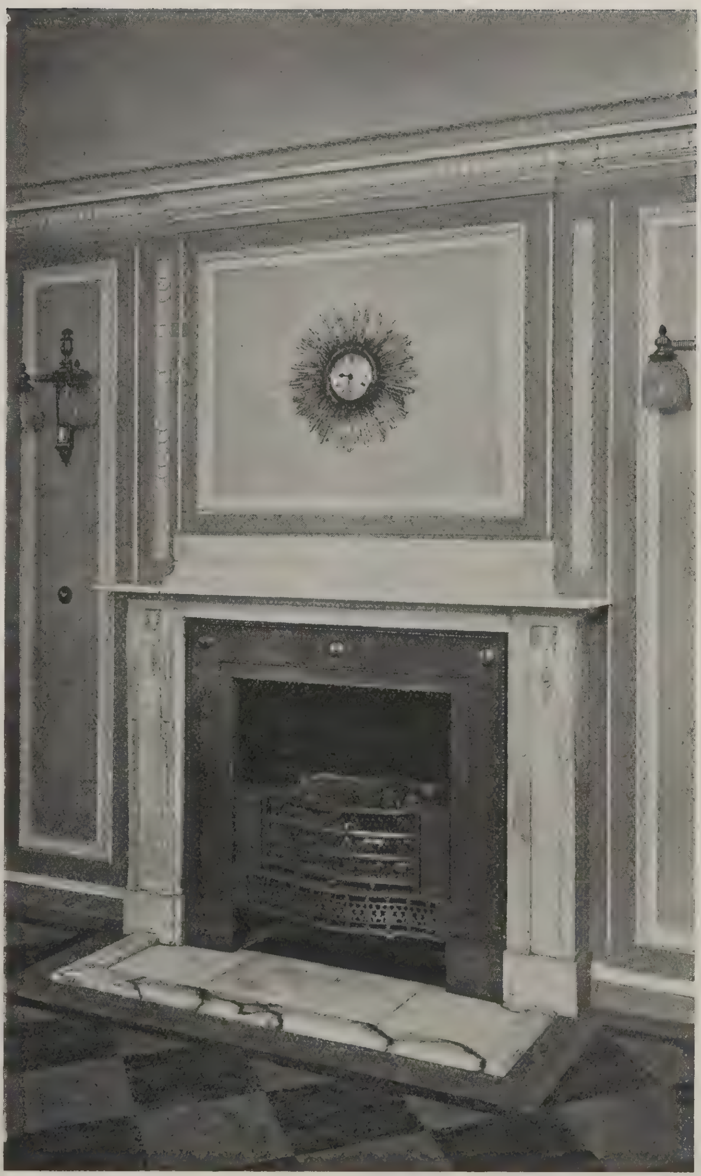
FIRST-CLASS WRITING-ROOM.



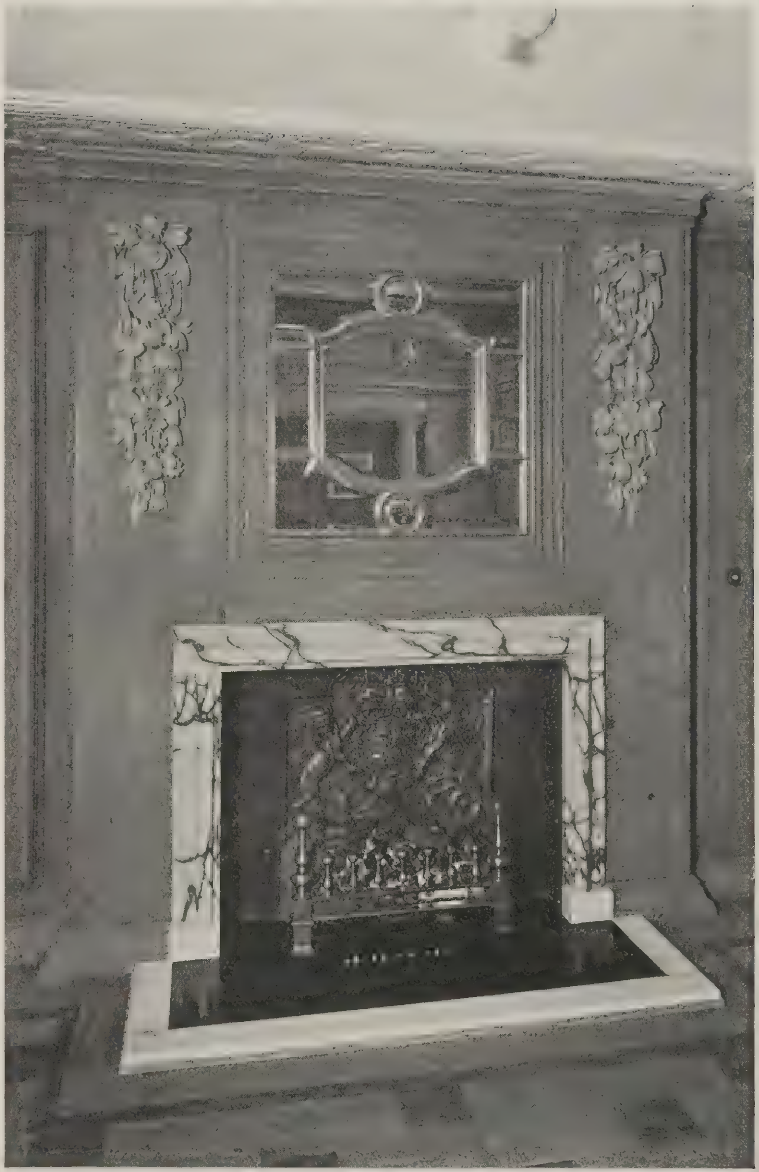
Anchor Line.

FIRST-CLASS DINING-ROOM.

THE "TUSCANIA." ADAMS AND HOLDEN, FF.R.I.B.A., ARCHITECTS



FIREPLACE, FIRST-CLASS LOUNGE.



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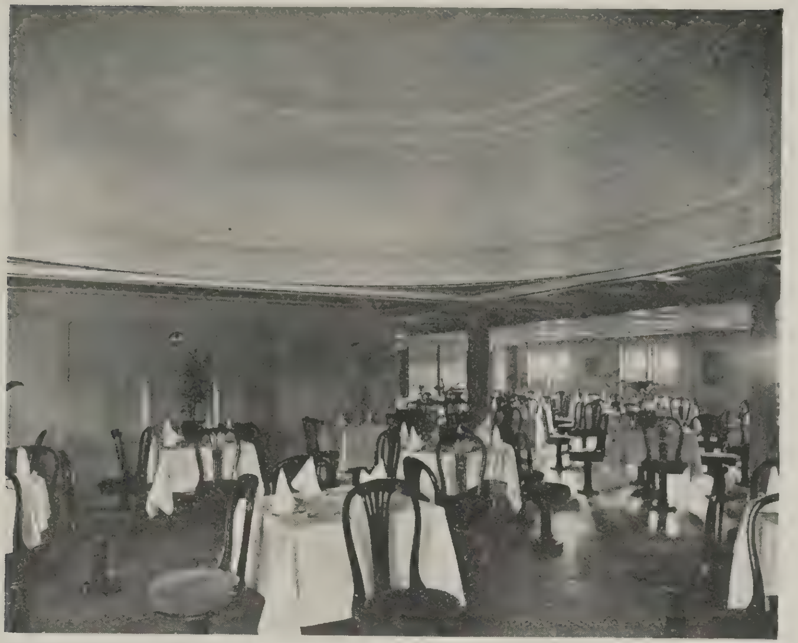
FIREPLACE, FIRST-CLASS SMOKING-ROOM.

THE "TUSCANIA." ADAMS AND HOLDEN, FF.R.I.B.A., ARCHITECTS.



Cunard Line.

SECOND CLASS DINING-ROOM.

The "Scythia"

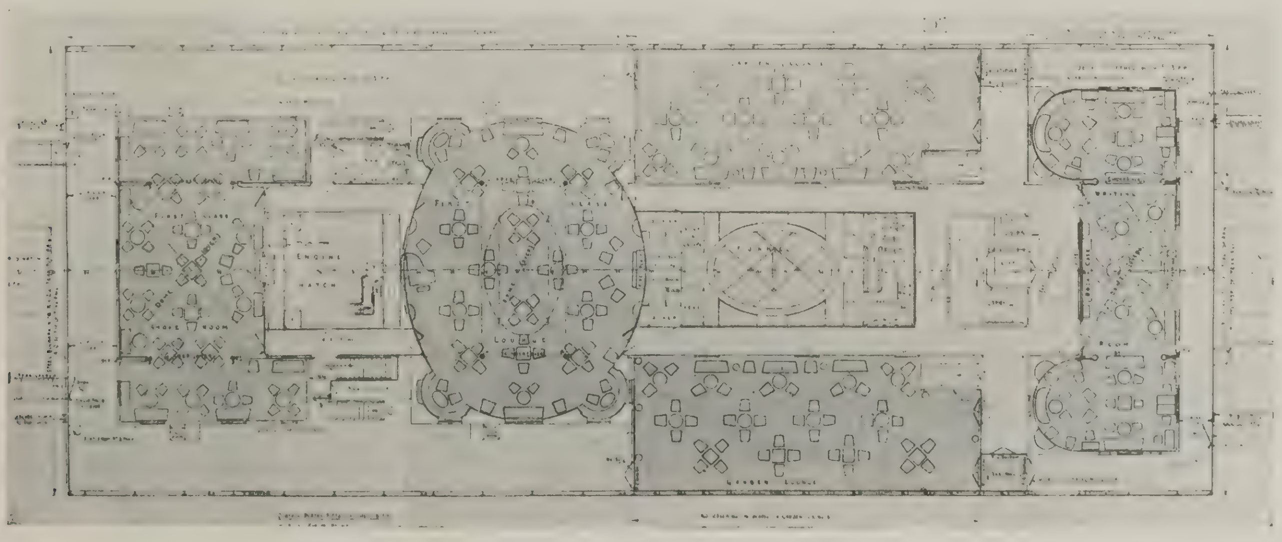
Willink and Dod, F. and A.R.I.B.A., Architects

BUILT at the yard of Messrs. Vickers, Ltd., Barrow, the "Scythia" is the largest passenger vessel afloat designed and built to burn oil fuel. With her 21,000 gross tonnage, 600 ft. length, 73½ ft. beam, and 45 ft. depth, the "Scythia" has space sufficient to provide unusually extensive accommodation for some 2,200 passengers (350 saloon) (350 second class).

In the "Scythia's" saloon passenger accommodation there are two garden lounges, one of them situated on the port and the other on the starboard side of the "A" or upper promenade deck. Here passengers enjoy the sun and the sea-air amidst surroundings typical of an old English garden, fitted with many comfortable rest-inviting wicker chairs. Cold winds and rain do not interfere with the comfort of those who seek the tranquillity of these garden lounges, for they are enclosed on the outside of the vessel with sliding windows. Then there is the veranda café for the sole use of the second-class passengers.

Another feature worthy of note in the "Scythia's" accommodation is the small subsidiary rooms or alcoves which form part of the big public rooms and yet maintain a certain sense of privacy. In addition, the ventilation of the public rooms and state-rooms has been thoroughly studied and the latest improvements introduced.

The main staircase forms itself into an imposing central hall with approaches to the saloon, drawing and writing-room, lounge and smoking-room. This grouping of the public rooms proves of great convenience to passengers. The lounge is particularly attractive. In plan it is oval, with an imposing central dome of white glass. The ornamentation is reminiscent of the Empire period, being delicately moulded in plaster. There are four alcoves, diagonally opposite each other, and these have separate windows. The massive fireplace with its marble mantelpiece is surmounted by a picture in the style of the period. At each side of the fireplace and at the opposite end are carved mahogany console tables. The furniture and appointments of the room present a most effective colour-scheme—black and gold, grey and gold, with here and there touches of vermilion. The rich effect is toned down by a number of pieces of furniture in old mahogany. The coverings are in black and gold, and blue and gold, with charming Chinese designs, whilst grey velvet is also introduced into the scheme. Chinese silk of blue and gold is the



PART PLAN OF "A" DECK.

material used for the curtains, while the reseda green pile carpet completes a successful effort to provide a general representation of the best work produced during the latter end of the eighteenth century.

The drawing- and writing-room is extended at each extremity by an alcove. The main feature of this room is the elliptical dome over the centre portion, finishing with a fan-shaped painted panel on either side. Rising to the full height of the cornice, the fireplace has massive pilasters on either side of its old-fashioned grate. The colour-scheme of the walls and ceiling is white, while the appointments are in the modern style, but showing the influence of the Georgian period. The Adam furniture is of dull old mahogany, and the silk coverings form a colour-scheme of purple and yellow. This, with the purple carpet and the damask curtains, strikes a modern note among the reproductions of Adam models. There is a handsome carved mahogany bookcase, situated on the opposite side to the fireplace.

Panelled throughout in antique oak, the smoking-room is a handsome and cosy apartment, consisting of a centre room with a coach-top roof and two side wings. Its furniture is of the plain Chippendale type with Chinese fretted detail and coverings in early eighteenth century needlework. The large settees and easy chairs are covered in a reproduction of an English eighteenth century version of Chinese tapestry. There is a massive marble fireplace.

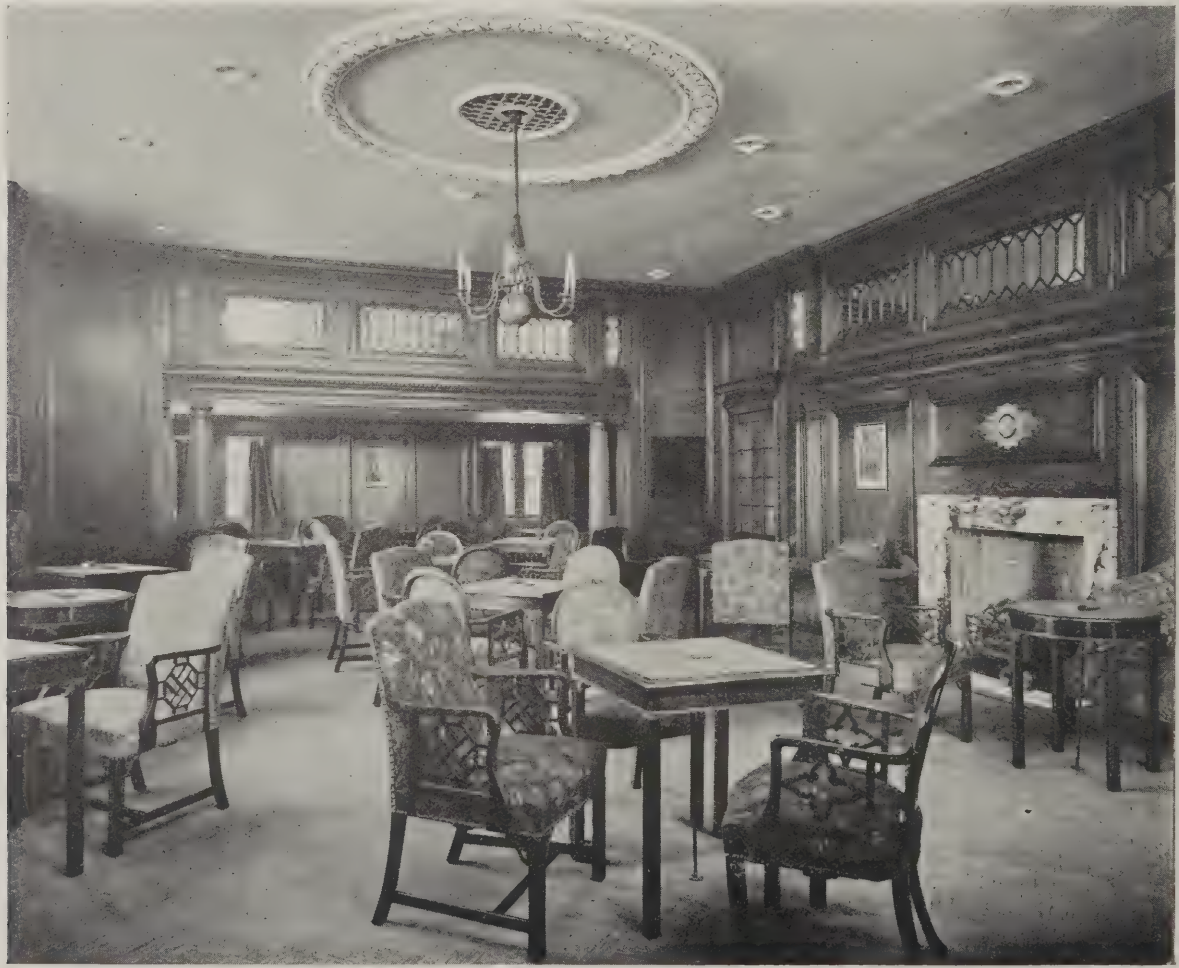
The dining saloon for the use of first-class passengers extends the full width of the ship with a length of 64 ft. The walls and ceiling are treated in white decorated plaster, but the level of the ceiling is broken in the centre by a richly decorated pierced dome. Behind this dome is the musicians' gallery. A remarkably effective scheme of lighting has been introduced. The dome hides the strong and brilliant electric lights which shine through the piercings into the room below. The long tables of the past have given place to small tables with portable four-leg chairs, which are now so popular among travellers and at which two, four and six people can sit.

The first-class state-rooms are fitted up in a particularly attractive manner. Those on the promenade deck, for example, have wooden bedsteads for two people with a Pullman berth, which, if necessary, can be made to accommodate a third person. The furniture of these rooms is of carved mahogany. The first-class state-rooms are fitted with all necessary toilet requisites and each has a plentiful supply of hot and cold water.

In that part of the ship devoted to second-class passengers, the comfort of the traveller has received the fullest consideration. Public rooms include a dining saloon, lounge and smoking-room. In the dining saloon small tables for four and six people replace the usual long tables, while the sideboard has given way to a number of small quick-service tables.

Much care has been devoted to the design of the accommodation for third-class passengers. The old-fashioned open berths have been entirely dispensed with, and throughout the ship third-class passengers are berthed in commodious rooms, each accommodating, in general, two to four persons. Spacious alleyways separate the groups of rooms, and any congestion is now completely eliminated. Two large dining saloons, a general room and smoking-rooms, all commodious, well lighted and well ventilated, and ample open and covered promenade space, complete the scheme.

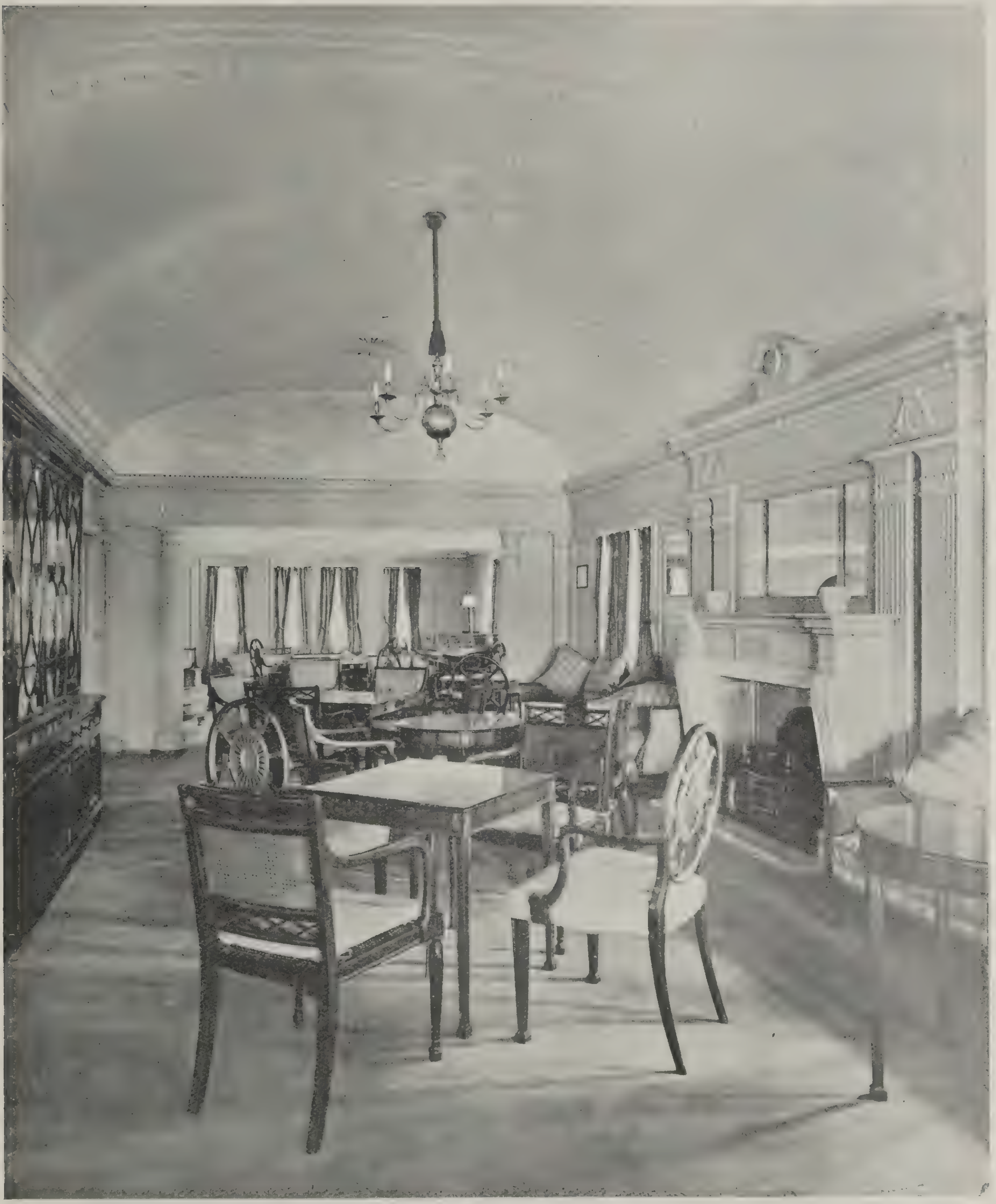
The sub-contractors were as follows: Gillow & Co., Lancaster (woodwork); G. Jackson and Sons (decorative plasterwork and carton pierre work); Bellman, Ivey and Carter (scagliola columns); Kingsmill Art Metal and Electrical Co. (electric light fittings and wrought iron work); J. Stubbs and Sons, Liverpool (marble mantelpieces); E. A. Clark, Ltd., Liverpool (grates); E. Levasseur (carving); James Gibbons (ironmongery).



Cunard Line.

FIRST-CLASS SMOKING-ROOM.

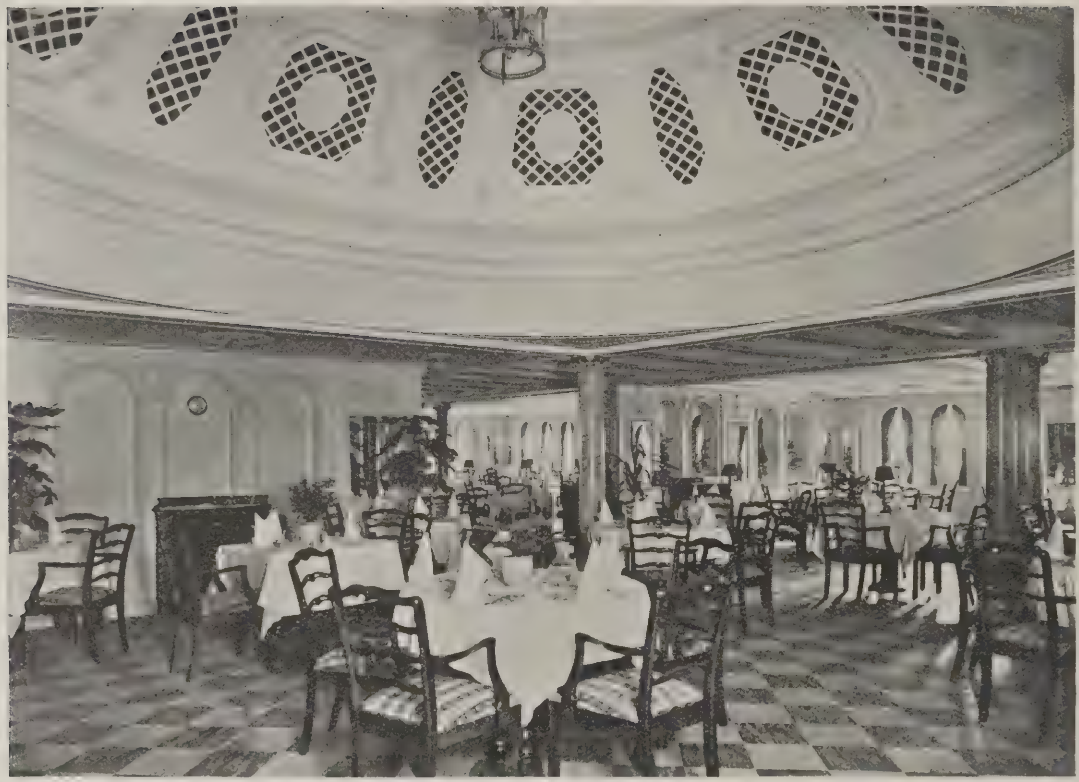
THE "SCYTHIA.' WILLINK AND DOD, F. AND A.R.I.B.A., ARCHITECTS.



Cunard Line.

FIRST-CLASS WRITING ROOM.

THE "SCYTHIA." WILLINK AND DOD, F. AND A.R.I.B.A., ARCHITECTS.



DINING SALOON DOME.

Cunard Line.

A CORNER OF THE DINING SALOON.

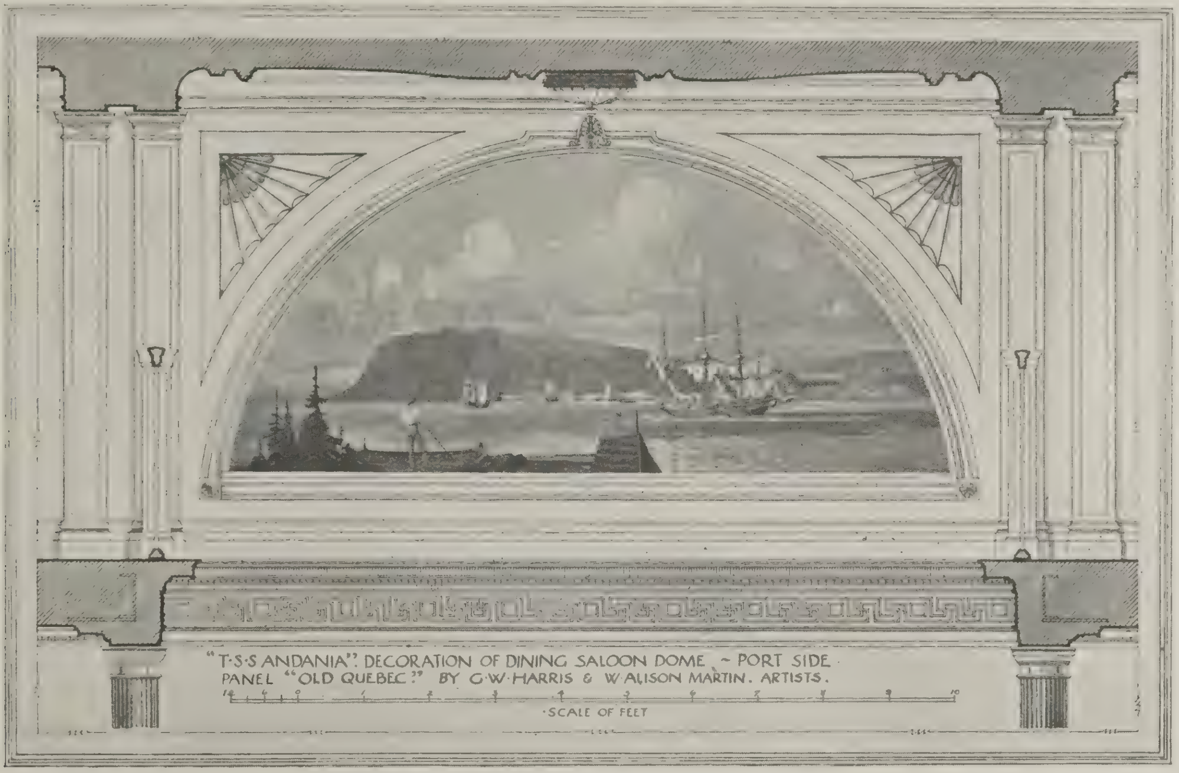
THE "SCYTHIA.' WILLINK AND DOD, F. AND A.R.I.B.A., ARCHITECTS.

The "Andania"

SHEPHEARD and BOWER, F. and A.R.I.B.A., Architects

SHORTLY after the conclusion of the war the Cunard Line embarked on an extensive shipbuilding programme. The "Andania" is the fifth of the new ships in this programme to be put into commission, and is one of the six ships of its type which will carry only cabin and third-class passengers. The accompanying illustrations show some of the more important accommodation provided for the cabin passengers.

The saloon adjoins the kitchen department, from which it obtains immediate service. It is treated in a Colonial Adam manner. The portholes are arranged in groups of three, and each group is enclosed within one architrave, behind which drawn curtains are hung, thus producing the effect of a series of large windows extending from the floor to the ceiling. The colour-scheme is in shades of ivory white, with rich blue curtains and gold trimmings. The Spanish mahogany furniture is treated in harmony with the decorative scheme. Groups of small tables have been arranged to accommodate two, four, or six persons, and independent chairs are also provided. The centre portion of the saloon is carried up into the deck above, forming a central dome, with a musicians' gallery on one side and the main staircase landing on the other. The other two sides of the dome are enriched with semi-circular shaped fresco paintings in tempera. The architects commissioned Mr. G. W. Harris and Mr. W. Alison Martin, two Liverpool artists, to carry out these paintings.


"T·S·S ANDANIA". DECORATION OF DINING SALOON DOME ~ PORT SIDE ·
PANEL "OLD QUEBEC." BY G·W·HARRIS & W·ALISON MARTIN. ARTISTS.
·SCALE OF FEET

Cunard Line.

DECORATION IN DINING SALOON DOME.
BY G. W. HARRIS AND W. ALISON MARTIN.

The main staircase leads from the after-end of the saloon, passes through intermediate decks, which give access to the passengers' state-rooms, etc., and terminates in the writing-room. The staircase rises easily in short flights, and has a wide central and two return flights to each deck. The stairway is of the open type, and has a continuous wreathed handrail supported on elegant wrought-iron balusters. The staircase panelling forms a very handsome feature of the ship.

On the promenade deck is arranged a suite of entertaining rooms, comprising a writing-room, lounge, smoke-room, and a veranda café. These rooms occupy the whole of the available space on this deck. They are all lighted by large sash windows, which are sheltered by the boat deck, and through which the view to sea is gained across the promenade deck. The centre portions of these rooms are carried up several feet above the boat deck, to give an added height and importance to them, and to allow of a pleasing effect of clerestory lighting to be obtained by means of decorative lunettes.

Although the writing-room is designed in a style in keeping with the saloon, its detail is in a rather more delicate manner, as it serves as the drawing-room of the ship. A fireplace is provided at the forward end of the room. The colour-scheme is in shades of French grey, with curtains in old gold and blue trimmings. Groups of small tables are arranged for writing, and occasional tables and settees, harmonizing in colour, and designed to be in keeping with the general treatment of the room, are provided.

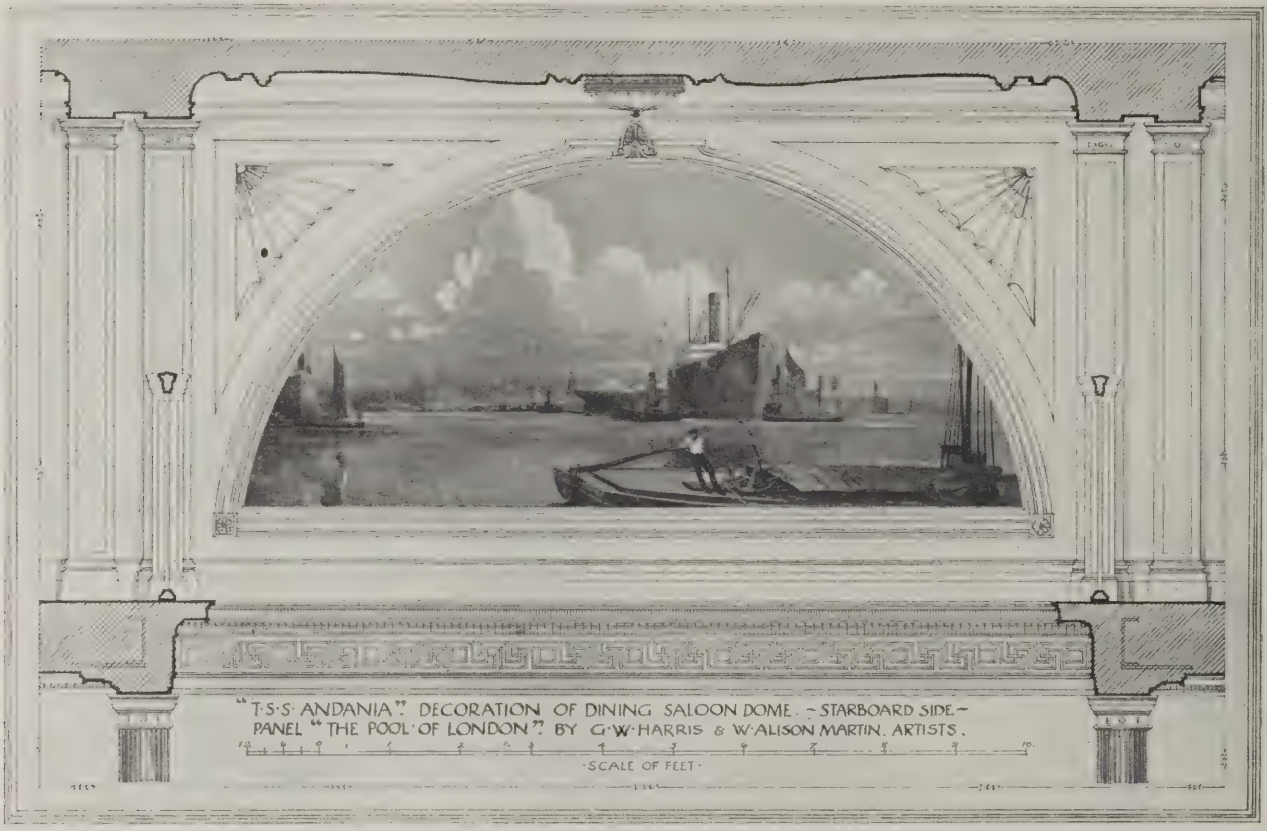
The architectural treatment of the lounge shows a French influence both in the detail and enrichment. The colour-scheme is in shades of lavender, and the touch of warmth in the colour of the old rose silk curtains and the upholstery gives the lounge a feeling of comfort. An open fireplace is provided in a comfortable recess in the centre of the room at the forward end.

The smoking-room is carried out in oak, and the walls are panelled in this material; although kept in harmony with the other rooms, more Florentine influence has been introduced into its design. The panelled pilasters, carried up to the ceiling, have dull gilt capitals; the delicate enrichment on the upper part of the panels and the oak ceiling beams gives a sense of dignity and repose to the general scheme of decoration. In the recess forming an ingle, at the forward end of the room, a fireplace has been arranged, furnished with an open electric fire. At the after end a similar recess forms a bay window, which gives a pleasant outlook on to the veranda café. The window hangings are in green and dull gold, and the furniture, consisting of large settees and easy chairs, is upholstered in leather, and harmonizes in colour with the scheme of decoration. The furniture is independent, and the chairs and settees are arranged in groups at separate tables. In this manner all the amenities and comfort of a first-class smoke-room are obtained.

The veranda café is approached direct from the promenade deck and the smoke-room, and it is carried out in a simple treatment of French treillage consisting of panelled walls and pilasters. The fascination of the stern view has not been overlooked, and passengers seated in the café gain full benefit of this through the large central window, the two side windows, and the two large openings looking directly astern. For protection against bad weather the two large openings can be closed by sliding doors. Wicker chairs and tables are arranged in groups round the windows to give passengers the full benefit of the view to sea. The delicate treillage and the cream background give a charming open-air effect, and the sheltered position of the café makes it a favourite resort.

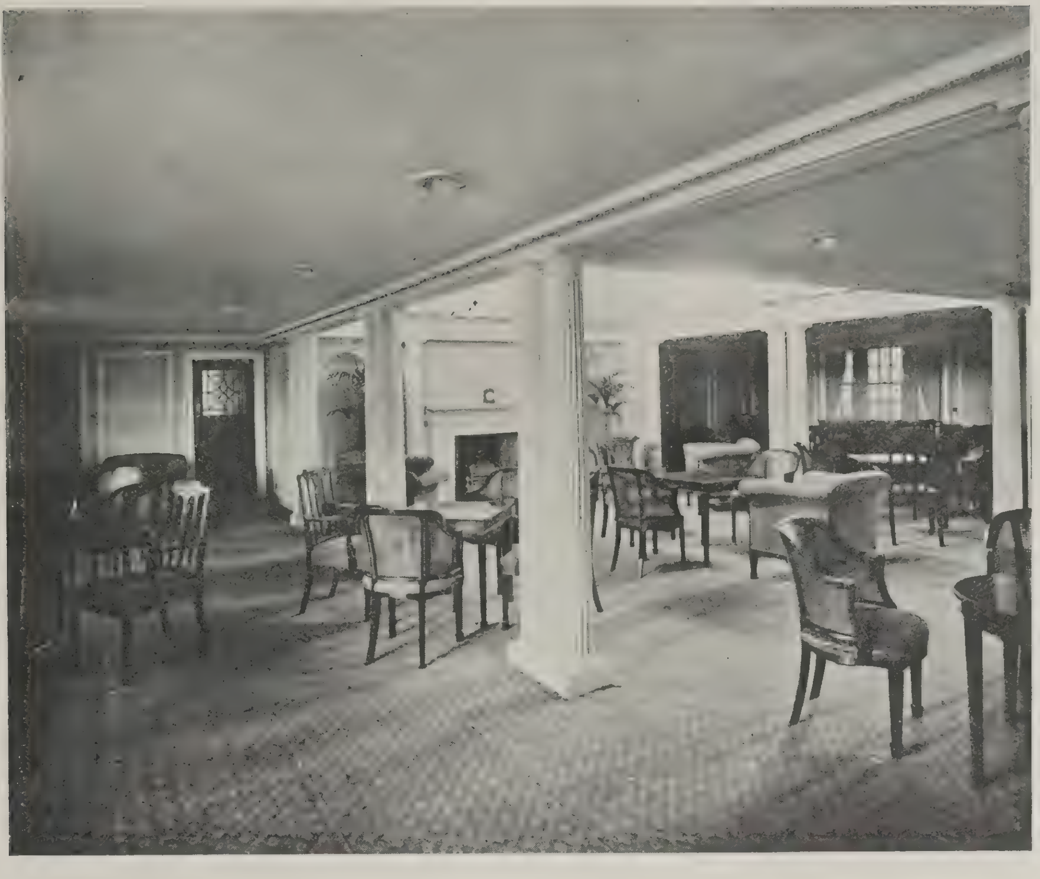
The children's room was designed throughout by the furnishing department of the Cunard Company. It is panelled with sycamore, polished to its natural ivory tint, and the mouldings and enrichments are dyed a bright red. A continuous frieze illustrates the principal incidents from "Alice in Wonderland." Two inglenooks with seats have been built, the frieze on the three sides of which are painted with a large tree, whose branches extend over the cove and entwine on the ceiling. The effect gained is that of a garden arbour where the youngsters can have their "make-believe" alfresco tea. Both the floor and the ceiling have been converted into sources of amusement and interest. The former is provided with an inlaid border of animals, the centre portion being inlaid with the outlines for "Hop Scotch," "Shuffle Board," "Marbles," and other games. The ceiling is painted sky-blue and sprinkled with silver stars, and the lighting is obtained through the conventional cheery-faced sun and the "Man in the Moon." A large slate with a fitment for coloured chalks has been incorporated in the panelling, and a small library of children's favourite books is provided. The miniature furniture is comfortable, and designed with an eye to hygiene —white enamelled, decorated with bright colours, and with all awkward corners eliminated. It delights most children who love to discover articles of their own scale.

The general contractors were Messrs. Gillow & Co. (Waring and Gillow, Ltd.), Lancaster, who were also responsible for the whole of the woodwork in the public rooms. The sub-contractors were as follows: E. A. Clarke, Ltd., Liverpool (firegrates); G. Jackson and Sons (mantels and plasterwork); Thos. Elsley, Ltd. (metal lunettes in public rooms); The Kingsmill Art Metal and Electric Co., London (metal work and wrought-iron balusters); Guiggin Bros., Liverpool (door furniture, locks, etc.); John Stubbs and Sons, Liverpool (marble work in fireplaces); Gent & Co., Leicester (synchronized clocks); Messrs. G. W. Harris and W. Alison Martin, Liverpool (wall paintings); The Cunard Furnishing Department, Liverpool (furnishing). Electric "magicoal" fires, by Messrs. Berry, are fitted throughout.

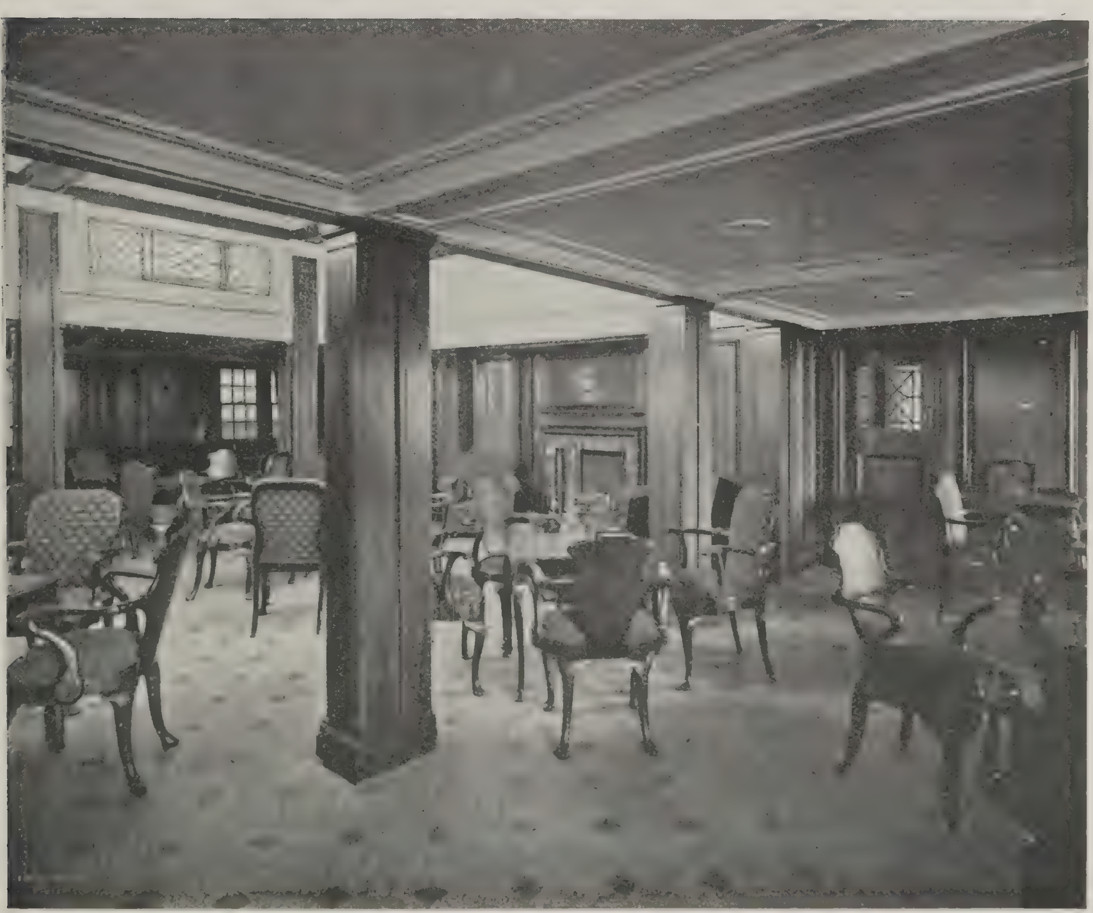

"T·S·S· ANDANIA" DECORATION OF DINING SALOON DOME. – STARBOARD SIDE – PANEL "THE POOL·OF LONDON" BY G·W·HARRIS & W·ALISON MARTIN. ARTISTS.
·SCALE OF FEET·

Cunard Line.

DECORATION IN DINING SALOON DOME OF THE "ANDANIA."
BY G. W. HARRIS AND W. ALISON MARTIN.



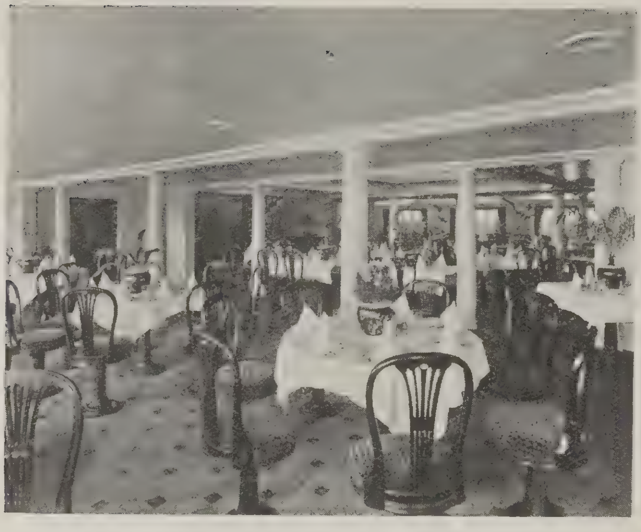
LOUNGE (CABIN CLASS).



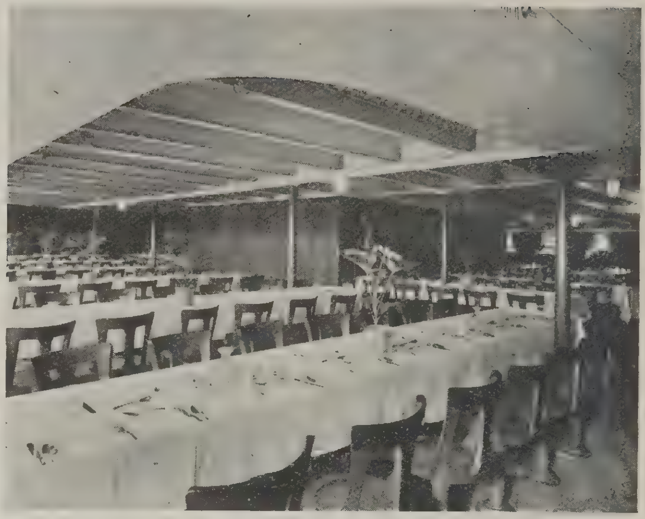
Cunard Line.

SMOKING-ROOM (CABIN CLASS).

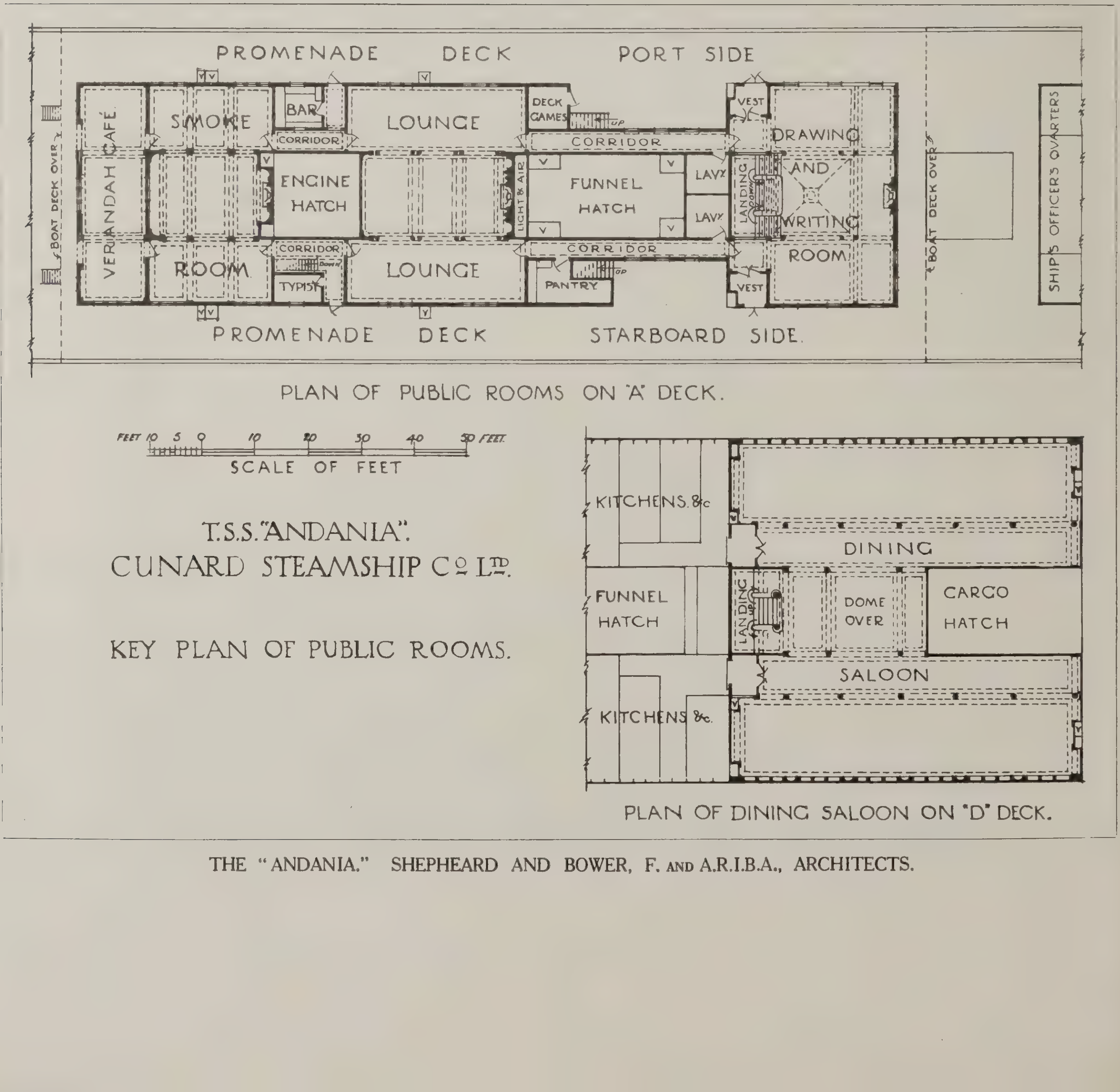
THE "ANDANIA." SHEPHEARD AND BOWER, F. AND A.R.I.B.A., ARCHITECTS.



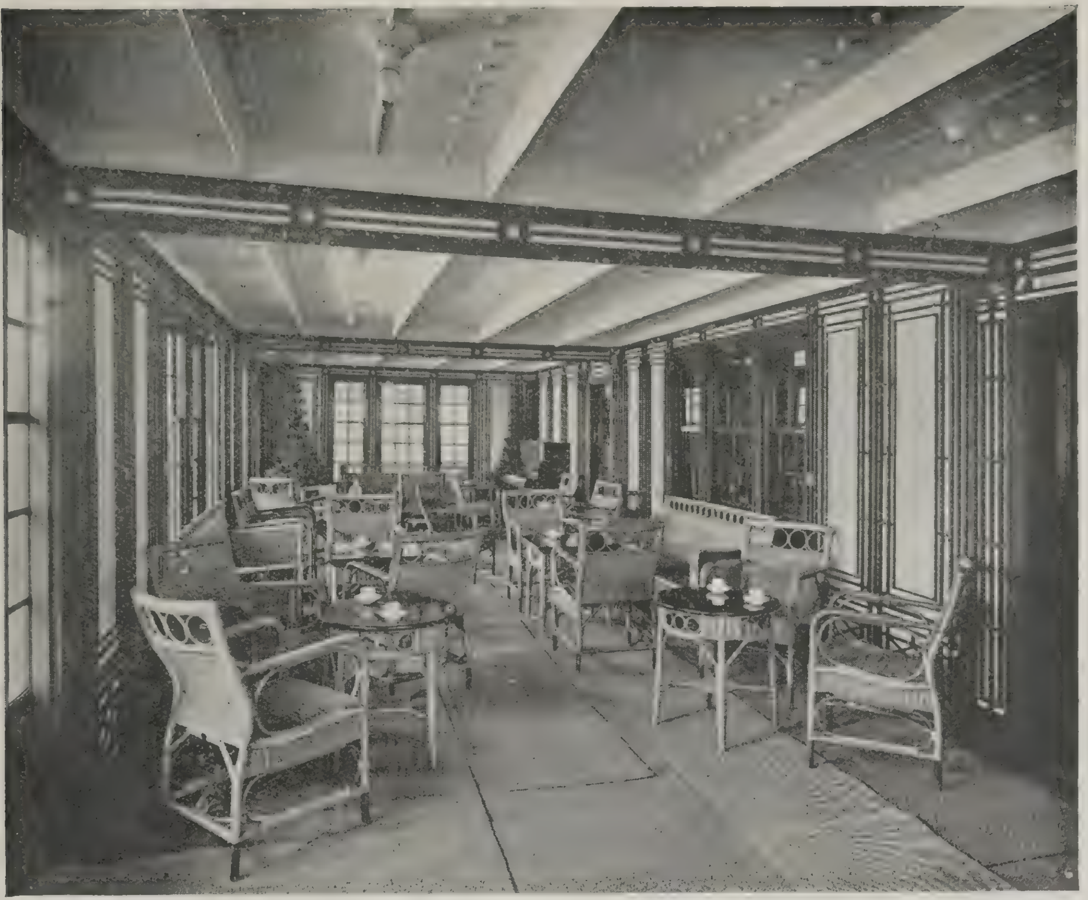
SALOON (CABIN CLASS).



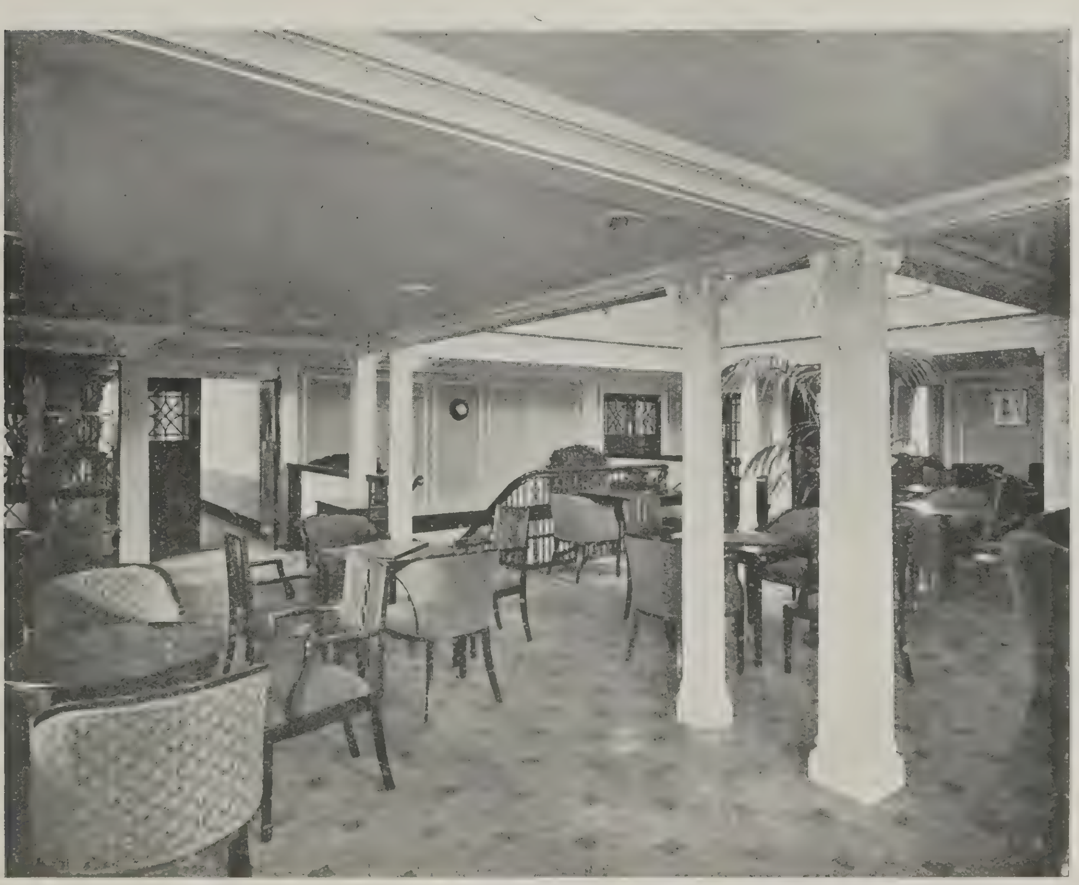
THIRD-CLASS SALOON.



THE "ANDANIA." SHEPHEARD AND BOWER, F. AND A.R.I.B.A., ARCHITECTS.



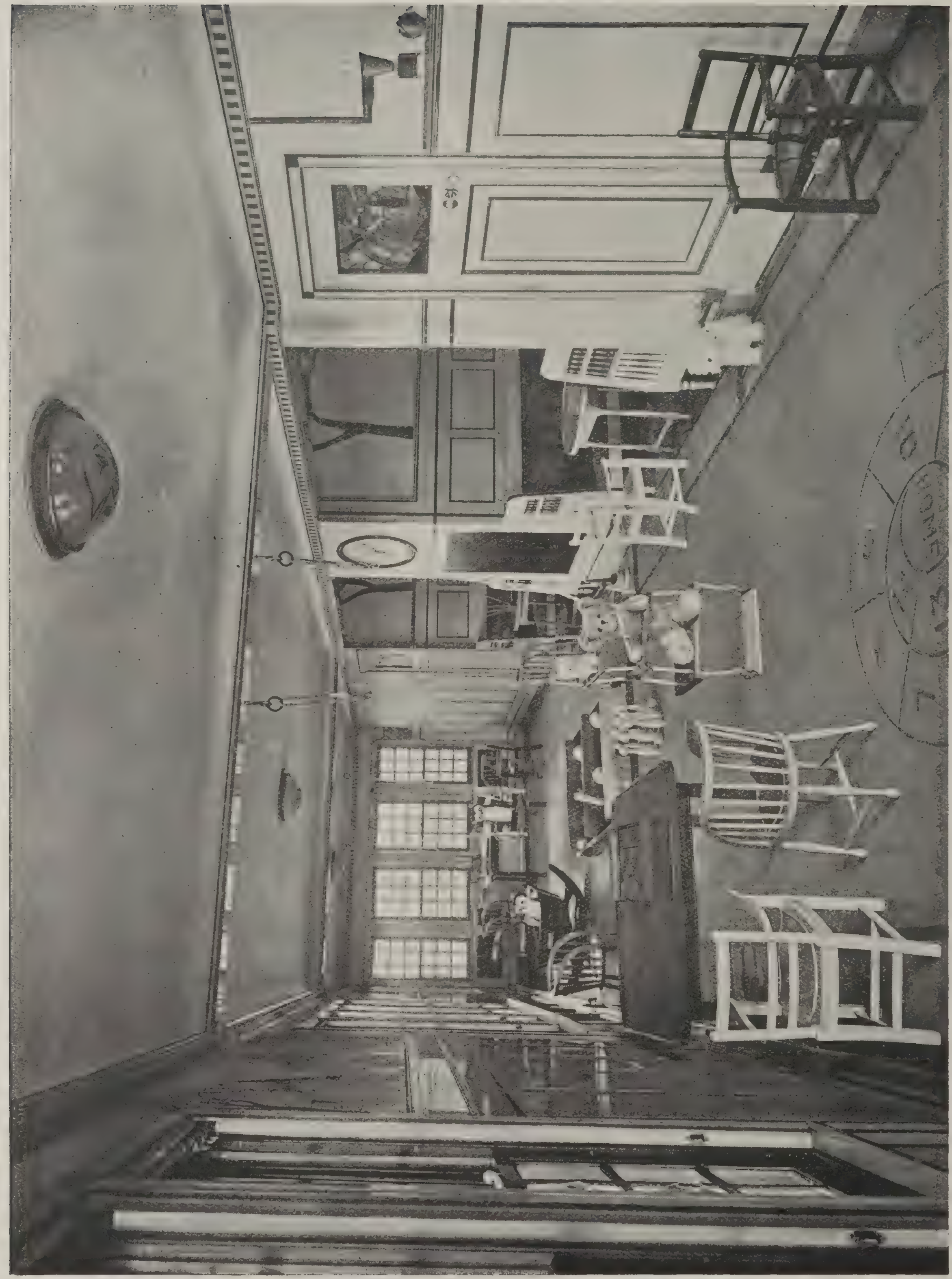
VERANDA CAFÉ (CABIN CLASS).



Cunard Line.

LIBRARY (CABIN CLASS).

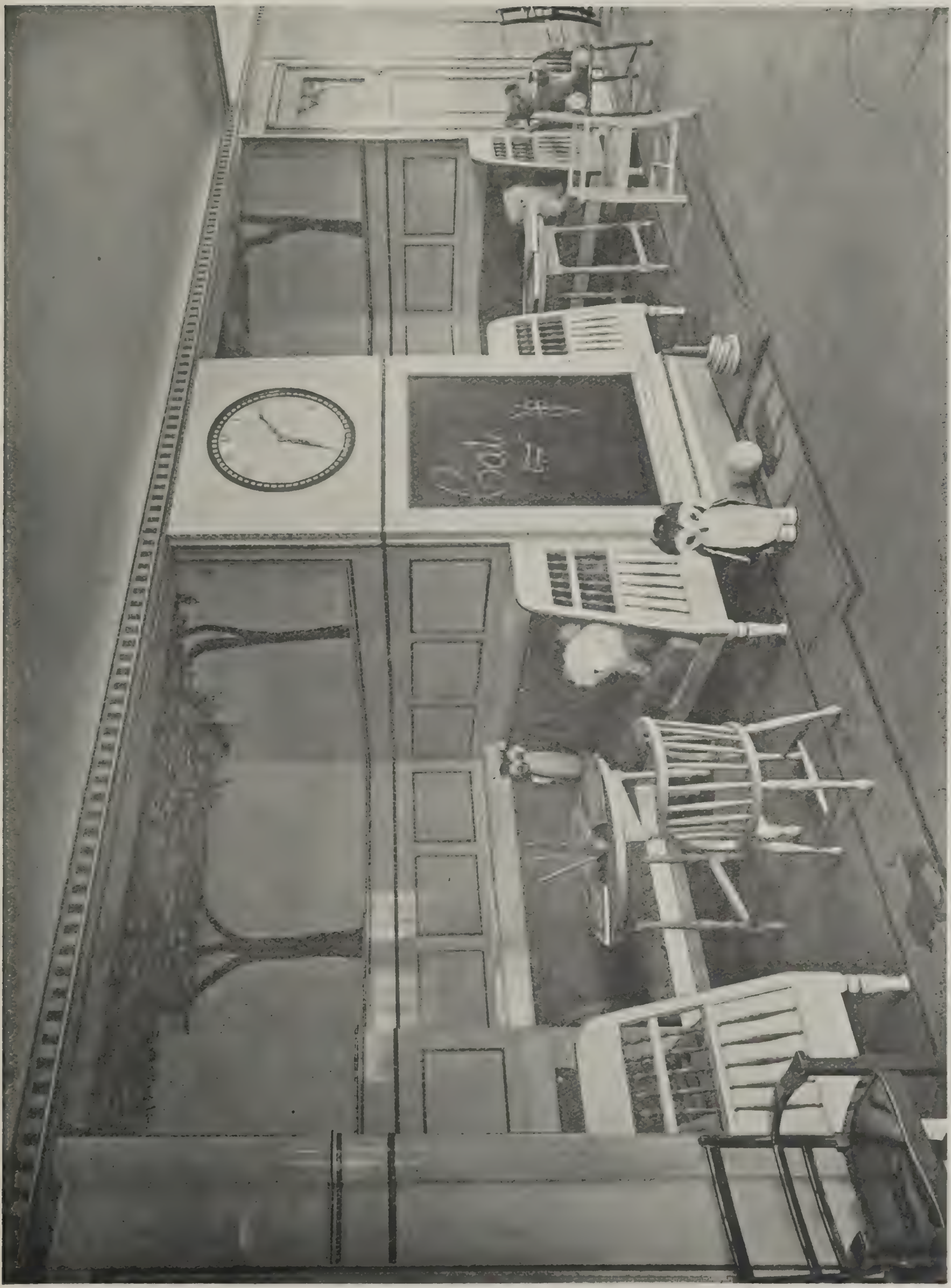
THE "ANDANIA." SHEPHEARD AND BOWER, F. AND A.R.I.B.A., ARCHITECTS.



Cunard Line.

CHILDREN'S ROOM CABIN CLASS).

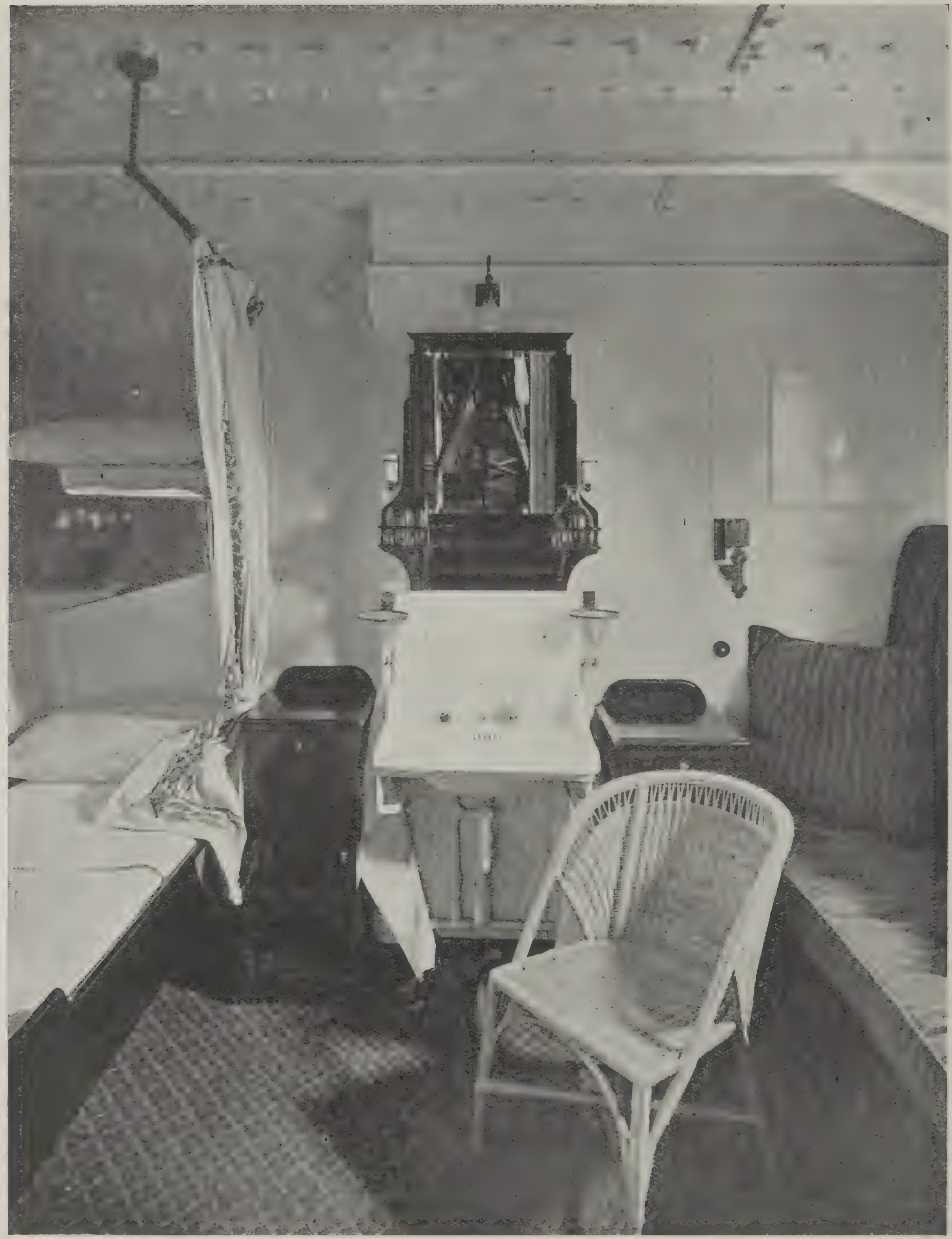
THE "ANDANIA." SHEPHEARD AND BOWER, F. AND A.R.I.B.A., ARCHITECTS



Cunard Line.

ALCOVES IN CHILDREN'S ROOM (CABIN CLASS).

THE "ANDANIA." SHEPHEARD AND BOWER, F. AND A.R.I.B.A., ARCHITECTS.



Cunard Line.

A CABIN.

THE "ANDANIA SHEPHEARD AND BOWER, F. AND A.R.I.B.A., ARCHITECTS.

The "Empress of Canada"

GEORGE A. CRAWLEY and PARTNERS, Architects

THE "Empress of Canada" was completed this year. It has a gross tonnage of about 22,000 tons. The first-class accommodation is arranged on one of the decks in large state-rooms for one, two, and three persons, and on another in rooms for two, three, and four persons. In addition, there are a number of private suites comprising sitting-room, bedroom, and bathroom, and special rooms with bathrooms and rooms with private lavatories. The sitting-rooms are provided with settees (one of a folding-bed pattern), and the suites contain two dressing-tables and wardrobe fittings.

The staterooms are large and airy, with direct light to each room, a great majority of the rooms being of the Bibby type. Each stateroom is fitted up with open porcelain wash-basins supplied with hot and cold running water, and each room is fitted with bedsteads instead of the ordinary ship's berth. A folding Pullman bed, or folding upper bed, is fitted in addition in most of these rooms, and the whole of the accommodation is furnished in the most comfortable style.

The first-class dining saloon is situated amidships, and will accommodate 307 persons at one sitting, the tables being arranged for small parties of six, four, or two people. It is approached from the reception-room, and the general scheme is Georgian in character. The centre portion of the saloon is carried up the height of two decks, the upper part being arcaded in treatment, with a musicians' gallery with a wrought-iron balustrade at the forward end, the whole motif of this portion having been designed to give an appearance of great height. The room is panelled throughout in large painted panels of a light grey tone, with the mouldings picked out in white. At the after end is a fine sideboard in veneered mahogany.

The first-class reception-room is situated forward of the dining saloon. It has been designed to give a large open space suitable for dancing, the floor having an area of over 2,000 superficial feet laid with polished oak parquet. This room has arched recesses at the sides for sitting out and to accommodate the orchestra. A stairway with passenger elevator embodied is arranged at the fore end of this room, with wrought-iron balustrades and elevator enclosure; at the after end there are three large arch-headed mirrors with jardinières for flowers at the foot of the mirrors. The room is treated in large painted panels of light grey tone, with the mouldings picked out in white. Crystal and glass electric fittings are provided.

On one of the decks the main stairway opens into the long gallery, which has been made a feature of the ship, as it gives access to all the principal first-class public rooms. This gallery is about 100 ft. long and 13 ft. wide, and the sides are panelled in polished Honduras mahogany and hung with choice prints. It is amply lighted by large windows on one side. A bookstall has been arranged at the side and about midway of this long gallery.

At the forward end of the long gallery is the first-class lounge, which has been planned to provide a large and lofty central open space about 16 ft. in height, and lit with clerestory windows and a wrought-iron lay light. This room is utilized as a music-room, and also for cinema exhibitions, a cinema operating-room having been arranged for at the forward end. The remainder of the room has been arranged for card parties, and is divided off from the central space by arches supported on columns. The keynote of the design of this room is the wall decoration, which consists of large brocade panels of rich design in walnut frames, and it is also lighted by large windows at the sides with transome lights. The floor of this room will be laid with oak parquet.

At the after end of the long gallery is the first-class smoke-room, which is planned on somewhat similar lines to the lounge, the central portion constituting a large well-lit room 16 ft. high, while the portion towards the sides has been adapted for accommodating card parties. This room is panelled in large oak panels of a Georgian design, subdivided with fine carved Ionic columns, and has large three-light mullioned and transomed windows at the sides. A feature of this smoke-room is the moulded black and gold marble fireplace, with its large canopied pediment surmounting a fine carved coat-of-arms of Canada.

Opening also off the long gallery there are the first-class card-room, panelled in grey sycamore and Queen Anne in character; the first-class drawing-room in mahogany with panels of brightly-coloured "Toile de Louy," and with a painting over the mantelpiece by Mr. Philip Connard; the first-class writing-room, with painted panels in shaded tones of duck egg green, with enriched cornice and panel mouldings, and also the first-class children's room. The card-room has boldly moulded panels and a finely modelled cornice, and the fireplace is fitted with an electric "Magicoal" fire.

Opening out of the first-class smoke-room is the veranda café, which is of oak half-timbered design.

A large swimming bath about 30 ft. long, 18 ft. wide, and with a maximum depth of 8 ft. is provided forward of the reception-room. On one side there are arranged dressing-boxes. The swimming bath space has a marble dado with the tile filling above, subdivided by marble pilasters. A large gymnasium, fitted with the most modern gymnastic appliances, is arranged next to, and communicating with, the swimming bath. Extensive promenade space for the first-class passengers is provided.

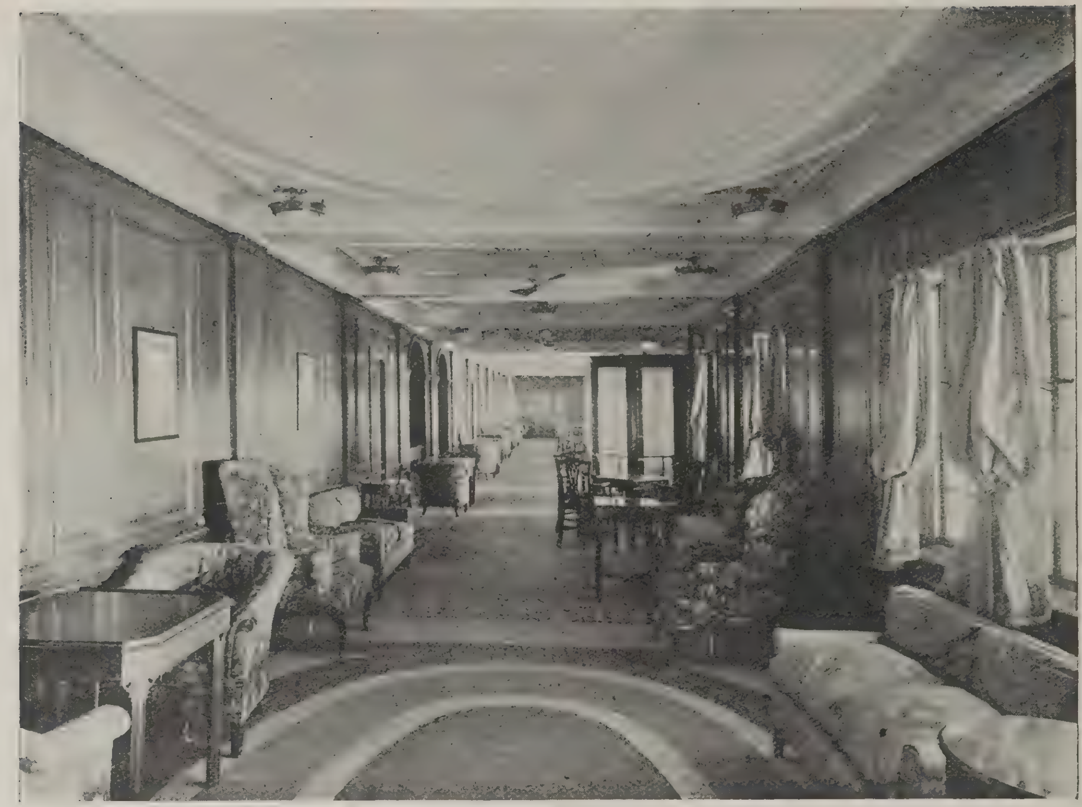
The second-class accommodation is arranged in staterooms for two and four persons. These rooms are fitted up in a similar manner to the first-class state-rooms, but have berths instead of bedsteads. The dining saloon for second class accommodates 100 persons, and a large lounge has been provided. Ample promenading space is arranged for.

The third class are accommodated in rooms of two, four, and six. They have a dining saloon accommodating 100 persons. Promenading space for third class is also provided. The vessel is fully equipped with a laundry, operating theatre, dispensary, hospitals, information bureau, barber's shop, etc., and carries a manicurist and stenographer.

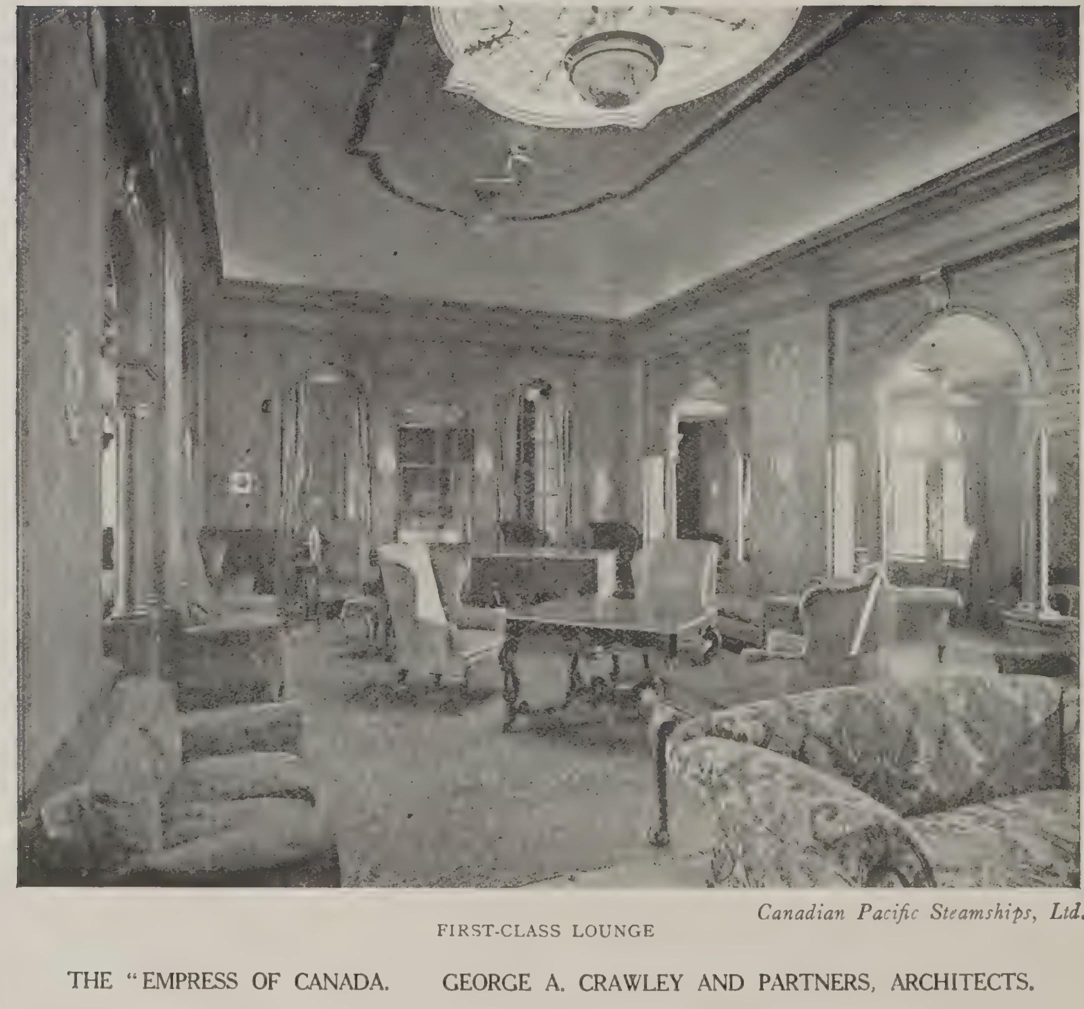
The decoration of the first-class public rooms was carried out by the following contractors: Fairfield Shipbuilding and Engineering Co., Govan, Glasgow, the shipbuilders (first-class dining saloon, reception-room, entrances and stairways, swimming bath, veranda café, and gymnasium); Wylie and Lochhead, Glasgow (first-class lounge, card-room, drawing-room, suite rooms); Trollope and Colls, Ltd., Liverpool (first-class smoke-room and writing-room); The Leyland and Birmingham Rubber Co., Glasgow (linotiles); Wylie and Lochhead, Trollope and Colls, B. Cohen and Sons, and Howard and Sons (furniture); J. Reid and Sons, Glasgow (special pieces of furniture and the dining saloon chairs and most of the rugs); General Electric Co. and Messrs. Elkington & Co., Birmingham (electric light fittings); G. and A. Brown, Ltd. (mantelpieces, mirrors, and compo work); Wm. Kemp (grates); Messrs. Berry's Electric, Ltd. (electric fires); Messrs. N. F. Ramsay, Ltd. (door furniture).

The prints were selected from the stocks of Messrs. Basil Dighton, Daniell and Sons, F. Sabin, F. R. Meatyard, and The Medici Society. The clock cases were reproduced from old designs by Messrs. Bolton Smith, and the clocks were by The Magneta Time Co. Most of the public rooms are fitted with electric fires of the "Magicoal" type.

[Some notes on the "Narkunda" and the "Empress of Scotland" appear on page 592.]



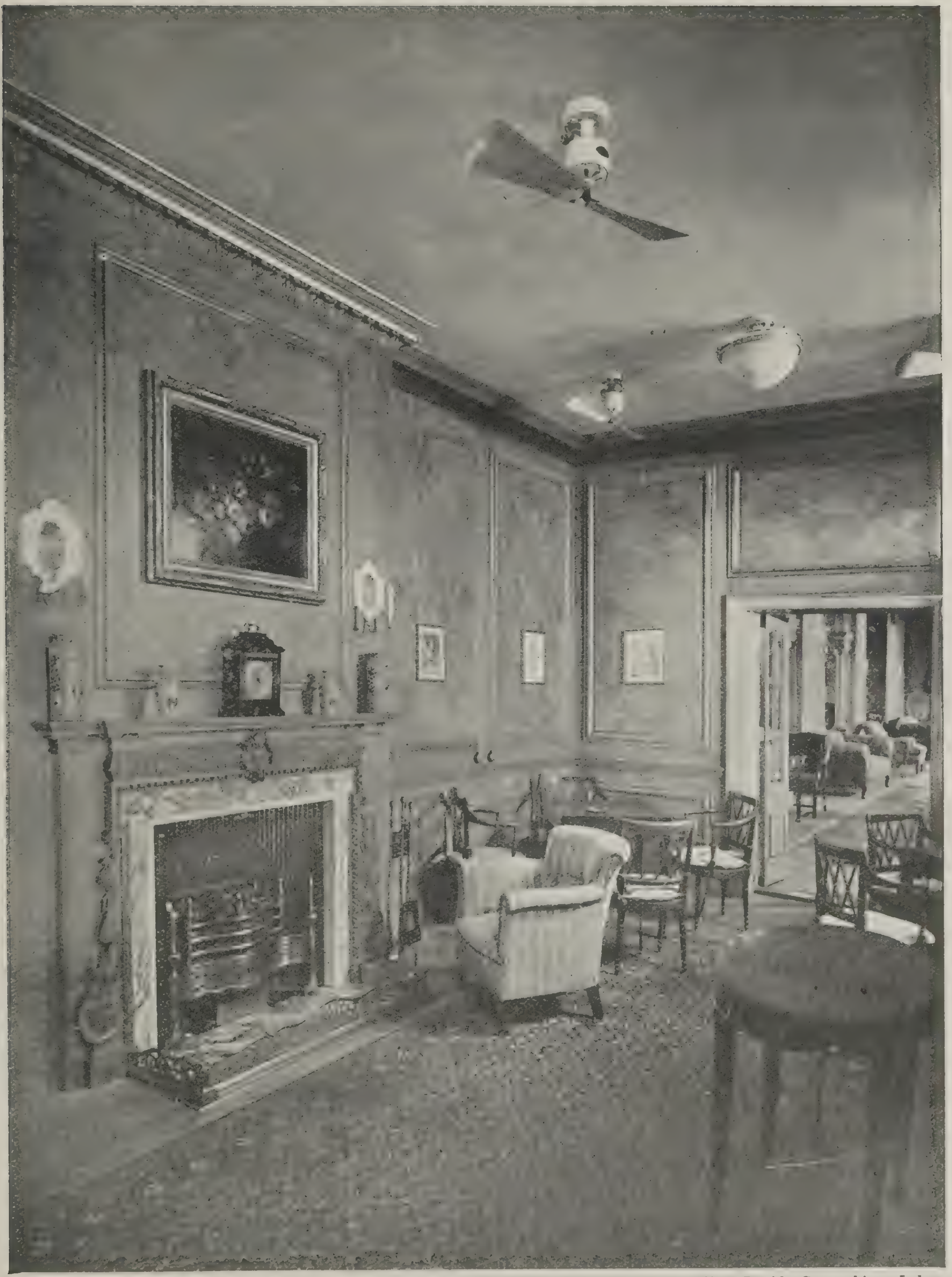
LONG GALLERY.



Canadian Pacific Steamships, Ltd.

FIRST-CLASS LOUNGE

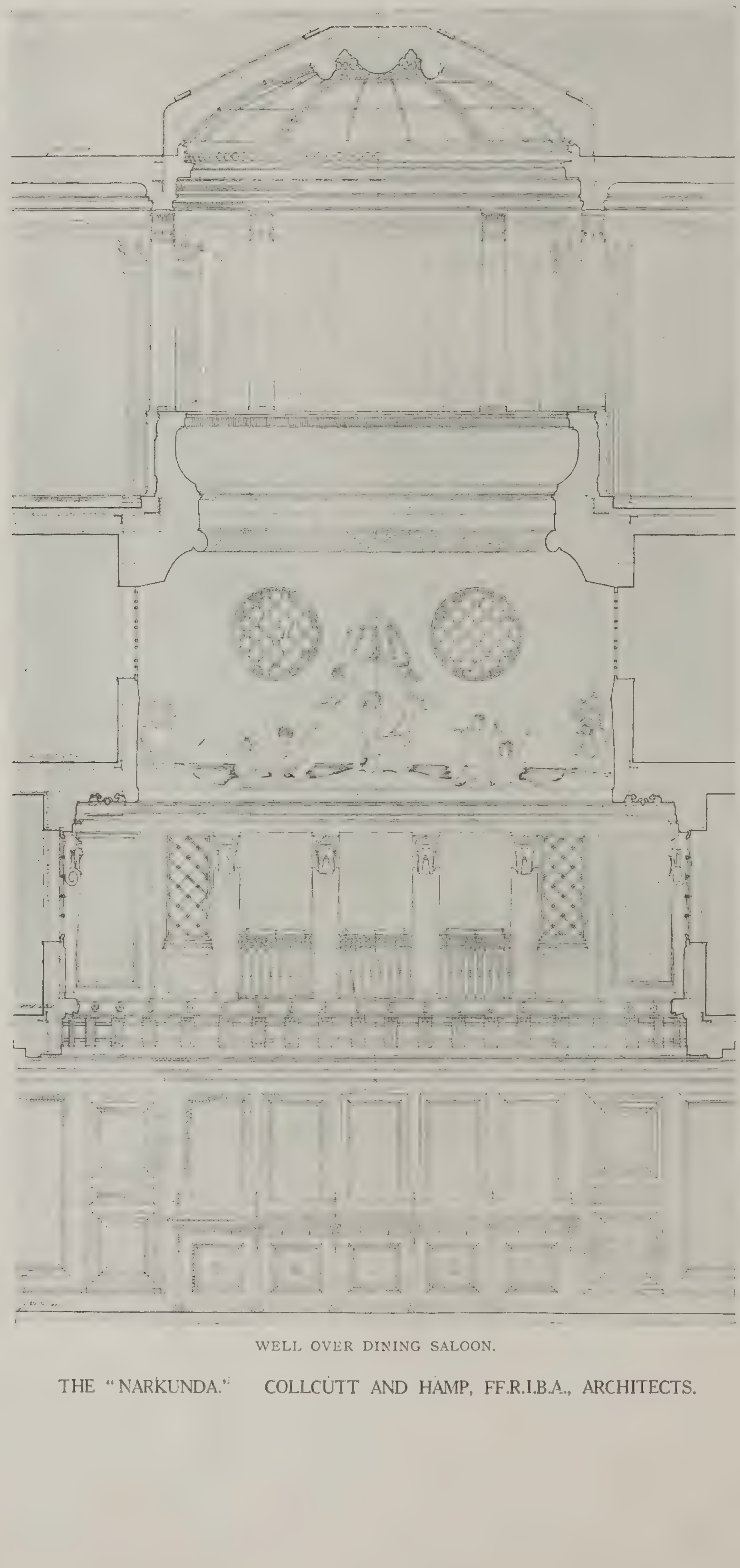
THE "EMPRESS OF CANADA. GEORGE A. CRAWLEY AND PARTNERS, ARCHITECTS.



Canadian Pacific Steamships, Ltd.

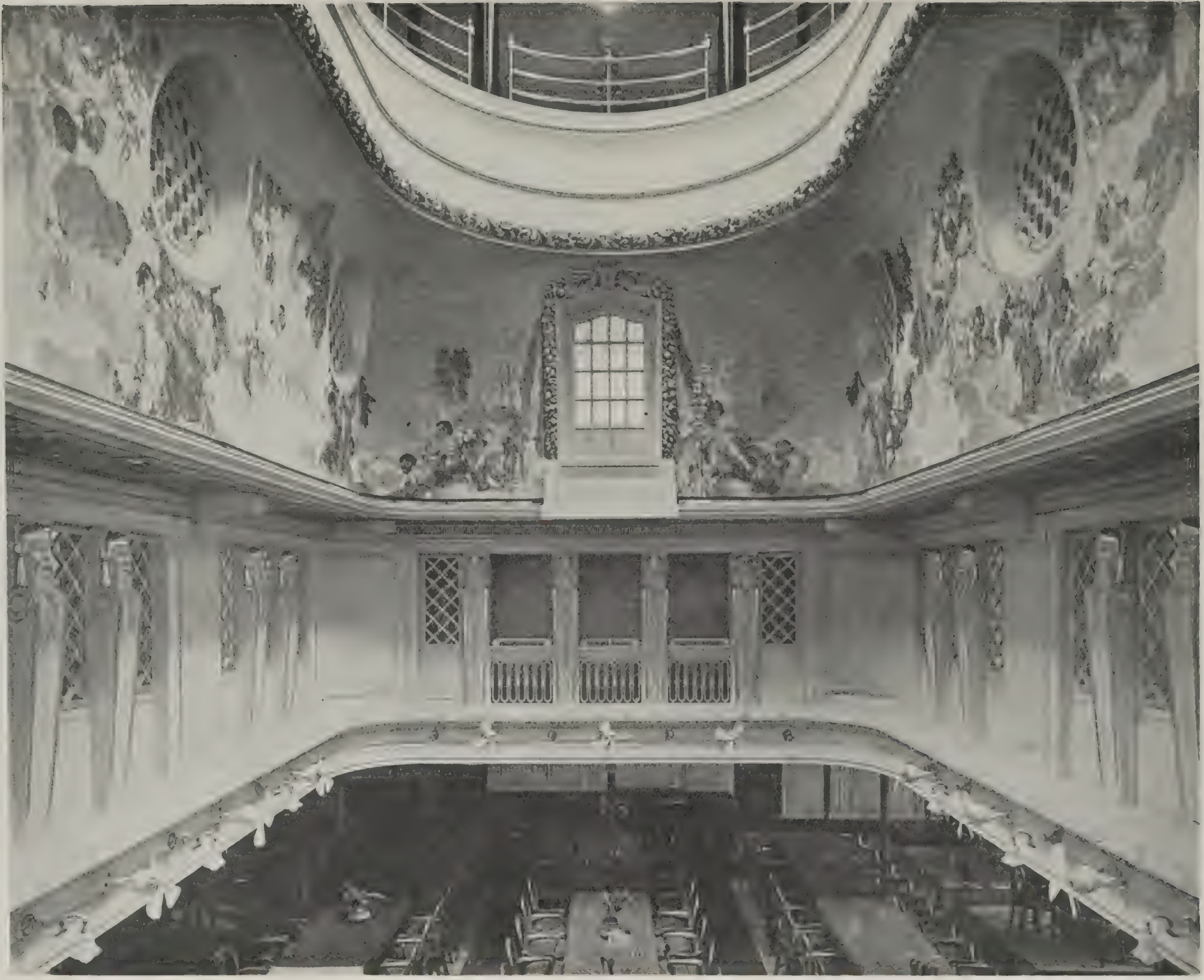
FIRST-CLASS CARD ROOM.

THE "EMPRESS OF CANADA." GEORGE A. CRAWLEY AND PARTNERS, ARCHITECTS.



WELL OVER DINING SALOON.

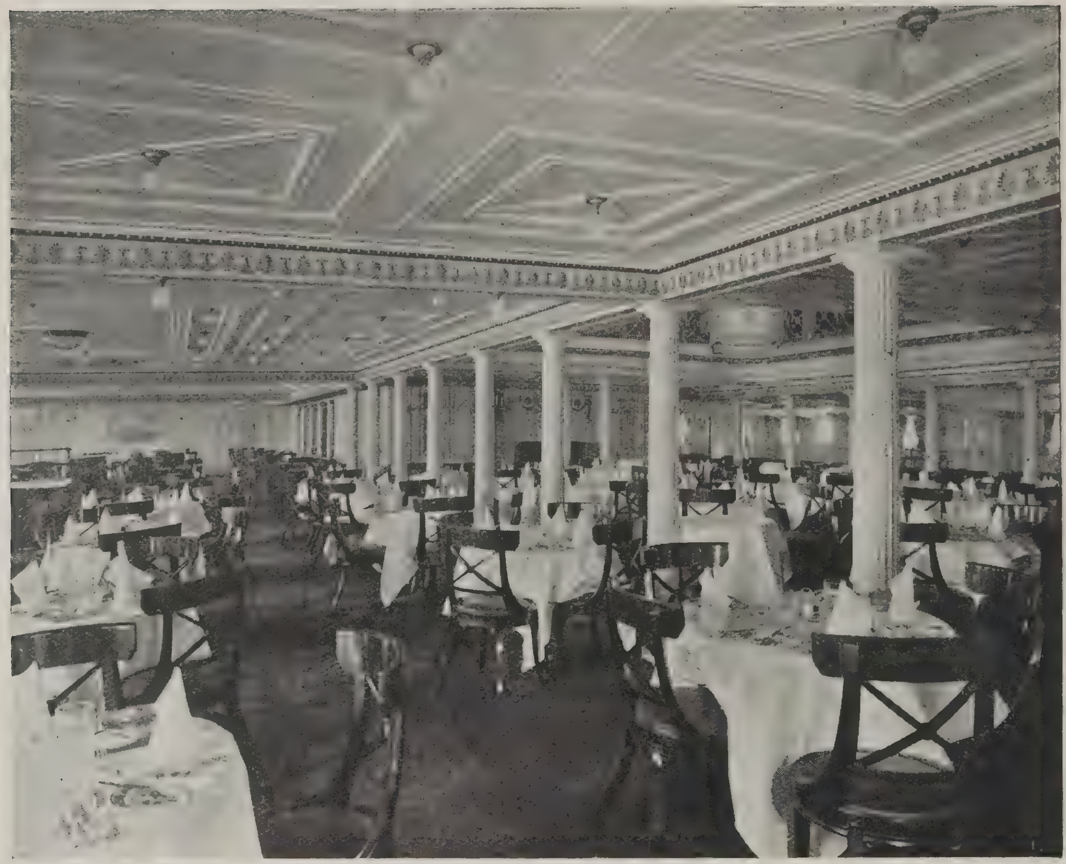
THE "NARKUNDA." COLLCUTT AND HAMP, FF.R.I.B.A., ARCHITECTS.



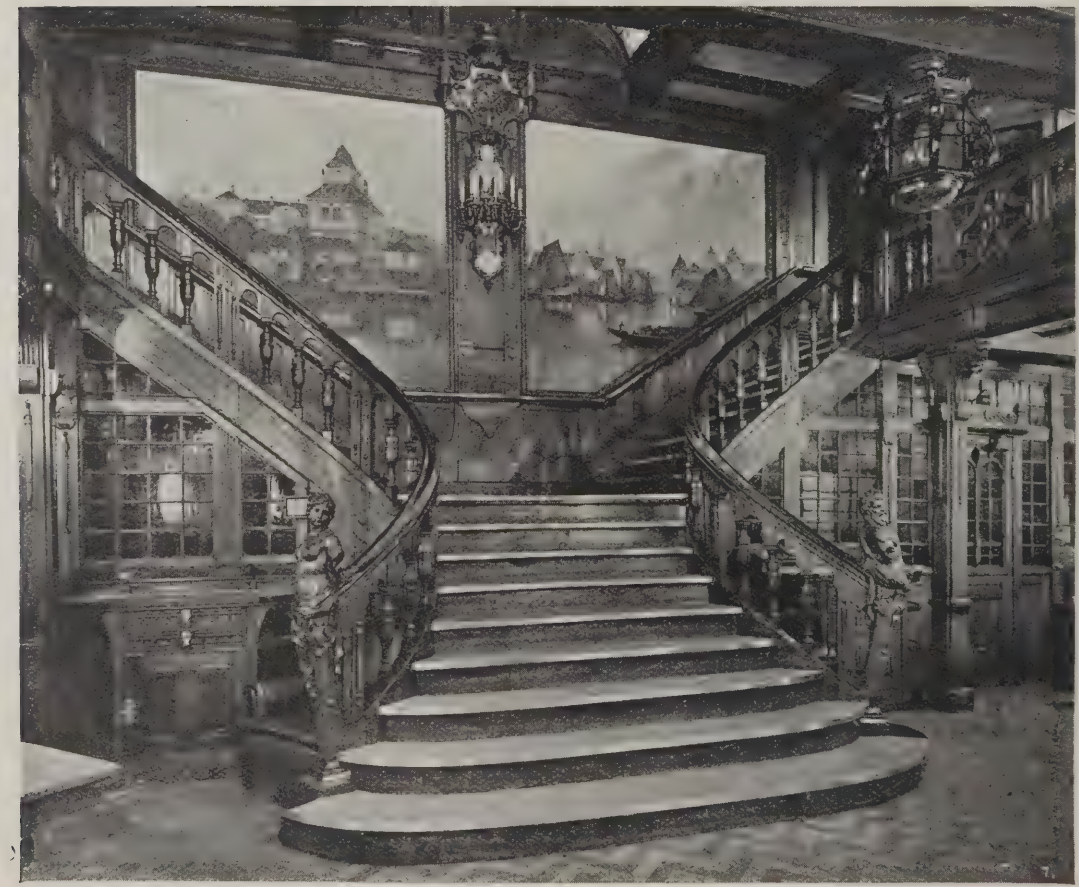
P. and O. Steam Navigation Co.

FIRST SALOON DOME FROM GALLERY. (MURAL DECORATIONS BY GERALD MOIRA.)

THE "NARKUNDA." COLLCUTT AND HAMP, FF.R.I.B.A., ARCHITECTS.



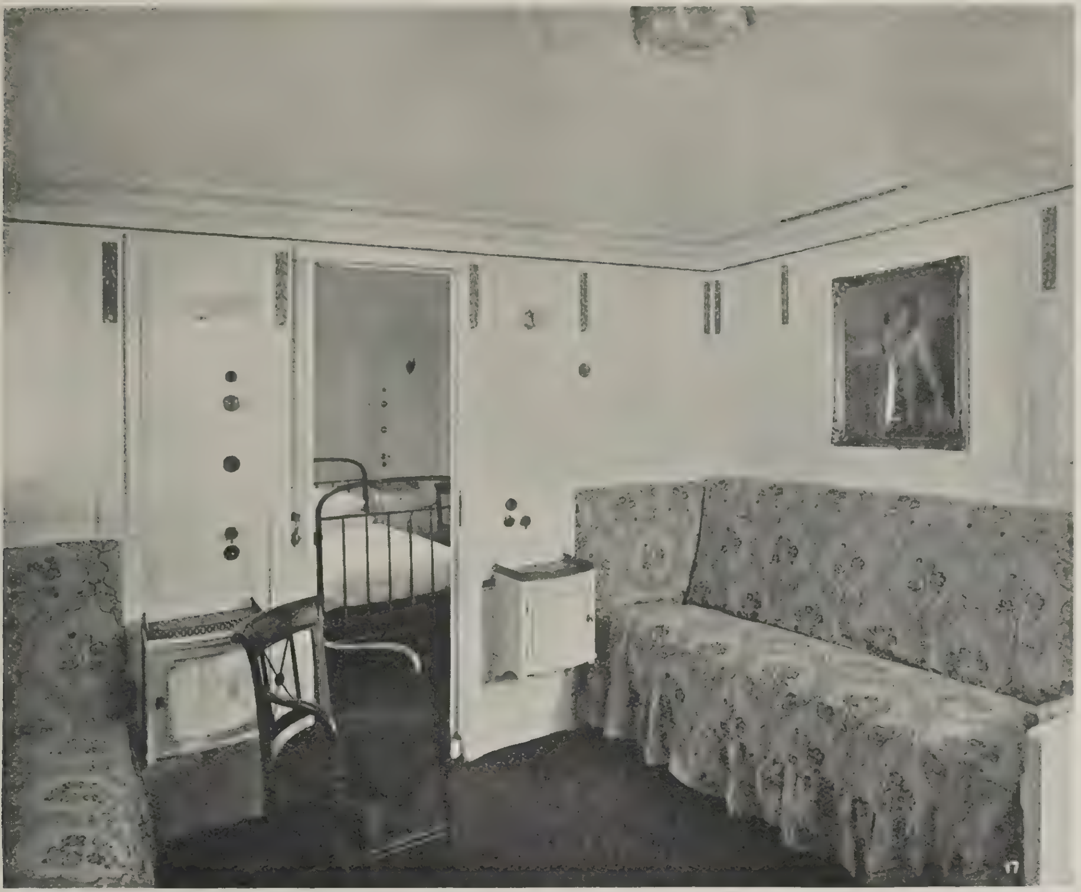
FIRST-CLASS DINING SALOON.



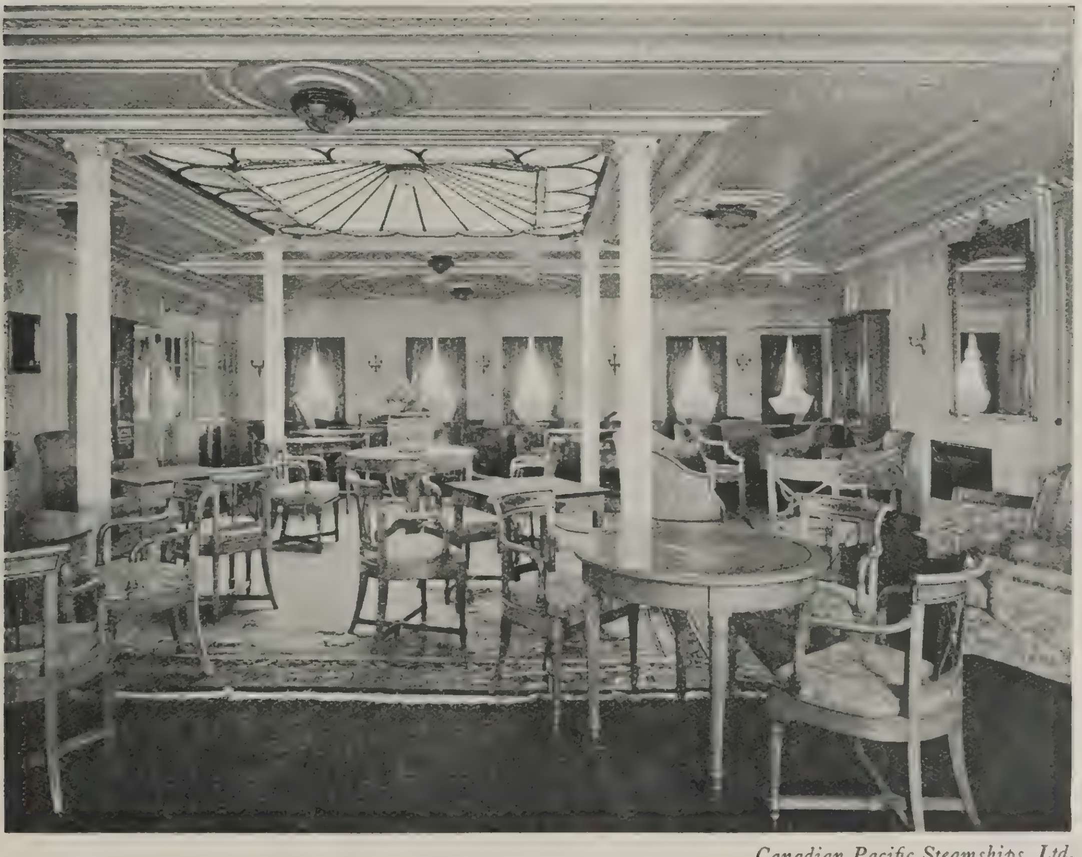
Canadian Pacific Steamships, Ltd.

STAIRCASE BETWEEN UPPER AND LOWER SMOKING-ROOMS.

THE "EMPRESS OF SCOTLAND."



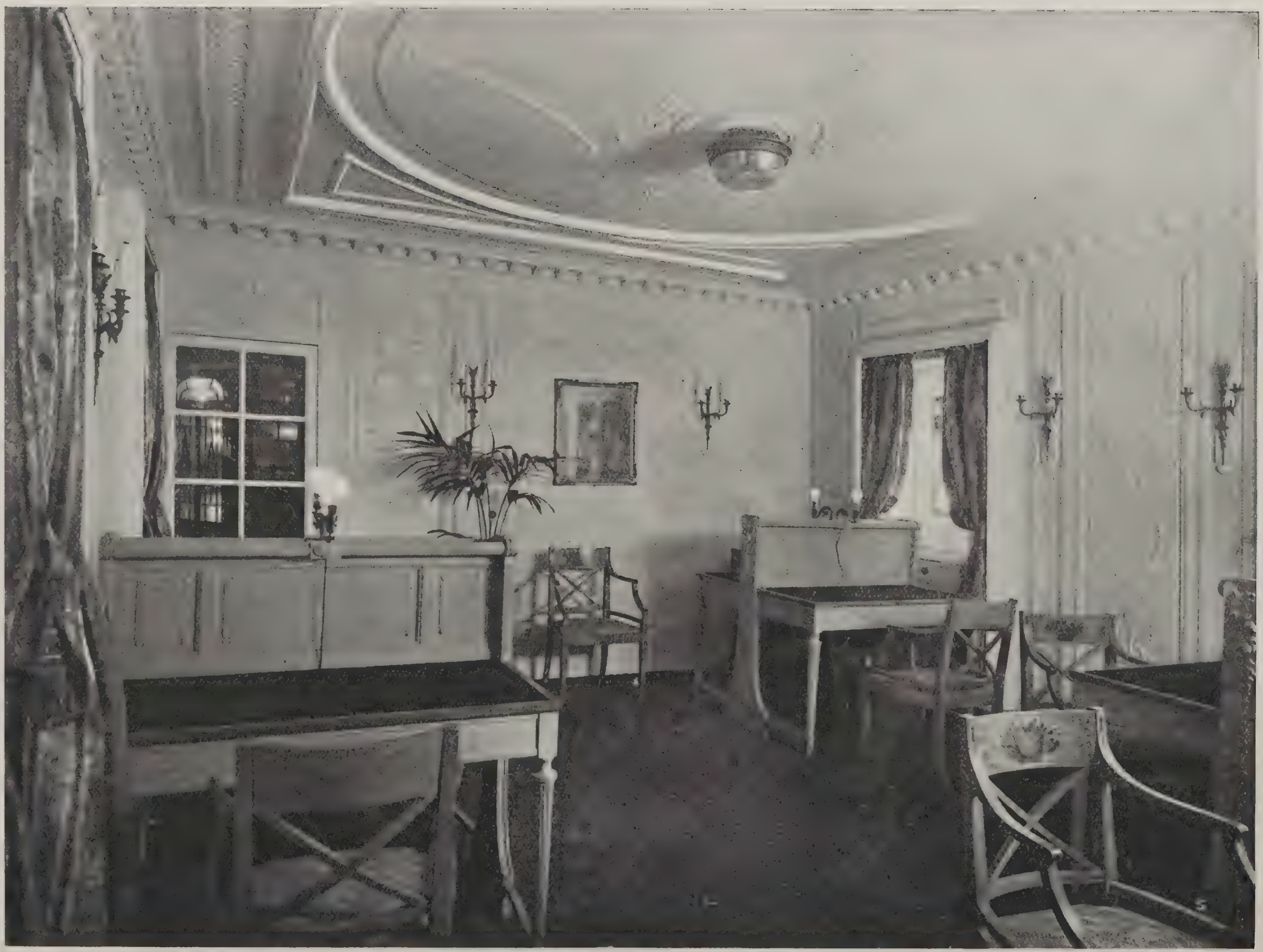
A STATE ROOM



Canadian Pacific Steamships, Ltd.

FIRST-CLASS LOUNGE.

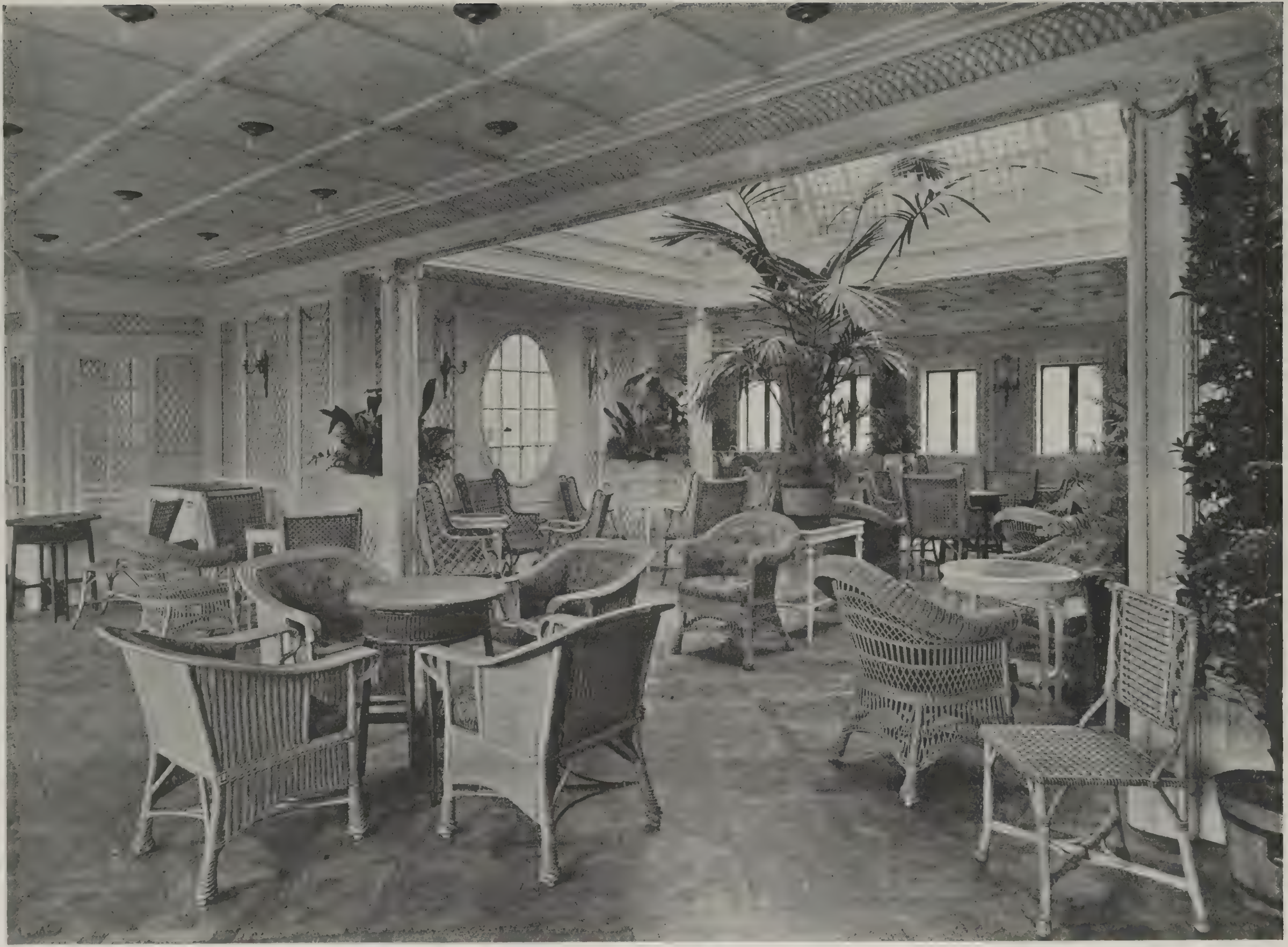
THE "EMPRESS OF SCOTLAND."



Canadian Pacific Steamships, Ltd.

FIRST-CLASS WRITING ROOM.

THE "EMPRESS OF SCOTLAND.'



Canadian Pacific Steamships, Ltd.

FIRST-CLASS WINTER GARDEN.

THE "EMPRESS OF SCOTLAND."

The "Narkunda"

The accompanying illustrations show the first saloon of the "Narkunda," which has been carried out from the designs of Messrs. Collcutt and Hamp, FF.R.I.B.A., architects. Roof lighting is employed, and at each end of the gallery are ventilating ducts, through which air is drawn off by exhausts into trunks. The mural decorations are by Professor Gerald Moira, who has used light colouring to obtain cool effects suitable for an Eastern service. Above the saloon is an oak-panelled music-room.

The contractors associated with the work were: G. Jackson and Sons; Thomas Elsley, Ltd.; Heaton, Aldam & Co.; and the General Electric Co. Messrs. Nettlefold and Sons, Ltd., supplied the whole of the electric light fittings and the purser's equipment.

The "Empress of Scotland"

The "Empress of Scotland" is an ex-German ship, and was formerly the "Prinz Friedrich Wilhelm." The decoration of the ship was carried out in Germany.

The "Andes"

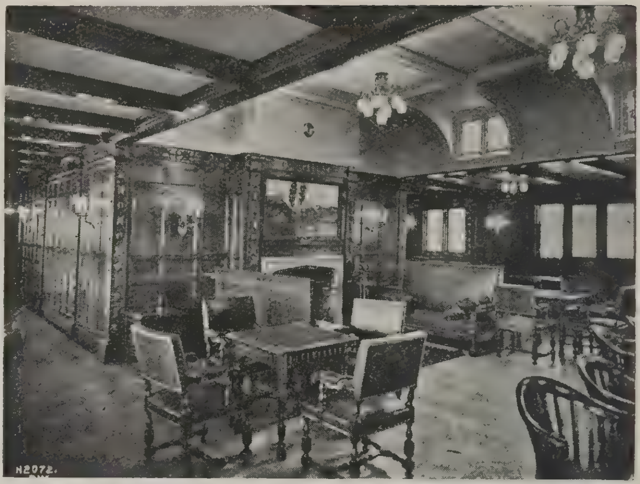
On the "Andes" there are two suites of cabines de luxe, each consisting of a sitting-room, bedroom and bathroom. The floors are of carpet with linoleum surround, and the upholstery is of brocade.

The state cabins number sixteen on bridge deck, half of which are finished with oak panelling and half in oak dado and white above. All the rooms have oak furniture, and there are plaques and pictures on the walls. Each room is furnished with two cot beds; double and open washstand, wardrobe, etc., a carpet rug on floor. The upholstery is in green velvet. A bathroom is provided to each room.

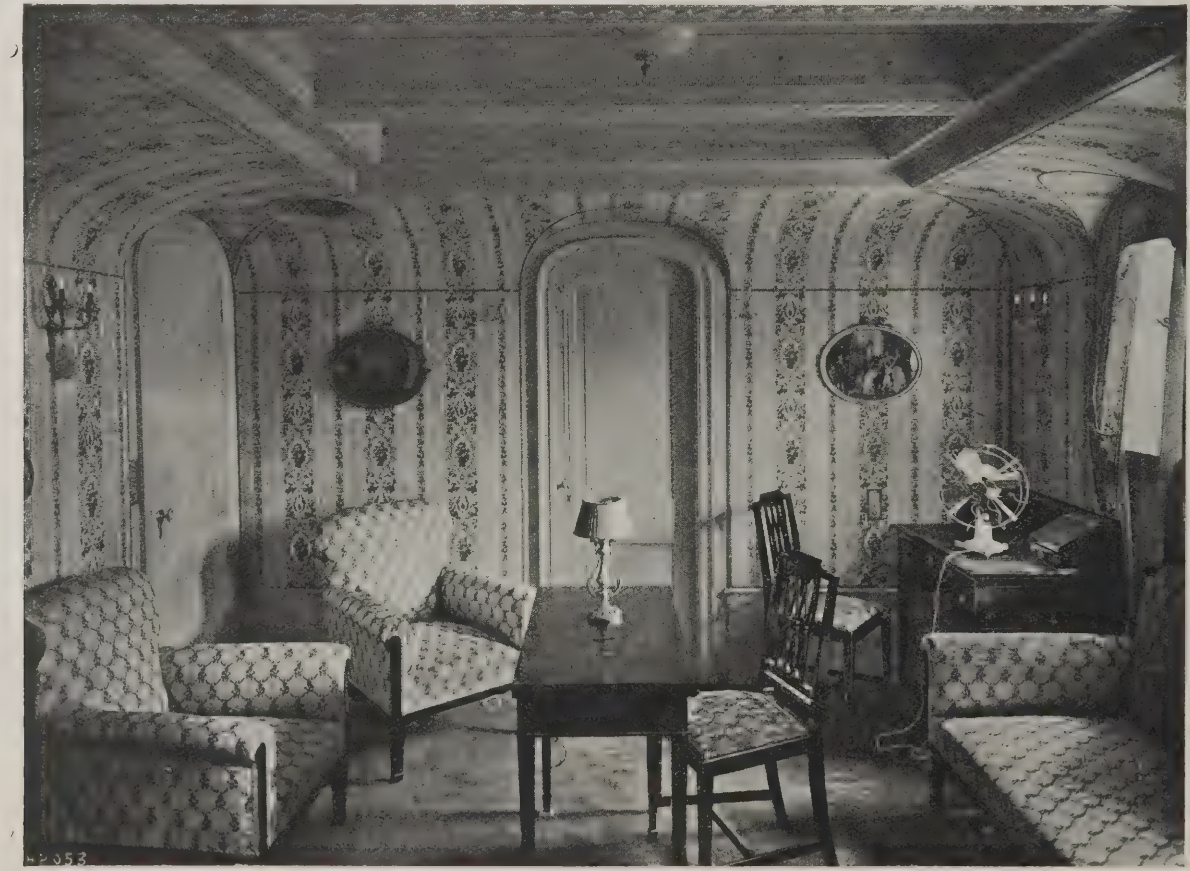
The first-class state-rooms are arranged on the promenade bridge, and upper decks in one-, two-, and three-berth rooms. Cot beds are fitted in the one- and two-berth rooms, and in the three-berth rooms two cot beds and a folding Pullman upper berth. Each room is fitted with a single or double folding lavatory, wardrobe, etc., while most of the rooms on the lower promenade deck have open wash-basins fitted instead of the lavatory. A large number of the rooms are inter-communicating. On the bridge and upper decks they are arranged on the tandem principle, which gives a natural light and ventilation to all rooms.

Accommodation is provided in the first-class dining saloon for 376 persons, and there is a children's saloon of twenty seats. The dining saloon is panelled in white and gold, and is in the "Adam" style. Oval sliding lights, arranged in pairs, are provided. At the fore end of the saloon there is a large sideboard and eighteen dumb waiters; there is a crescent-shaped buffet at the foot of the stairs, and small round and rectangular tables are laid out in restaurant style. The chairs are of mahogany, the upholstery is in red Morocco leather, and the floor linoleum is of tiles on Veitchi.

The children's saloon, which adjoins the saloon, is

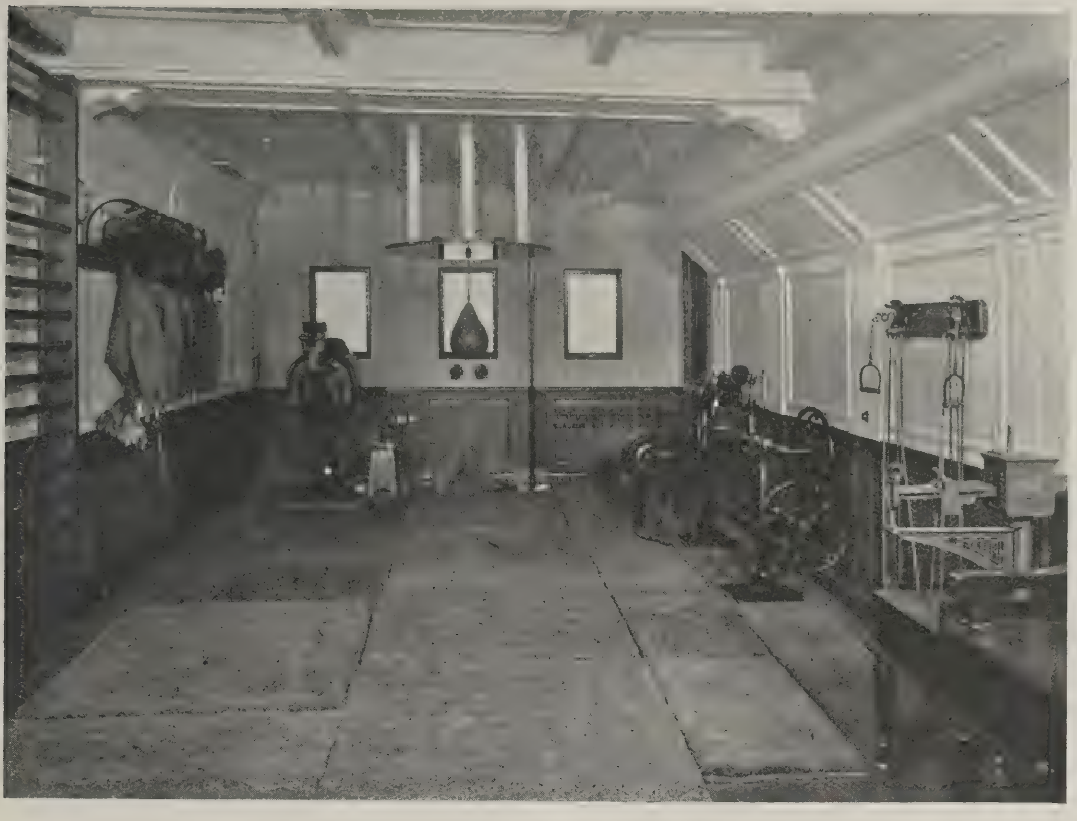


THE "ORDUNA": FIRST-CLASS SMOKING-ROOM.

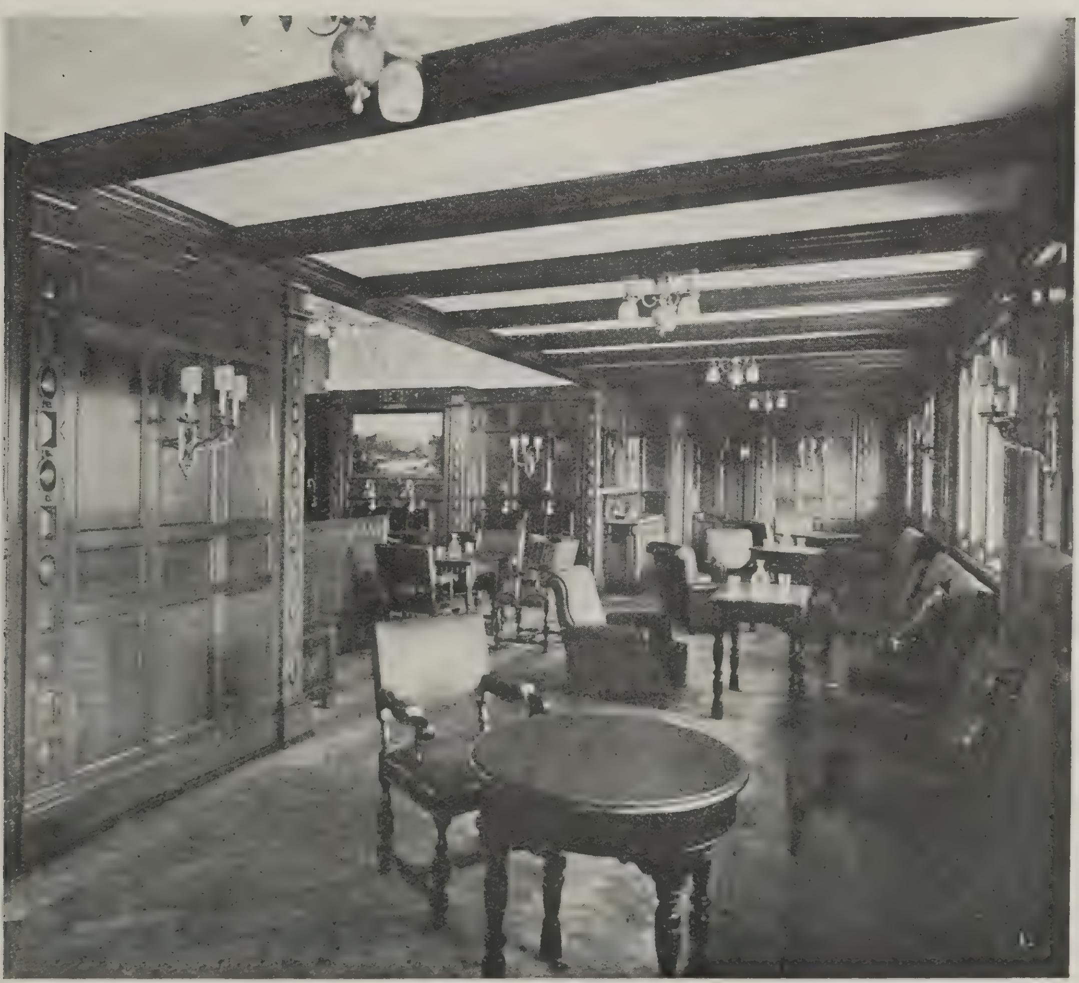


Royal Mail Steam Packet Co.

THE "ANDES": CABIN DE LUXE. CHINTZ ROOM.



GYMNASIUM.



Royal Mail Steam Packet Co.

FIRST-CLASS SMOKING-ROOM.

THE "ORDUNA.

decorated in a similar manner. A glass screen with sliding panels separates the two saloons.

Messrs. Harland and Wolff, the shipbuilders, were responsible for all the interior decorations.

The "Orduna"

The first-class smoke-room of the "Orduna" is panelled in slightly fumed oak carved in the Jacobean style. Over the fireplace is a handsome painting of a scene in the town of Orduna. The furniture is of oak and is upholstered in green leather. A raised roof has been constructed over the centre of the room. There is a coal fire, and a bar and lavatory accommodation.

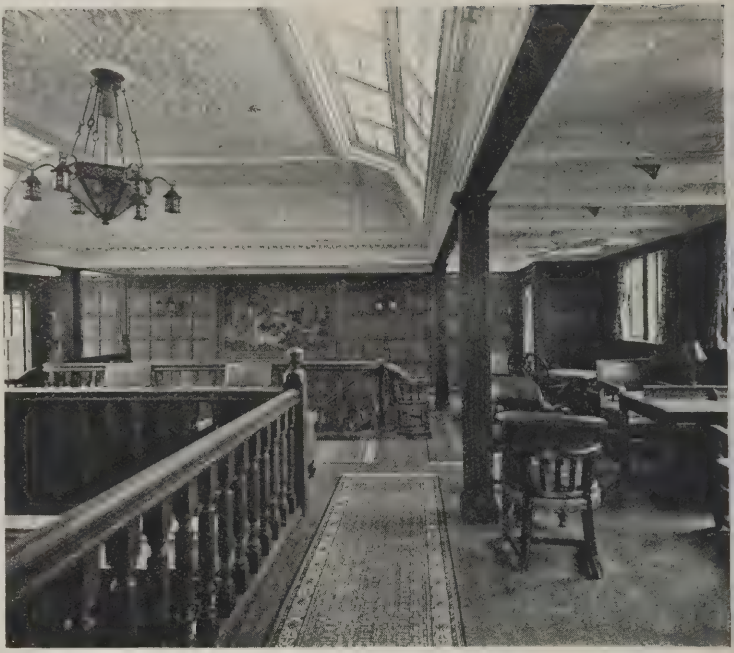
The gymnasium is situated on the promenade deck. The walls are finished in white enamel with an oak dado, and the floor is of linoleum tiles in green and white. The following machines are supplied: hydraulic rowing machine, punch ball, ladies' and gentlemen's riding horse, wrist machine, weighing machine, height recorder, wall bars, foils and helmets, dumb-bells, boxing gloves. In this room is an illuminated map of the world.

On the main deck is the first-class dining saloon which extends the full breadth of the vessel, and is arranged to seat 169 persons. It is treated in the Georgian manner, and is finished in white and gold; at the fore end are paintings. There is a large sideboard forming a cold buffet table and six dumb waiters, and small round and rectangular tables are arranged in restaurant style.

The "Almanzora"

The interior of the "Almanzora" illustrated, is lit from the top and the sides. A special feature of the room is the ceiling which, in the centre, is raised and supported by columns. The ceiling is enriched and panelled with elaborate mouldings, the centre being marked by an electric light pendant. The walls are panelled, and the floors laid with mats.

Messrs. Waring and Gillow were responsible for the dining-saloon, winter garden, smoke-rooms, main stairway, and entrances; Messrs. George Jackson and Sons, Ltd., for the plasterwork; Messrs. Thornton Smith for the first-class social hall; Messrs. Trollope and Colls for the *cabines-de-luxe;* and Messrs. Harland and Wolff for the cabin accommodation and second- and third-class public rooms.

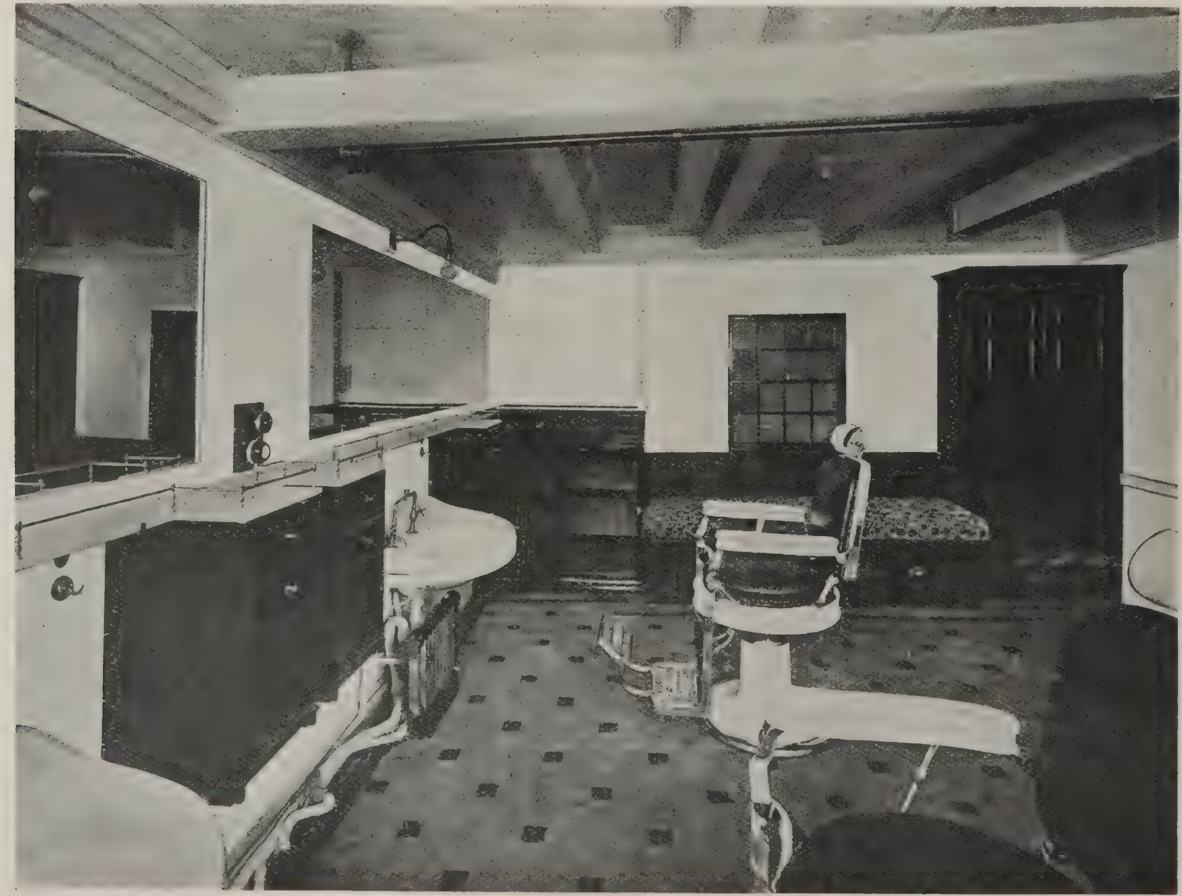


R.M.S.P. Co.

A VIEW IN THE "ALMANZORA."

We learn that Messrs. Doulton & Co., Ltd., supplied sanitary fittings, not only to the "Aquitania," as mentioned on page 552, but also to the "Berengaria," the "Andania," and the "Empress of Canada," among the other ships illustrated in this issue.

Below is a view of a hair-dressing saloon on a Cunard liner, installed by the Vitrolite Construction Co., Ltd.



A HAIRDRESSING SALOON ON A CUNARD LINER.

The Heating & Ventilation of Passenger Ships

By J. L. MUSGRAVE, M.Inst. H. and V.E.

IN the last twenty years or so the large steamship companies have indicated a most progressive spirit in their efforts to improve the amenities of ocean travel; each succeeding ship has shown an advance on the last in the provision of greater comfort and more luxurious decoration. Not only have ships increased in size and speed, but the introduction of improved means of propulsion, such as geared turbines, oil-fired boilers, etc., have permitted the allocation of larger spaces for the accommodation of passengers, and have facilitated the introduction of light and air to various parts of the interior which, a few years ago, would have been considered impracticable.

Many of our first-class ships will compare most favourably as regards interior decoration with the finest buildings, and in fact almost everything that can be done is done to make the passenger forget that he or she is at sea.

It has to be admitted, however, that the methods of heating and ventilation, with few exceptions, have not progressed at the same rate as the other great improvements. At the best, the heating and ventilating arrangements on passenger ships do not compare at all favourably with the average important building which, in these days, is provided with the latest equipment for warming and ventilating; fresh air of requisite humidity is distributed at various temperatures to different parts, according to requirements, and at the same time vitiated air is extracted from all portions of the building. An interchange of from 1,500 to 2,000 cu. ft. of air per person is frequently provided. Devices for cooling the building in hot weather are also fitted on occasions.

Ships are frequently likened to "floating hotels," but a more correct simile, when referring to some of the modern leviathans, would be "floating towns," with a population of 2,000-3,000 or more confined within the limits of each for periods of one week and upwards.

In considering the necessities of air supply to such large numbers of people, the various conditions which may prevail at different times have to be taken into account. Those ships plying across the North Atlantic between Europe and America have to cope with the heat of the American summer and the intense cold of the North Atlantic winter, where zero temperature Fahrenheit is occasionally met with. Frequently during a single voyage considerable variations of temperature take place, the transition from one to the other being extremely rapid.

Passenger ships journeying to South Africa, South America, Australia and New Zealand, etc., present an altogether different problem, however. They have to be prepared to meet the conditions prevailing when approaching or leaving home ports during winter, and, in the case of those visiting South America or New Zealand, in the extreme southerly regions during the cold season there; but the greater part of the voyage takes place in warm or torrid zones. Ventilation, and plenty of it, is the necessity in each case, with adequate means of warming in the cold regions and means of cooling in the hot regions.

It must be confessed that, except in few instances, the problem has not been adequately dealt with, and in spite of the huge sums that are spent in the construction and equipment of the luxurious ocean liners of the present day, the all-important questions of heating and ventilation have not received the consideration and attention they deserve from the owner, designer, or builder.

It is desirable to point out that there is a vast field for investigation and enterprise in this direction, and to those responsible for the design and construction of ships it should be said that the assistance of the heating and ventilating engineer and his scientific application of the art would materially improve the amenities of their ships by increasing the comfort of passengers and crew, and thereby add to the number of the former and the efficiency of the latter; and that any slight additional expenditure that may be entailed would prove a sound commercial investment owing to the introduction of more efficient means of application and more economical methods of working. Admittedly, the difficulties that have to be met are many and intricate, but hearty co-operation between those responsible for the design and construction of the ship, and the heating and ventilating engineer, would speedily overcome these, providing the individuals concerned are brought together in the early stages.

When designing an important building, the architect consults the heating and ventilating engineer at the commencement of the designs, and embodies therein space for the accommodation of the plant and ways for ducts, pipes, etc., as well as the approximate positions of his ventilating inlet and extracts. While these, possibly, have to be modified from time to time as the work proceeds, the general principles having been adopted, the ultimate success of the scheme is assured.

The naval architect is confronted with a similar problem, though probably of a much more complicated nature. The spaces that may be allotted to various services are much more restricted, permissible weight has to be considered, and in addition there are the requirements of the various governments and shipping authorities that have to be met.

One would be led to expect the earliest consideration of the various problems, but in practice, unfortunately, one finds that, beyond certain general outlines of a heating and ventilating scheme, the actual working out of the scheme, more often than not, is left to the shipbuilder to develop, nore or less as the work proceeds. As every inch of the available space is claimed for either the electrician, plumber, automatic door operating gears, fire hydrants, etc., and the numerous other devices which are vitally necessary, the path of least resistance is usually taken, and the ventilating ducts are curtailed. Sometimes this cannot be avoided, but with a live and keen heating and ventilating engineer on the job, determined to provide the guaranteed results for which he had been made responsible, a way round would generally be found. One frequent cause of mediocre results is the divided responsibility. Usually the ship specification includes provisional sums to be expended on the purchase of fans, motors, heaters, etc., the duct work being left to the shipbuilder to include in his general quotation for the hull, no definite scheme being first laid down. The spaces to be ventilated are mentioned, and by "averaging" costs of similar work on previous ships, a price of some sort is included in the tender.

As the work proceeds, fans, motors and heaters are purchased to fulfil certain specified duties, usually all standardized, irrespective of the various functions they have to perform, and in only rare instances has the volume to be dealt with, or the resistance been scientifically calculated. Rarely has the manufacturer of the apparatus any voice in the run, area or arrangement of the trunks in connection with which his apparatus has to operate. For convenience in passing through the restricted spaces, if for no other reason, the duct manufacturer will curtail his work to the least possible area, leading to high-water gauges and high-power expenditure for operating the fans.

Furthermore, the high air speeds usually entail a high speed of emission through the inlet to the cabins or spaces, causing unnecessary draughts which would not be endured in other circumstances, and frequently, to pacify the passengers, the ventilating system to some parts has to be run at reduced speed, therefore the full benefit of the plant, on which so much money has been expended, is not obtained.

Most of the shipping companies and the shipbuilders employ most capable and experienced men on the heating and ventilating systems, but frequently they have not the status to enforce their views in the event of a conflict between claims for space by some other sections.

There is a serious tendency to neglect the provision of adequate means of exhausting vitiated air. Unquestionably this neglect is the principal cause of the oppressive atmosphere which so frequently exists on passenger ships at sea, particularly in bad weather, when portholes and other means of natural ventilation necessarily must be closed.

The large volumes of air introduced by the supply fans must, of course, find an outlet somewhere, but it does not necessarily follow that the fresh incoming air displaces the vitiated atmosphere.

We have many unfortunate and notorious examples of this in public buildings, and it is now the recognized procedure to provide what is practically a balance system of ventilation, in which well-placed extract openings, situated generally near the sources of vitiation and connected to powerful fans, set up a continuous movement of air throughout the spaces being dealt with and prevent the accumulation of air in stagnant pockets.

(The foregoing extracts are from a paper read by Mr. Musgrave before the Institute of Heating and Ventilating Engineers.)

The R.I.B.A. Visit to Westminster Hall

A LARGE and interested company of architects and their friends have paid a visit to Westminster Hall to inspect the famous 14th-century hammer-beam roof. The party, numbering between 100 and 150 persons, was met by Sir Frank Baines, M.V.O., the Director of His Majesty's Works, and taken in the first place to a committee-room, where he gave them a most interesting account of the historical and architectural associations of the great roof and the works recently undertaken for its conservation under his charge. His remarks were illustrated by some beautifully executed drawings, made available for the visitors, and by the use of a wooden model of the roof showing the principle of its construction.

Sir Frank Baines referred to the very interesting find of the original eleventh-century Norman walls and arcading, revealed during the works incidental to the preservation of the roof, and details of which he has had carefully recorded on drawings. The foundations of these walls were, most fortunately, taken down to the old ballast bed of the Thames, so that it was possible, when the great timber roof was undertaken under the charge of Hugh Herland (the King's Carpenter) towards the end of the 14th century, to place it upon what was practically the original walling of the great Hall, though thickened with additional material.

Sir Frank described at considerable length the various features of the old roof, and, like his hearers, was full of admiration for the mechanical knowledge and constructive skill of the craftsman responsible for its design. He pointed out that but for certain failures since Herland's day—for which the Master Carpenter could hardly be held responsible—and the extensive depredations of the Death-watch beetle (*Xestobium tessellatum*), only recently discovered by him, this splendid roof would probably have been in as sound and secure a condition at the present day as at the time of its construction. Instances were given of mistaken methods of dealing with the roof in modern times, some of which had unfortunately had the effect of radically altering its statical condition and of partially, if not wholly, going counter to the original constructive principle. Distortion from various causes was found in most of the old timbers.

The clue to what was the really serious source of peril to the roof was discovered by Sir Frank Baines himself when, as a youth, he climbed with great daring ladders erected by workmen from the floor to the roof timbers, crawled along a beam, and found cavities in the main timbers, from which interior portions of wood, eaten out into channels and holes, could, without difficulty, be detached. The opportunity came to Sir Frank Baines to apply the knowledge he had obtained in this way, when, as Director of Works for His Majesty's Office of Works, he became responsible for the care of the roof, and the carrying out of a thorough examination became possible on the lines of his earlier discovery. He then ascertained that the greatt imbers of the roof were eaten almost completely away in portions by the depredations of the insect, and were in far worse condition than he had imagined to be possible—so much so that a human being might almost conceal himself in the resultant cavities formed in the main timbers. It was, indeed, made clear to him that little short of a miracle had enabled the roof to stand, and that but for the great arched ribs that form so striking a feature of the roof, it must inevitably have long ago collapsed.

In seeking a remedy Sir Frank Baines appears to have proceeded on the basis of preserving all that was possible of the original work, but reinforcing what was left of the old timber with steel, and making good (in new oak from the original Sussex forest) where renewal of the wood was essential. In this way between 300 and 400 tons of steel have been placed in the roof in a manner calculated to give the original work the most effective support, while from the floor of the Hall the new steel members will probably hardly be seen—the aspect of the roof being almost precisely what it originally was.

It is important to note that the old timber is utilized to do whatever effective work is still possible to it, in conjunction with the new steel reinforcement, a condition to which Sir Frank Baines attaches great importance. The timber has been carefully treated with a solution that has not only destroyed the grub, but that may also—it is hoped—prevent the insect ever again finding conditions suitable for its existence in the timbers. The manner in which the old work had been eaten away is almost unbelievable, but fragments of old wood to be seen on the floor of the hall show very vividly how serious and complete were the destructive effects of the insect upon it.

Following Sir Frank Baines's highly interesting lecture, he was good enough to lead the party over the various stages of the roof itself, and to explain every portion of the work in detail upon the spot, encouraging his visitors to ask questions, and so leave, as far as possible, nothing in doubt or unexplained. The facilities so courteously offered for this visit could, indeed, hardly have been bettered. The beauty of the golden-brown colour of the original wood is very obvious on a near view, and there is every indication that it has been sympathetically and carefully conserved to the fullest extent possible.

The floor of the Hall was regained about 5.30 o'clock, when Mr. Francis Hooper, F.R.I.B.A., very happily expressed the thanks of the visitors to Sir Frank Baines for the large amount of trouble he had taken to make the visit instructive and interesting, together with a tribute to the skill and sympathy so obviously shown in all that was done. The motion was, it need hardly be said, carried with enthusiasm.

A very definite impression is undoubtedly left of the advantage to Architecture of having this wonderful 14th-century roof—representing a type of mediæval design and standard of craftsmanship almost without parallel in the world—now left in a condition to make it secure for, one may hope, many centuries to come.

The Manchester Town-Planning Exhibition and Conference

MANCHESTER never does things by halves, and the recent town-planning exhibition and conference organized by the Manchester and District Joint Town-Planning Advisory Committee has been one of the most successful ever held in this country. The Joint Town-Planning Committee consists of representatives from seventy-six local authorities immediately contiguous to the City of Manchester, and the problem of the industrial districts of South Lancashire with regard to town-planning and development is one of the most important anywhere in England. To focus public interest and to vitalize the civic spirit of the whole region nothing could have been better than such an exhibition, showing what is being done in town-planning all over the world.

Town-planning is fast becoming an imperial matter, and the plans exhibited in the Manchester Town Hall illustrated both the art and the science of the subject. There were big schemes from all the industrial towns of the north, and a very representative collection of plans and drawings dealing with towns, ranging from America to India, and in Europe from France and Germany to Scandinavia.

A specially fine set of plans in the large hall illustrated the Manchester district from almost every point of view—its public open spaces, its contours, the traffic densities of its main roads, its railways and canals. One saw at a glance all the salient facts with regard to the region, its drainage areas, its water supply, its gas authorities and electricity undertakings, its rainfall and its sunshine.

The historic growth of the various communities and local government authorities in the area in and around Manchester, and the gradual development of buildings and new streets during the last half century were very clearly shown by diagram after diagram contributed by such authorities as Rochdale, Bolton, Bury, Eccles, Hyde, and Rawtenstall.

In the adjoining rooms were examples of civic survey work carried out in America and Madras, in Sheffield and Leeds, in Birmingham and in the South

Wales region, as well as an example or two of the work carried out by the R.I.B.A. Civic Survey of Greater London. Most of these civic survey exhibits showed in diagrammatic form statistics of railway time zones, tramway time zones, population and traffic densities, position of industries and open spaces. Other diagrams showed insanitary areas and the position of the "back-to-back" houses, which form such a blot on some of our northern towns.

Civic surveys have been carried out in quite a number of towns, and graphic diagrams such as these are probably the readiest means of bringing home to the citizen the weak points of his own city as compared with similar communities elsewhere.

Of town-planning schemes under the Act, the most outstanding examples exhibited were those of Manchester, Bolton, Bradford, Rochdale, Leicester, Birmingham, and Sheffield, together with some of the smaller urban districts adjoining. Of foreign town planning and city development there were many examples from America and Germany, and one or two excellent French examples, showing the reconstruction of such towns as Rheims and Lille, and also illustrations of what is being done in Salonica and in Bombay.

The London Society's map for the development of Greater London and the various regional town-planning schemes at Doncaster and elsewhere formed a large and important section of the exhibition. Noteworthy, too, were the diagrams of zoning as practised in many American towns, and the numerous forms of road sections in use in the arterial roads now in course of construction in various parts of the country.

Garden cities and suburbs and housing schemes were well represented, and open spaces and parks had a special section, showing the laying-out of parks and the linking up of parks and playgrounds by the pathways which are now becoming so general a feature of American cities. The drawings showing the improvement of Dundee deserve special mention, and also the very excellent models exhibited by a firm at Shipley.

An excellent exhibition, indeed, and one of great educational value, as was instanced by the great crowds of visitors and scholars from the secondary schools who flocked through the galleries of the hall.

If a criticism may be permitted, it is not in the subject matter of the exhibition, but in the rather too frequent use of ordnance maps, which are excellent for the expert or the council, but to the general visitor are not apt to convey facts quite so readily as a pictorial diagram giving the same information in a more pleasing form.

There was, indeed, a good deal of truth in the comments of an "impressionist" reporter from one of the local Manchester papers who commented upon the vivid splashes of colour on the maps, and speculated as to the possible hidden meanings of the "futurists" who had been responsible for their perpetration—in other words, there were, perhaps, too many plans and not enough "pictures." The models, although few in number, attracted great interest with the general public. One thing clearly brought out by the exhibition is, that in town-planning matters the expert adviser is beginning to come into his own, and especially, perhaps, in regional planning is it essential to have the guidance of an architect and town-planner of the widest possible breadth of view.

The conferences, which lasted from Monday to Thursday, followed by the meeting of the Town-Planning Institute, were full of interest throughout the week, and seldom has one heard papers and addresses of such a high level.

The conference was splendid; the exhibition stimulating and instructive. From the architectural point of view, it may not, perhaps, have been quite so magnificent as the R.I.B.A. Town-Planning Exhibition at the Royal Academy in 1910, but for examples of actual town-planning work in hand it more than equals the exhibition of twelve years ago.

Considering the long years of war, which terminated barely four years ago, it is indeed a matter for congratulation that Manchester should have been able to exhibit such a wonderful and widespread collection of plans, diagrams, and models from all parts of the world. Manchester has given a most valuable lead to the whole country.

W. R. DAVIDGE, F.R.I.B.A.

The Sociological Aspect of Town Planning

By E. G. Culpin

IN the consideration of any rational system of town planning the first factor to be borne in mind is the sociological one. Other factors demand attention; the highest skill of the technician must be drawn upon throughout the process, but foremost as well as first must be that human aspect which lifts town planning out of the realm merely of art and science and constitutes it a living, palpitating study of the proper mode of life and the fittest manner in which to give expression to the legitimate aspirations of humanity.

It is a truism that one of the most potently determining factors of human existence is the environment in which the human animal passes its time. Slum conditions will make slum dwellers, and criminal associations will create criminals. It is only the exceptions where man is superior to his environment. If this be true, it is easily demonstrable that town planning can have in it the most potent germs for human betterment, and just as the evil, haphazard conditions of past generations have resulted in a terrible legacy of ill health and crime, so the making of sanitary towns, spacious thoroughfares, hygienic homes, beautiful surroundings, and parks and open spaces of real recreative value, shall result in a better standard of inhabitant, and tend, if only gradually, to the ennoblement of the race. The unit of the city is the citizen, and in considering the development of the city, anything which ignores the well-being of the citizen, wonderful and beautiful as it may be, is misplaced energy. Life for its maintenance depends upon sunlight, air, food, clothing, shelter, and all these, with the possible exception of clothing, are influenced by the method in which the town is planned, and the town planning of new areas can vitally affect each one of them.

The great difference between town planning in this country and the town planning that had gone before it, particularly in France and Germany, is this sociological basis. Formerly we have had schemes of magnificent roads, of beautiful public buildings and wonderful vistas, but many of them were brought into being solely for the aggrandisement of the city or an individual, and many schemes were merely military proposals designed to facilitate the easy transport of troops or to secure dominance over the inhabitants. Thus it has always seemed to me that British town-planning proposals started from the other end. It was not with the idea solely of making the city more beautiful or more convenient that town planning was here first preached, but because by properly planning the area, the home of the worker could be secured in the proper surroundings at a reasonable price and accompanied by those amenities of life which would go far towards the building up of a better type of manhood.

In this respect I regret that our Town Planning Institute, when breaking fresh ground and creating a new organization to deal with a new and better condition of things, should not have recognized the sociological side of the movement by admitting sociologists, as such, as members. Town planning should be an expression of the science of civics, and Professor Geddes has defined civics as applied sociology. Since the industrial evolution converted our rural population into an urban one, with the resulting urbanization of the great bulk of the population, it becomes more and more important that the urban well-being of our people should be properly studied.

One great difficulty, indeed, is the definition of what we mean by town planning. It may be so little and it may be so much. The construction of main arterial roads and provision for a town's growth in the main services are thought to be enough in some instances, while others are not satisfied until their scheme covers, as did Mr. Ebenezer Howard's proposals for a garden city, practically every factor of human life, or, in short, opening the way to a newer, cleaner, saner method of life, brought into being without any upheaval of existing systems, but merely by the application of common sense to the affairs of municipal life and government.

And the question of definition is not aided by our present law and practice. At the present time we are only planning town extensions, fixing traffic routes, determining the use of land, regulating growth, and great as is this advance, we have to contemplate something much bigger. In order effectively to house our population and bring some joy of life to the present slum dwellers we must sooner or later contemplate town replanning and be given powers more easily to cut away the festering wens of city life and open up the congested areas. We must be thinking of complete town planning—the building of complete new towns in spots where they ought to be; and we must have country and district planning if our work is to be truly effective. The growing rural areas of to-day are really the places where planning would be really most effective, because it would prevent the indiscriminate urbanization of still unspoiled countryside, and the time is rapidly approaching when natural forces will compel us to a consideration of the query as to whether a limit must not be placed upon the growth of our towns; whether, in fact, after a certain point has been passed, the continued growth of any town is not a menace to its own health and security.

Here again the question of civic importance and justifiable civic pride will largely affect the issue, but at this moment we are considering the needs of society, the well-being of the citizen unit, as being of paramount importance. The cry of "big city" for the sake of "big city," as of "art for art's sake," does not ring true to human experience. Big city must only be allowed when it is demonstrably proved that it is going to secure a happier, healthier existence for its humblest citizens than is possible in smaller city.

I am quite aware of the heresy which, according to many people, I am here expressing. I know the arguments for the big city from many points of view and can appreciate them. But I want to submit also that there is a prior claim to all these, and that even these things could be at least as effectively secured by scientific social planning although a limit were placed upon expansion. To take the latter point first. In a properly preplanned area, belts of park land and cultivated land which separated each unit could be so crossed by proper means of transport that the units would be in close touch with each other and with a common centre—in closer touch, in fact, than some neighbouring districts of our large towns are to-day. But there are other reasons why we should consider whether a limit should not be placed upon the growth of brick and mortar. Is it well that town should be grown into town and absorb town and village with the resulting urbanization which we see to-day in parts of Lancashire? By driving the open country farther from the dwellers in the centre are we not depriving them of something very precious, even if it be not properly appreciated by the victims themselves?

Can you not conceive a model state in which there was a real country and regional planning authority which should look at this suggestion from a bigger viewpoint? This authority would examine the housing needs for the whole area, but with this would also consider the necessities of trade and commerce and agriculture. It would consider the agglomeration of population and also the bare tracts of land suitable for development, and it would decide whether Manchester or Bolton or Rochdale was really the best place to increase, or whether national good would not be better served by grouping together some of the new industries required with some of the new houses required and creating afresh upon virgin soil, with none of the evil heritages of the past, a model community, properly planned and properly equipped for the rearing of a race of virile men and women fitter for the realization of the destinies of the Anglo-Saxon race.

Of course, the *reductio ad absurdum* could be applied to this argument, but I am not contemplating that shipbuilding should be transferred to the West Riding or that regional industries should be dislocated. And also I am not blind to the fact that drastic changes would be necessary and that in all probability vested interests would prevent anything so sensible from ever being carried out. What I want to impress is the power which town and regional planning has within itself for affecting the life and happiness of the citizen, and to ask you whether mere local patriotism has the right further to divorce humanity and nature.

In the consideration of such a conception of town planning we shall look for help to those movements which have so largely directed attention to the study of the city; to such societies as, pioneered by the Beautiful Oldham Society, have not ceased to preach the glorious gospel that beauty and the love of beauty is an asset of incalculable value, whose loss through the sordid period of industrial expansion has more than anything else lowered the moral fibre of our nation; to the civic survey and the regional survey, which have given us knowledge of the complications and implications of civic life; and to the growing consciousness of educated democracy, determined to leave a heritage of goodwill and opportunity.

The sociological aspect of town planning is the citizen's aspect, and the citizen must see that it is made paramount, so that the result of town planning may be not merely grandeur and beauty, but in addition that, just as the child of the wealthy citizen can enjoy the luxuries of the private garden, the private park, the private recreation room, the private museum and library, so through the proper disposition of our municipal resources the child of the humblest citizen shall enjoy these in the public garden, the public park, the public library.

Town Planning Necessary for Industrial Efficiency

By Thomas Adams

If we are to make out a prima facie case for the claim that is implied in the title to this paper, we must first be prepared to recognize town planning as the planning of towns. To plan a town means that we must have regard to its elements and functions as a social organization as well as to the composition and character of its physical or structural growth. A town exists because of some industry or industries, and the well-being of these must be the primary consideration of its citizens. Therefore the first problem that confronts the town planner is how to improve the facilities of the town for carrying on its industries, and what are the social, economic, and physical improvements needed to make these industries more efficient. An economic and industrial survey should be an essential preliminary to the preparation of the plan of a town. The relation between its constituent parts and functions should be studied and the order of their importance ascertained. Hence a town plan should relate to all forms of growth within and surrounding a town, and to the whole of its area whether built upon or not. In that sense we have hardly begun to plan towns in this country.

When we plan a town we must have regard in our studies to conditions, tendencies, relations, and needs in the following order:—

1. *Industrial Development.*—Whether it be manufacturing, distributing, agricultural, governmental, educational, or recreational.
2. *Housing Conditions.*—Including control of the surroundings of dwellings.
3. *Public Services.*—Necessary to provide facilities for successful industry and wholesale living conditions, comprising transportation by rail and water, means of communication by road, water supply, drainage, recreation, education, etc.

When we place any service such as road communication first, we get the wrong perspective, although no part of a plan can be prepared without simultaneous study of all the factors in town development.

One of the first duties in preparing a plan of a town is to make a survey of its industries and economic conditions. In making and advising regarding surveys of this kind on both sides of the Atlantic, I have found it of importance to ascertain the views of manufacturers and business men. It is interesting to note the different attitudes of leaders of industry, especially as between those in America and England. American manufacturers are thoroughly alive to the value of town planning in promoting industrial efficiency. It was the Commercial Club of Chicago that promoted the plan of Chicago at a cost of £100,000 raised by private subscriptions. One of the greatest Chambers of Commerce in the world in the industrial city of Cleveland devotes a large part of its funds and organization to town planning. In three American cities that I was engaged in planning last year the work was begun at the instigation of the Chambers of Commerce, all largely manned by manufacturers. In England the manufacturer up till now has looked with indifference, if not with suspicion, on town planning, whether because of the limited scope of our town-planning operations, or because of his lack of appreciation of its advantages I cannot say. At any rate, I find that manufacturers themselves organize the making of a survey into their industries in the States, and here they are prone to question its value and to look somewhat askance at any questions addressed to them, although when the matter is explained to them they show a willingness to assist.

Some indication of the scope of an investigation may be given by summarizing a few points that influence a manufacturer in selecting a factory site, according to the opinion of manufacturers who have been approached in towns in England, Canada, and the United States. These are :—

1. Comparatively level sites with good access by road where works can be economically built and good facilities for distribution can be obtained.
2. Low priced land, so that sufficient can be acquired at reasonable cost to permit of the best arrangement of buildings and room for future expansion.
3. Access to railways for certain industries with room and gradients suitable for the most efficient and economical arrangement of sidings; or access to good arterial highways for light industries, dependent on motor haulage, for ingoing and outgoing traffic.
4. Availability of tracts of land of varied character to suit different classes of industry.
5. Proximity to gas and electrical works so as to save distribution costs.
6. Facilities to reduce cost of handling and cartage to the utmost extent practicable.
7. Co-operative action by local authorities under expert advice in providing suitable sites and facilities for industries, including the development of modern methods of transportation by water, rail, and road, and the necessary terminal arrangements.
8. Proximity or easy access to dwellings, so as to save waste of time and money in travelling of workers to and from works.
9. Supply of skilled labour.
10. Suitable atmospheric conditions.

In one form or another and in varying degree these matters have a connection with the plan of a town. Our present slapdash methods of urban growth hamper manufacturers in many directions in trying to obtain the facilities needed to carry on industry efficiently. Much of the fault lies in not having our towns planned as great industrial plants, on which full consideration is given to the needs of industrial development outside as well as within the doors of the factory.

The Manchester region is the most extensive manufacturing region in the world. That is a thing to be proud of. Is it also the healthiest and best equipped industrially ? That would be a better thing to say. While it comprises a series of separate towns with Manchester as the centre, it is really one great metropolitan region in which no part or separate corporate area is without relationship to, and dependent on, the others. Each town in the region may be described as a separate unit in one great industrial plant.

It is well that this great centre should recognize its family connections with the group of manufacturing towns that surround it. Speaking of industrial Lancashire, an American has stated that Oldham is the true type, not Manchester. Does this type need a town plan ? A commentator describes Oldham as a place with a modest town hall and a wretched and depressing station. But the people of Oldham, if modest of their public buildings, love beauty and appreciate education. They love flowers—grown in the South of France—and they respect themselves enough to have a vigorous and efficient corporation. But there is ugliness in Oldham that is unnecessary, and enterprise in Oldham that is going to waste because of the need of co-ordinated effort to plan for the future.

My final word is that if any proof is needed of the importance of town planning as an aid to industrial efficiency, it is to be had in this part of the country where a remarkably virile, highly educated and progressive people, entirely dependent for its being and well-being on the successful development of its industries, and the efficiency of its means of distribution, is still drifting along in the grip of avoidable evils of congestion, traffic disorganization, crowded and mean streets, unsightly surroundings to their homes, and the consequent weakening of the whole industrial fabric. There is no place in the world where the combination of science and practice has been so closely knit in developing its industries, and yet where there has been any greater divorce between science and practice in the matter of town development. Individually there is a passion in this part of the country for those forms of beauty that are not divorced from utility; for a high degree of orderliness and tidiness that is instinctive in its womanhood; for corporate dignity, native patriotism, and leadership in industry. If the time arrives when these individual traits can be made a collective passion, then we shall have a new Manchester School—still true to its ideals of personal liberty—but true also to new ideals of public well-being and efficiency in town development, that shall point the way to industrial progress in the future.

Garden Cities and Satellite Towns

Letchworth and Welwyn

By Ebenezer Howard

IN 1898 I published "To-morrow—a Peaceful Path to Real Reform," afterwards republished as "Garden Cities of To-morrow."

The primary object of that book was to show how the twin evils of the overcrowded city and the depopulated countryside—evils long recognized and universally deplored—could be gradually dealt with, and at length entirely removed by a bold, yet extremely simple and practical policy of reconstruction, which could be started upon in the first instance by a small section of the community. The plan suggested was the building of an entirely new and well-planned town—industrial, residential, and agricultural—a town which, as it developed, would combine more and more fully the advantages of town and country life, and would, like a magnet, draw the people towards it. And I suggested that this work should be started upon without waiting for Governmental aid, as one knows how seldom can the State be induced to support any measure, however obviously practical and valuable, until much pioneer work has been successfully accomplished and a demand for national action on a large scale created.

The Garden City Association in 1902, under the chairmanship of the late Mr. Ralph Neville, K.C. (afterwards a judge of the High Court), took steps which resulted in the formation in 1903 of the First Garden City Company, and the acquisition of 3,818 acres of land in Hertfordshire (about twelve miles north-east of Hitchin Junction) on which to build the new town. The total population on that area was then about 250, of whom 75 lived in the decaying village of Letchworth.

The cost of the land (which was in the hands of about fourteen different owners) was £151,000, or about £40 an acre, including timber and buildings.

Great possibilities at once arose from this welding together of fourteen small properties into a single large one, acquired by a company formed to render the community a great public service, and which limited its dividends to 3 per cent. cumulative, all profits beyond those to be expended for the benefit of the town or its inhabitants. For the directors acquired as landowners powers to do many things for the development of the town, some of which even a great city like Manchester does not possess; for while a private landowner can do with his property anything that is not contrary to law or injurious to others, a local authority may only do what it is by Statute expressly empowered to do, and is frequently greatly hampered by the ownership of much of its area being in the hands of private individuals.

Armed, then, with very wide powers, extending over an area of six square miles, and with the great advantage of a practically "clean sheet," the First Garden City Company, without the delay and expense which would be caused by seeking Parliamentary powers, at once proceeded to do some very important and practical things.

First, under the advice of Messrs. Parker and Unwin, a town plan was prepared, a step which the Town Planning Act, passed six years afterwards, expressed by implication its strong approval of, while the appointment of Mr. Raymond Unwin by the Ministry of Health as their chief site-planning architect, shows that the company had been wise in its selection of an expert. I am also proud to recall that Mr. Thomas Adams, the first President of the Town Planning Institute, gained much practical knowledge of land development as manager of the First Garden City.

The new town of Letchworth was to be "planned for industry and healthy living," and therefore the first question to be settled was as to the most suitable site for the erection of factories and workshops.

For this purpose our town-planners

wisely selected an area of about 150 acres, approximately level towards the east of the town, and on the north and south sides of the Great Northern Railway, to which sidings could be readily laid.

And now there have been established, and chiefly on that site, more than fifty factories and workshops, including various large engineering works, steam laundry, motor works, geyser works, printing and binding works, works for the manufacture of scientific instruments, lace and embroidery, bi-focal lenses, corsets, agricultural engineering machines, furniture, silk weaving, etc., etc.

On this factory area there are—with the exception of two or three caretaker's cottages—no dwelling-houses; and the industries are to a surprisingly small extent ever in unpleasant evidence.

Under the company's land-owning powers a drainage system (since taken over by the U.D.C. of Letchworth) has been well carried out, also waterworks, gasworks, electric power works. Indeed, the company is supplying the town of Baldock with pure water in bulk—thus meeting a crying need of a neighbour—and will shortly be supplying it with electricity.

Briefly, then, in the centre of the wilderness of 1903, there has arisen an extremely healthy, airy, clean, well-planned, beautiful, and steadily growing town of 11,000 inhabitants—with varied industries and a large agricultural belt. Thus has been quite literally realized the dream of Ruskin : for "from any part of the city fresh air and sight of far horizon is reachable in a few minutes' walk."

There is no overcrowding of houses upon the land—never more than twelve cottages per acre, thus allowing of good gardens. There are numerous playing fields and open spaces within the town, an open-air swimming-bath, boys', girls', and other clubs, schools, halls, churches, museum, cinema, cottage hospital, etc.

Now, certainly up to the close of the war I had never expected to take any active part in the raising of a second Garden City. However, about three years ago opportunities arose in a very astonishing fashion, which made possible the acquisition of a truly splendid and most suitable site twenty-one miles from London, which I had often to cross by train, and viewed with longing eyes on my way to and from Letchworth.

The Welwyn Garden City Estate embraces an area of 2,378 acres, and is the freehold property of the Welwyn Garden City Company. The property is from 250 ft. to 410 ft. above the sea level. There is an abundance of gravel and sand. Much of the scenery is extremely beautiful. The River Lea is near the southern boundary of the estate, and the River Mimram passes through the northern portion, the Mimram Valley being one of the beauty spots of Hertfordshire. The estate is intersected by the Great Northern Railway main line, and two branch lines (to the west to Luton and Dunstable—to the east to Hertford) have their physical junctions practically in the centre of the estate, near which the Great Northern Railway Company have built a temporary station, and have purchased 73 acres of land for a permanent station, sidings, etc.

It is intended to develop some 120 acres of land which lies to the east of the railway for industrial purposes, and Messrs. Murray, confectioners, of London, have taken a lease of ten acres, Messrs. Pease & Co., engineers, a number of acres, and have commenced operations. A small town of 1,300 has grown up, the population of the estate when purchased being 328. Modern sewage works have been constructed and sewers laid. The town is supplied with the company's water, with gas from the Welwyn and Hatfield Gas Companies, and with electricity from the North Metropolitan Company.

Two hundred and forty-three houses have been erected, and 101 are in course of erection. The County Council of Hertfordshire has purchased 2½ acres for a school, which is being erected. A restaurant near the station, and in very picturesque surroundings, has been opened, as well as a large general store. The New Town Trust Limited, which is working in close co-operation with the company, has been granted a lease of a considerable part of the agricultural belt, and is providing the town with a supply of Grade "A" milk, and with other agricultural products.

The chief difficulty that is experienced is in the provision of suitable cottages for workers. Fifty cottages of this class are now being erected by the Welwyn Rural District Council, and will shortly be completed. One hundred more will be started upon by the R.D.C. when the rate of interest is reduced to 5 per cent. If this difficulty of housing workers under really good conditions can be overcome, then we should quickly attract to the town from London or other overcrowded centres all the industries needed for the harmonious development of our town, and should thus help the nation to work in various ways towards the best solution of the housing problem, as well as many others with which it is closely associated.

The longer the housing problem remains unsolved, the more costly will it be to solve it. Let it not be said that the nation—that is, you and I—cannot afford that the workers should be housed properly. On the contrary, we cannot afford that the workers of this country should be enfeebled and discouraged and demoralized by living under the conditions in which millions of the people of these islands live. I know that there is a ridiculous notion abroad, held by people in authority, that this is not the time for spending, but for saving. On the other hand, I affirm that the truest method of saving is to spend wisely, and this is the more necessary after years of expenditure in that most wasteful of all forms of spending—War.

Progress of Peacehaven

Peacehaven, which was an area of almost waste land but two years ago, and is now on the way to become a garden city by the sea, has celebrated the opening of its first hotel. Situated on the cliffs between Newhaven and Rottingdean, this new town already boasts some 6,000 freehold plot owners, and more than 250 houses of the bungalow type have been actually completed. The Peacehaven Hotel, which is quite near the sea, has been built with a view to comfort, and is surrounded by well laid-out grounds. A large number of visitors went to Peacehaven as the guests of the South Coast Land and Resort Company, Ltd., and were entertained at a luncheon presided over by Lord Teynham, chairman of the hotel directors, who said the place possessed a building company, a water company, and electric light and power company, several shops, and a post office, and there were the beginnings of a church and a Nonconformist chapel.

Mr. C. W. Neville, the founder of Peacehaven, said there were only two buildings on the site a couple of years ago, and today, in addition to nearly 300 houses, they had eleven miles of water main, and a pumping plant to supply a town of 10,000 people was awaiting installation. Before another six months they hoped to have the place lighted throughout with electricity. Plans for a railway line connecting Peacehaven with London would be placed before the Railway Commissioners very soon, and it was hoped that work on the line would be commenced before long.

Coming Events

Thursday, October 26.

Institution of Mechanical Engineers.—"The Importance of Testing Materials for Manufacturing Purposes." By Mr. P. J. Worsley. North-West Branch : Annual Dinner.

Saturday, October 28.

A. and S.A.P.U., Metropolitan Branch. Visit to Royal Naval College and Greenwich Hospital. Mr. T. C. Agutter, F.R.I.B.A., architect to the college, will conduct the party.

Wednesday, November 1.

Glasgow Chapter of the Incorporation of Architects in Scotland.—Smoking Concert.

"The Cathedral of Rheims"

Sir Aston Webb will preside at the lecture to be given at the R.I.B.A. on Thursday, November 16, at 8.30 p.m., by Sir Isambard Owen, on "The Cathedral of Rheims." Sir Isambard made a study of the cathedral during several years before the war, and has a fine set of lantern slides illustrating it. The hall is being lent for the occasion, and a collection will be made on behalf of the British Empire Fund towards the restoration of this, the sister church of our Westminster Abbey, which, but for the sacrifices made on the soil of France by all the allies, might have been to-day in the same sad condition. The Society for the Protection of Ancient Buildings is giving its help in organizing the appeal, as it approves the lines on which the repairs will be carried out by the French Government, which has offered to place a tablet in that portion of the church reconstructed by the offerings of our people as a memorial to our fallen and a tribute of affection for France. The patron of the fund is H.M. Queen Alexandra; the president is the Duke of Portland; the chairman, the Lord Mayor of London; and amongst the vice-presidents are the French Ambassador in London and the British Ambassador in Paris.

Contemporary Art

Paintings and Drawings at the Independent Gallery

TAKING the more charitable view that it was perpetrated under pressure of time, an art critic of a creditable evening paper thought it fit the other day to pour upon this exhibition the kind of low and obvious fun which is pretty sure—wherever the paintings submitted nonplus or make no easy appeal—to draw the laugh of the overwhelming multitude.

Now, that man was unfortunate, because his criticism, or, rather, his partiality to the "safe" and fashionable painting, as compared with the painting of sincere artists (the sort of painting necessarily modern then), betrayed his bewildered senses and also a judgment incapable of formulating without the help of some outside and more authoritative mind. And so he poured fun, dull and mirthless, on a good and upstanding lot of oils and water-colours.

It may not have all been grand and reproachless. Some may have been garish, and, perhaps, a little gaunt and self-conscious. Too much puritanism may have been indulged in by some of the more wayward artists, but taking it as a whole this exhibition at the Independent Gallery, in Grafton Street, is a brave and sincere show, and it is doing a disservice to the cause of art to scoff and question and gurgle. Far better live an æsthetic sensation.

So much for a digression rendered necessary by this increasing tendency in certain quarters to prejudge and misguide and misnome "bolshie" and "futurist" anything beyond Sir William Orpen or A. J. Munnings.

As a matter of fact, it is probably true that many exhibits shown at the Independent Gallery are not very pleasant. An unwonted asperity of presentation is here and there discernible: many artists seem to concentrate so much upon the particular emotions under which they labour at the time, that a kind of unseemly and visible effort to be barely articulate creeps in their work, which is to that extent marred. But, of course, one does not, one cannot, know for certain at first, and many a picture heartily disliked has, on successive occasions, caused one's judgment to veer round to a truer and pleasanter appreciation. This applies to some oil paintings by Duncan Grant, especially the one depicting the "Open Window," and by that excellent and sturdy artist, F. J. Porter. Mr. F. J. Porter, let it be known, is at his best in these typical East Anglian landscapes, which he now tackles with such relish. And the same feeling is again experienced when confronting the fearless "Nude" of Vanessa Bell. It shows a heavily-framed female figure. The naked lady is seated, and rests her right arm across her thighs. The left arm is drawn back over the chair, with the deftly-painted fingers almost touching her large and round breasts, one of which, by being planted somewhat higher than the other, gives even more rhythm to an already well-balanced piece of drawing. The head is happily poised, and the whole vigorously painted. There is no denying here a sane and clear vision, nor its transcription in robust terms. Many will consider it better than Mr. Roger Fry's "Nude" (28), although that, too, is a finished and honest piece of painting.

The drawings are very interesting. Most of them are, no doubt, studies for larger things to come, but they do afford illuminating glimpses into the methods of our younger painters, and are a key to some of their intriguing secrets.

"London and Elsewhere." Water-colours by Barry Pittar, at the Fine Art Society, New Bond Street

Whatever his shortcomings, no one can charge Mr. Pittar with a lack of enthusiasm for vast and ever-changing London. Mr. Pittar wields the water-colour brush with easy grace and alacrity. Like most sustained series of paintings, his have their ups and downs. A good many ups, a few downs. The larger water-colours are downs, as a whole; it is so difficult to keep the interest going smoothly in a large water-colour; the sense of unity is soon lost unless one is a Cotman, a Turner, or a Donnington. If one isn't, incidentals allow themselves to obtrude and be singled out, and then off goes that sense of unity and its concomitant sense of lyricism or tragedy. Here "St. Martin-in-the-Fields" (15), "St. Mary-le-Strand" (3), "The Law Courts" (22) especially bear witness to this truism. In all of them Mr. Pittar fairly slaps on his washes: biff . . . and here goes a column; biff . . . and here again goes a cab, or some figurant. "St. Clement Danes" (26) is the more glaring instance of this insistent and hardy method. That the more polished manner suits him very well is evidenced by those two charming little creations: "Charing Cross by Night" (17), and "Piccadilly by Night" (21). These, as a fact, are pastels heightened with touches of water-colours to give them more vim. Another kind, light and airy, is that exemplified in "Barges, Chelsea" (5), where river and sky are washed on very lightly. A departure into more creative regions is brought to a fairly successful issue in "The Shower Bath" (13), where we espy with a certain amount of surprise various fair and naked ladies disporting themselves in the shallow and playful waters of Trafalgar Square fountains, those very fountains made the venue for countless generations of children when summer comes. But Mr. Pittar, in spite of all the water and all the artificial light which he showers upon the back of those daring ladies, does not bring off his refreshing surprise with the "aplomb," or spontaneous geniality, which Sims brings off in his. But it is, nevertheless, jolly and laudable. . . .

At the same gallery, scattered in two or three rooms, is an "Autumn" exhibition of paintings and drawings by leading artists. It could equally be called "Sale of Remnants by Old-established Favourites." They are all excellent in their own way. Tom Mostyn, W. G. Robb, Archibald Barnes, Lamorna Birch, Brangwyn, Walcot, Arnesby Brown . . . Frank Brangwyn's "Albi" and William Walcot's "Palace Pandolfini, Florence," are certainly rather superb. They are in those artists' characteristic and dashing manner. Mr. Russell Flint is also on view, at his surest and in his most aggravating mood. But over and above all these reigns the fatal spell of Anecdotes . . . told for their own sake, or for the sake of achieving an apparently difficult technical triumph.

G. HOLT.

List of Competitions Open

Date of Delivery.	Competition.
Oct. 31	Essay Competition. "The True Function of the Technical Assistant in the Building Industry." Prize £5 5 0. Essays to the Secretary, Architects' & Surveyors' Assistants. Professional Union, 36 Victoria St., S.W. 1.
Nov. 1	Labour-saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C. 4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
Dec. 1	Pavilion to be erected in the Eastern Esplanade Gardens, Ryde, for the Town Council. Cost to be from £8,000 to £10,000. Premiums £50 to the successful competitor if the scheme is not carried out, otherwise he will be appointed at an inclusive sum of £300 to carry out the work; and £30 and £20 to competitors placed second and third respectively. Apply for site plans, together with conditions and instructions to Mr. B. F. Holness, M.Inst.M.&Cy.E., Borough Surveyor, Ryde.
Jan. 15	Hospital for a typical small community in America. Competition open to all Architects. Premiums $500, $300, and $200. Apply The Modern Hospital Publishing Company, Inc., 22 E. Ontario Street, Chicago, Ill. Closing date for applications, November 15.
March 31	War Memorial for Port Said, Egypt, to the memory of the soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during 1916, 1917, and 1918. Premiums: 250 guineas, 100 guineas, and 50 guineas. Apply High Commissioner for Australia, Australia House, Strand, W.C.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.
No Date	War Memorial at Birkenhead. Cost not to exceed £4,000. Premium 75 guineas. Assessor Major Gilbert Fraser, M.C., F.R.I.B.A. Apply Town Clerk, Birkenhead. The competition is open to all architects and sculptors of Birkenhead, Liverpool, and Chester only.

Birmingham University War Memorial

A mural memorial has been placed in the Birmingham University vestibule at Edgbaston to commemorate the 170 former members of the staff and students who fell in the war. The memorial is from the designs of Sir Aston Webb, P.R.A., the architect of the new University buildings, and has been executed by Messrs. Farmer and Brindley, of London, and Mr. T. Rowbotham, of Birmingham. It has been executed in light yellow marble, and takes the form of three large panels. The centre one, surmounted by the arms of the University, in true heraldic colours, bears the following dedicatory inscription in black letters: "In grateful memory and to the inspiring example of her sons who gave their lives in the Great War, 1914–1918." Then follow, in red lettering on the three panels, the names in alphabetical order of the men who fell in the war.

The Week's News

Housing at Grimsby.

New houses for the Grimsby Corporation have been tendered for at £344 each.

Super Cinema for Hull.

Work has begun on the super cinema, to be built at the corner of Morrill Street, Hull.

New Works for Hull.

Works are to be erected on the Saltend Estate, Hull, for the manufacture on a large scale of alcohol for power and industrial purposes.

Proposed Pavilion for Eastbourne.

The Eastbourne Pier Company propose to erect a large pavilion at the shore end of the pier. The scheme will involve many thousands of pounds.

Birtley War Memorial.

At Birtley, near Newcastle-upon-Tyne, a cenotaph is to be erected from the designs of Messrs. Davidson and Sons, of Gosforth, architects.

Birmingham Canal Widening.

It is proposed to widen and deepen the Birmingham-Worcester Canal and to reconstruct and enlarge many of the locks at an estimated cost of £1,500,000.

Proposed War Memorial for Manchester.

The Lord Mayor of Manchester is inviting subscriptions towards the cost of erecting a war memorial. The cost is estimated at £10,000.

Rebuilding Lambeth Bridge.

It was stated at the last meeting of the London County Council that financial and other considerations had prevented action in connection with the rebuilding of Lambeth Bridge.

R.I.B.A. Exhibition of Architecture.

It has been found necessary to postpone until further notice the Exhibition of British Architecture which was to have been opened on November 1 in the Galleries of the R.I.B.A.

Organ for Eton School.

An appeal is being made for £1,000 to erect in the Memorial Hall at Eton School the Rotterdam organ presented to the school in 1914 by Mr. H. E. Luxmoore.

New Cafe for Newcastle.

Messrs. Dixon and Bell, of Newcastle-on-Tyne, are the architects for a new café and billiard saloon in that city. The new premises are to be built above the Northumberland Street branch of the National Provincial Bank of England.

New Houses for Doncaster.

The National Housing and Town Planning Trust have begun the erection of 183 workmen's houses near Bullcroft Pit, Doncaster, A similar number are to be commenced at Highfields by the same company.

Masonic Temple for Birmingham.

An appeal is being made to the masonic lodges of Warwickshire for £150,000 to erect a masonic temple in Birmingham. A site has been secured in Broad Street. The temple will form the memorial to the Freemasons of Warwickshire who fell in the war.

New Theatre for London.

A new theatre is to be built shortly in Drury Lane. We understand that the site adjoins "Old Drury," and that plans are in process of preparation for an early start of building operations.

More Houses for Birmingham.

At Birmingham it is proposed to form a company of public men to build 600 houses. Mr. L. H. Collier, of Collier and Keyte, architects, is negotiating with the Corporation for the purchase of a large tract of land at Billesley Common.

Students' Exhibition at Leicester.

Successful designs in connection with the R.I.B.A. special war examinations are included in an exhibition of drawings by students of the Leicester School of Arts and Crafts, which has been opened to the public.

Sir Thomas Brock's Estate.

Sir Thomas Brock, R.A., the sculptor, whose death was recorded in our issue for August 30, left £83,555. He was responsible for the Queen Victoria Memorial facing Buckingham Palace, the All-India memorial to King Edward at Delhi, and for a large number of other public monuments.

New Dock for Southampton.

A new floating dock, to accommodate the largest vessels in the world, and having a lifting capacity of 60,000 tons, is to be built at Southampton for the London and South Western Railway. The contract, which involves about £1,000,000, has been placed with Sir W. G. Armstrong, Whitworth & Co., of Newcastle.

Regent Street Theatre.

A new theatre is to be built in Regent Street at the corner of Regent Street and Jermyn Street. A Crown lease of this site has been acquired by a syndicate headed by Mr. Benjamin Hicks, of Apollo Films, Ltd., and Mr. Wychkoff, an American with large theatrical interests in the United States.

Restoration of St. Paul's.

Sir William Treloar is raising a "Ludgate Fund" towards the cost of restoring St. Paul's Cathedral, and has forwarded to Canon Alexander a cheque for £2,245 12s. Messrs. Nelson, of Stockton, near Rugby, have offered a gift of thirty tons of best Portland cement, which has been accepted by the Cathedral authorities.

Architects' Bursaries and Scholarships.

Out of the money bequeathed by the late Sir R. Rowand Anderson, the Council of the Incorporation of Architects in Scotland have decided to set aside £5,000 for education purposes. The Council have also decided to open a subscription list for the structural repairs fund in connection with St. Paul's Cathedral.

New Bank Premises for Doncaster.

Work is in progress on the demolition of existing buildings on a site at the junction of High Street and Priory Place, Doncaster, on which it is proposed to erect new premises for the National Provincial and Union Bank of England, Ltd. The bank has been designed by Mr. F. R. C. Palmer, F.R.I.B.A. The general contractors are Messrs. H. Arnold and Son, of Doncaster.

The Condition of a Westminster Church.

An appeal is being made for £1,500 towards the restoration of Christ Church, Westminster. Grants have been made of £300 and £200 by the Bishop of London and the Ecclesiastical Commissioners respectively towards the cost of the work. Contributions should be sent to Mr. G. A. Hall, at 1 Victoria Street, Westminster, or to the vicar, the Rev. P. T. R. Kirk, at the vicarage.

North-Eastern Railway War Memorial.

The erection of the North-Eastern Company's War Memorial at York is to be proceeded with. The original design for the memorial involved some interference with the mound of the city walls. Sir Edwin Lutyens has produced a modified plan for the memorial on the same site adjoining the old passenger station, which will avoid any encroachment upon the mound. The approval of H.M. Office of Works and the York Corporation has been obtained, and it is hoped that the memorial will be completed by June 1923.

Painters' Exhibition at Harrogate.

At the opening of the Painters' and Decorators' Exhibition at Harrogate Mr. J. E. Butterworth was presented with a writing-desk and Mrs. Butterworth with a silver tea service. The amount required was over-subscribed, and the balance is to be devoted to an annual gift known as the Butterworth Prize, awarded for papers on the business side of the craft. Mr. Butterworth was the chief technical adviser on behalf of the painting trade to the British employers' delegate appointed by the Government to enquire into the use of white lead in paint.

York Minster Windows.

Good progress is being made with the work of restoring the stained glass of York Minster. The east window is said to be the largest area of stained glass in the country, being the size of a tennis court, and it does not contain a section of glass as large as the top of a tumbler, and most of them are the size of a five-shilling piece.

An Exhibition of Furniture.

Mr. Maurier S. R. Adams has opened a reception studio at 67a Baker Street, W., for the exhibition of some of the furniture executed from his designs on traditional lines. The selection on view includes some plain pieces suitable for a cottage style of house, old or new, and some are elaborated with very choice veneers and inlay work. The premises till lately were used for St. Dunstan's Gift Exhibitions, now located in Regent Street. The entrance to 67a Baker Street is the first door in Dorset Street. The gallery is not far from Messrs. Selfridge's new building in Baker Street.

Wednesday, November 1, 1922

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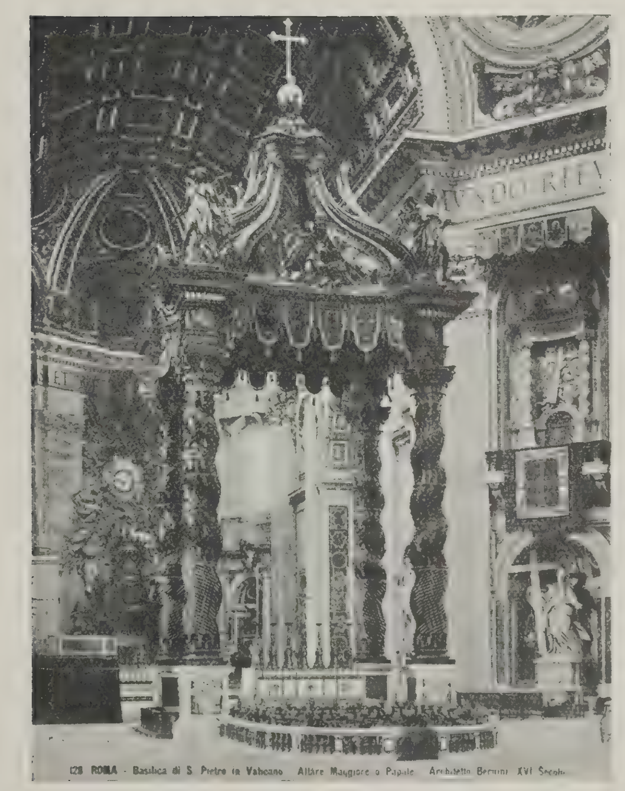
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."


128 ROMA - Basilica di S. Pietro in Vaticano Altare Maggiore o Papale Architetto Bernini XVI Secolo

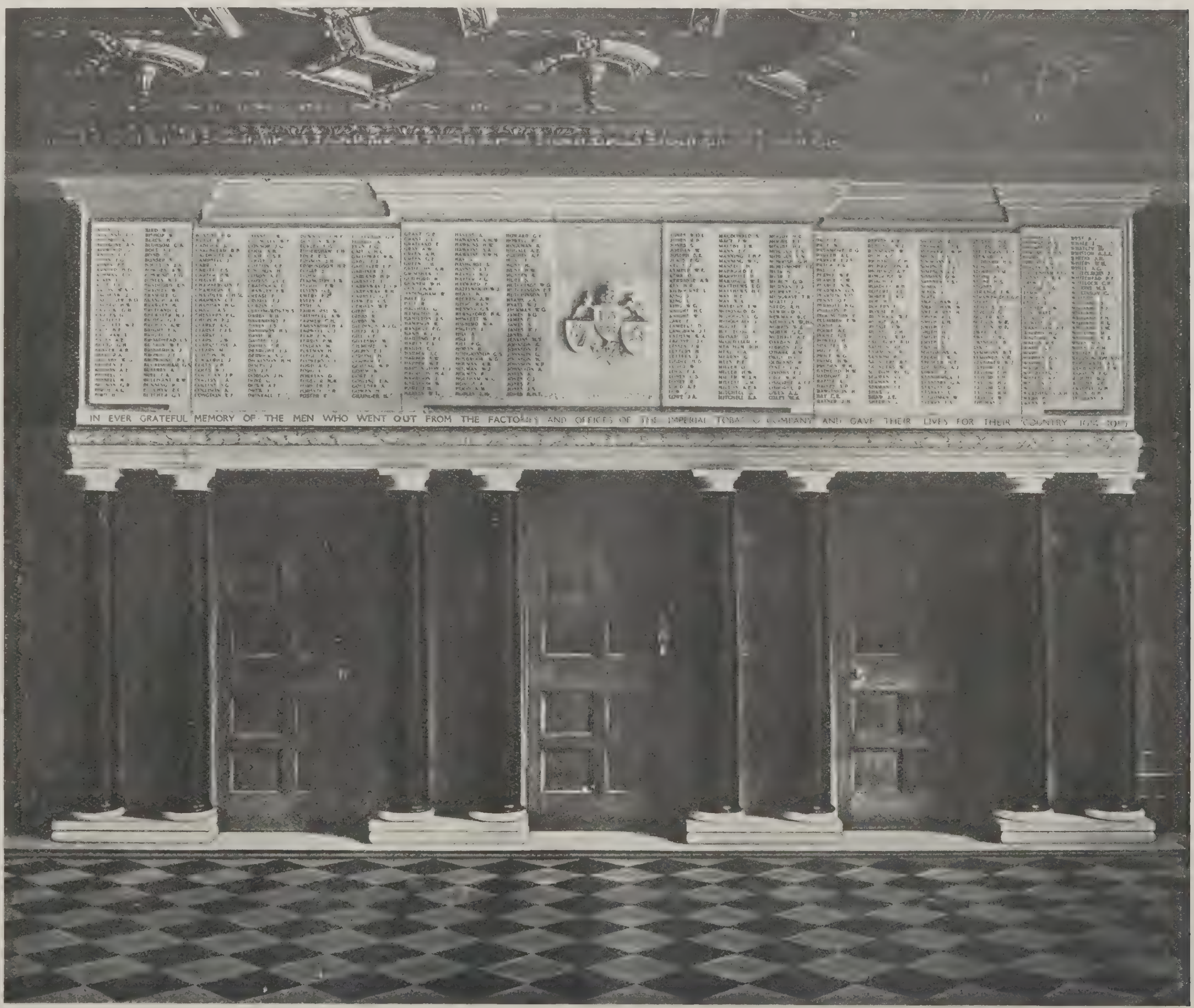
THE BALDACHINO, ST. PETER'S, ROME (1629–67)
BERNINI, ARCHITECT

(*See page* 619.)

27-29 Tothill Street, Westminster, S.W.1

War Memorials. 30.—Screen in the Offices of the Imperial Tobacco Company, Bristol

Sir Edwin L. Lutyens, R.A., F.R.I.B.A., Architect


IN EVER GRATEFUL MEMORY OF THE MEN WHO WENT OUT FROM THE FACTORIES AND OFFICES OF THE IMPERIAL TOBACCO COMPANY AND GAVE THEIR LIVES FOR THEIR COUNTRY

This Memorial has been erected to the memory of the men of the factories and the offices of the Imperial Tobacco Company who gave their lives in the war. Sir Edwin Lutyens was responsible for the design of the screen and the columns, the panelling in between the latter already being in existence. Statuary marble has been used for the screen and black marble for the columns.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, November 1, 1922 **Volume LVI. No. 1452**

Sir Edwin Lutyens and the London University

THE controversy over a site for the London University has recently been given a certain picturesque turn by an article that appeared in the "English Review" from the pen of no less an interesting personality than Sir Edwin Lutyens, supporting a proposal for a site at Millbank.

It may be assumed that every architect will respect and have due regard for the opinion of so eminent an artist as Sir Edwin, but it is conceivable that as "an amateur," if not "a child in finance," and as one who has apparently given little thought to the growth of University Departments, his purely architectural predilections may have led him to be carried away by influences superficially dramatic and not very real.

His contribution to the question is valuable, however, as emphasizing the importance of considering the purely spectacular value of a site.

On the other hand, we have the two lectures of the Provost of University College, Sir Gregory Foster, whose arguments in favour of the Bloomsbury site on the grounds of efficiency and convenience are absolutely convincing.

Sir Gregory points out, what Sir Edwin Lutyens and, indeed, most of the general public, appear to be quite ignorant of, that a London University is not a corporate body that can be enclosed in a single carcase. It is a great community spread over the whole area of Greater London, and consists of some thirty-six colleges, already covering some 212 acres, and teaching no less than 21,000 students. Moreover, there are, in addition, halls of residence and playing fields, together covering a grand total of 434½ acres.

The Bloomsbury site of 11½ acres was offered by the Government and accepted by the Senate for further developments, the immediate intention being, as funds permitted, to erect there accommodation for the Senate House, now temporarily located at the Imperial Institute. It may be assumed that many more acres would be available for future development at Bloomsbury when required.

Could the Senate House at Cambridge be described as the University of Cambridge? As well might a Senate House and dependent buildings erected on the Embankment truly represent the London University.

The Universities in our provincial towns, and, indeed, in many American and German towns, are collections of buildings more or less grouped, and as groups have a dramatic appeal. If all the colleges that make up the London University could be scrapped and re-erected on a single central site along the river front covering some 400 acres, they would certainly make an astonishing panorama. But they are where they are, and this cannot be. The best we can do is to concentrate attention on enlarging and developing the nucleus, University College, situated at one end of an available site, which is terminated at the other end by that centre of learning, that world-famed library and greatest of archæological collections—the British Museum.

It is obvious to those who, like Sir Gregory Foster, are intimately acquainted with the ramification and the destiny of the London University that it cannot be adequately represented by any single building. At best it can only appear to the general public as a group of some of the more important buildings. The real question to be decided therefore is as to whether a site for a Senate House, Offices, and perhaps a few ancillary buildings, should be chosen in an eminently picturesque, though unquestionably inconvenient, and perhaps experimental, position; instead of a site which by tradition and actual usage has already become to the general public a great centre of learning, a "Latin quarter," and a "Sorbonne." Admittedly, it is not alone on the grounds of convenience that the decision should be made. The purely dramatic appeal might well lay claim to be a deciding factor in a final choice. It is really a question of the depth and reality of the dramatic appeal.

Needless to say, it is only in the deep-rooted foundations, upon which rest tradition and usage, that a great artistic pile of intrinsic worth, as opposed to an artistic fantasy, can be reared. Moreover, any huge building or architectured façade would "look well" on the Embankment. Although the right place for a County Hall, it is no place for the heart of the University of London, severed as it would be from its body.

The County Hall, like many other great buildings that future generations may erect on the river front, has no past, no tradition, and no ancestral domain; and though a University group of buildings at Bloomsbury cannot be reflected in a river, they can, if designed with understanding and imagination, form a more real architectural achievement, because on this site they would be expressive of a great sociological fact. Moreover, adjoining the British Museum they will, let us say, not be hidden, but enhanced by a building of so great renown.

But, let there be no misunderstanding, whether the buildings be erected at Millbank or Bloomsbury, they will be a hopeless confusion unless as an organic growth they are made to develop in accordance with the dictates of a well-considered plan.

Notes and Comments

The Opening Meeting of the R.I.B.A.

NEXT Monday will bring the inaugural meeting of the R.I.B.A., when the President will deliver the customary *ex cathedra* address. Any mere adventures in electioneering should not deprive a single member of the pleasure of listening to what, if it is up to the President's usual standard, is sure to be a model of polished eloquence. Thoughtless critics have often remarked that halting deliverances of members who take part in the R.I.B.A. debates or other functions compare very unfavourably with the accomplished speaking of American and other visitors. It must be admitted that the contrast is rather marked, but the reason for this is absurdly simple. It is certainly not that the Americans have a greater native gift for public speaking, but because they put in more practice at it. The pains that our American cousins take in preparing their speeches would astonish the average Briton, who in this matter is wont to rely on nature rather than on art, with the inevitable result that he cuts a rather feeble figure in debate, and is lucky to avert catastrophe. On the other hand, the unprepared speaker is, as a rule, glad "to get it over," whereas the practised speaker is sometimes tempted to air his accomplishment, and to acquire the sorry reputation of a "wind-bag." When that title has been fairly earned, his influence is at an end. A meeting will good-naturedly tolerate an indifferent performer, but will not abide a bore. This fact should encourage the diffident member who has something to say but no skill in saying it, and repress the loquacious person who has nothing to say and says it at enormous length under the mistaken impression that his auditors are as fond of hearing his voice as he is himself. From instances of the latter sort the R.I.B.A. has always been remarkably free; and as far back as one can remember its presidents have all been free from the vice of loquaciousness. As for the present President, his speeches are always excellent models of clearness and conciseness.

The Founder of Bournville

Mr. George Cadbury, who died last week, had very considerable claims to immortality as a philanthropic housing pioneer. In support of this assertion, it is sufficient to remember that he founded and planned the garden village at Bournville, near Birmingham. For the building of this model village he advanced the money at the nominal interest of 2½ per cent., afterwards handing over the property to the Bournville Village Trust. Ultimately—in 1891—the whole property was made over to a trust under the Charity Commissioners, this trust being charged with the duty of devoting the whole of the income to the settlement of other villages on similar lines. Mr. Cadbury took but little part in public affairs, refusing invitations to stand for Parliament, and declining the honours offered him. He was, however, indirectly the originator of the Trade Boards Act, his sometime property, "The Daily News," having organized a sweating exhibition which led to the passing of the Trade Boards Act. But, as we have already intimated, his noblest monument is Bournville garden village, the parent of many.

Road Reform

This year no less a sum than seven millions sterling is being spent on road improvements. In this large sum the chief item is the three million pounds which, it is estimated, the Manchester-Liverpool concrete road will cost; and Lancashire has in hand other extensive schemes of road-making. Plymouth, Portsmouth, Birmingham, and Swansea have also extensive undertakings in hand, or in contemplation; but the most interesting of all the schemes for road improvement is the widening of the existing road between Penzance and Land's End, which will be widened to make it a main road. Holiday-makers will greatly appreciate this improvement, for the present road is much used by charabancs, which at certain points could not possibly pass each other when travelling in opposite directions. A still more interesting point refers to the extreme antiquity of the road, which may have been originally an ancient British trackway of prehistoric origin. It runs past many a group of dolmens or cromlechs, and it may be reasonably conjectured that the excavations for the widening will yield many interesting remains of the ancient Britons.

Holborn and its Fusiliers' Memorial

The memorial to the twenty-two thousand Royal Fusiliers who died in the Great War is to be unveiled next Saturday by the Lord Mayor. At Holborn Bars, one of the City boundaries, Mr. Albert Toft's bronze statue of a Royal Fusilier in full fighting kit is very appropriately placed, for there, obviously, he will speak with the enemy in the gate. Yet there are those who complain that the monument is situated obstructively. It is but mildly obstructive, however, compared with the extreme case of Middle Row, which was a row of small houses blocking the street at the south end of Gray's Inn Lane. Even in 1657 the nuisance was inveterate, Howell noting Middle Row as "a mighty hindrance to Holborn." Architects visiting the new memorial will find it worth while to stroll round in search of other objects of architectural interest—Staple Inn, for example, of which, however, a fair sight cannot for the moment be had, its quaint front being now obscured by scaffolding and screens. Of another interesting building not far from the spot, Sir Walter Besant reminds us, pleasantly, if somewhat promiscuously, that "Hardwick, one of the last of the school which might be connected with Chambers, the Adams, Payne, and other architects of the English Renaissance, was employed to complete Stone Buildings, begun by Sir Robert Taylor before the end of the eighteenth century. Hardwick was at work in 1843, and his initials and a date, 'P.H., 1843,' are on the South gable of the hall." A not unnoteworthy instance of a "signed" building. A record of similar instances would be very welcome.

Honesty and Simplicity

In the course of the election campaign, one great politician has just said of another that "he is honest to the verge of simplicity." This hard saying, we may suppose, was not intended as a compliment, but the distinguished rival against whom it was alleged was sufficiently adroit to accept it at that valuation. To be "honest to the verge of simplicity" is a stingless taunt, unless simplicity is understood as a euphemism for mental feebleness: the historical case in point being that of "Simple Simon." With the moral and political issues involved in this quaint charge we are not at all concerned, but the gibe is not wholly destitute of architectural interest. Now, in building, howsoever it may be in politics, honesty and simplicity are in close partnership. A few politicians may find it convenient to set a limit to honesty by keeping it well away from "the verge of simplicity." Not so the architect. An article of whose creed it is to believe steadfastly in "the frank expression of purpose"—in his building designs at any rate—a thing that the average politician regards with horror and contempt as an indiscretion, if not a downright political crime. Wherefore it is clear that politics and art together can never go. The best that can be done for the present is for the architect to endeavour, by the beauty and truth of his buildings—in which the politician must live—to teach him plainer and straighter ways!

The Architecture of Robert and James Adam

THERE never has been a British architect more successful than Robert Adam. For over thirty years he was continuously occupied with the design and supervision of important works of building and of decoration, applauded by all save his rivals and a few eccentrics like Dr. Johnson and Horace Walpole. An artist of strong and uncommon personality he planned a revolution in the architectural art of his country, and brought that revolution to pass. He persuaded the patrons of architecture that they did not want what they were getting from other men, and that they did want what they were going to get from him.

Inigo Jones started a similar revolution, but did not live to see its effects. Pugin, another revolutionary, was saved by an early death from seeing effects which he would have deplored. Norman Shaw, if a revolutionary, was merely the elected leader of a party. Each of these was a man whose moment found him ready, but to Robert Adam there came no opportunity save that of his own making. He inoculated with discontent a generation contented with the architecture which it possessed, and compelled it into a new adventure.

Independence of mind is a rare quality even among artists, and perhaps it is because it is a necessary quality in a great artist that great artists are few. It is not shown in the breaking of rules, for that may be mere childish defiance, but in the sweeping away of the small rules which limit most men's perceptions, to make room for larger rules which most men have not perceived. This sweeping away will be opposed vehemently by those who dread to expose their minds in the rough weather of big problems, and Robert Adam made more enemies than friends in his profession when he proclaimed himself evangelist of a gospel greater and truer than the established Palladianism of mid-eighteenth century England.

The first half of the eighteenth century was an unhappy time for English architecture. Wren's force was spent; that great man had been ousted from his post by one of the creatures of the Dutch Prince who sat upon the throne. A Dutch architect of genius, Sir John Vanbrugh, had brought all architectural magnificence into popular disrepute by the extravagance of his conceptions. Nicolas Hawksmoor, a native genius, second to none whom England has produced, was led by his association with Vanbrugh into the practice of a style unsympathetic to the mass of his countrymen. The mass of his countrymen, therefore, finding the two great architects of the age determined upon a manner of building which was generally disliked, left them to what employment the Court would give them, and turned to lesser men for the supply of their wants.

These lesser men did the best that was in them, but that best was not very good. National pride may lead us to discriminate nicely between the work of Flitcroft and of Ripley, of James and of Gibbs, finding particular beauties in each, but it were idle to expect concern with such architecture in anybody but a fellow-countryman of its authors. It was an architecture of fear, fear of taboo, based upon the mysterious revelations of that remote deity, Vitruvius, and of his equally mysterious prophet, Palladio. It was a Puritan architecture, of which the highest aim was, not to acquire merit, but to avoid sin.

Robert Adam's disgust with this slave attitude towards an art which to him was a vehicle for free self-expression, was strong and undisguised. In the famous preface to the published collection of his designs, beside claiming, with truth if not with modesty, to have delivered his countrymen from false notions concerning internal decoration, he makes some sensible remarks about freedom in the use of the orders, which must have galled his pedantic contemporaries past bearing. Europe, he said, had been "servilely groaning for these three centuries past" under the load of "mistakes of the first modern Italian artists"—presumably of Alberti and Bramante, the forerunners of Vignola and Palladio. The Renaissance had attempted to catch the spirit of antiquity and had got it wrong. Robert Adam was prepared to get it right.

A return to the antique, at first hand, for inspiration was a common movement among artists of the time. Already

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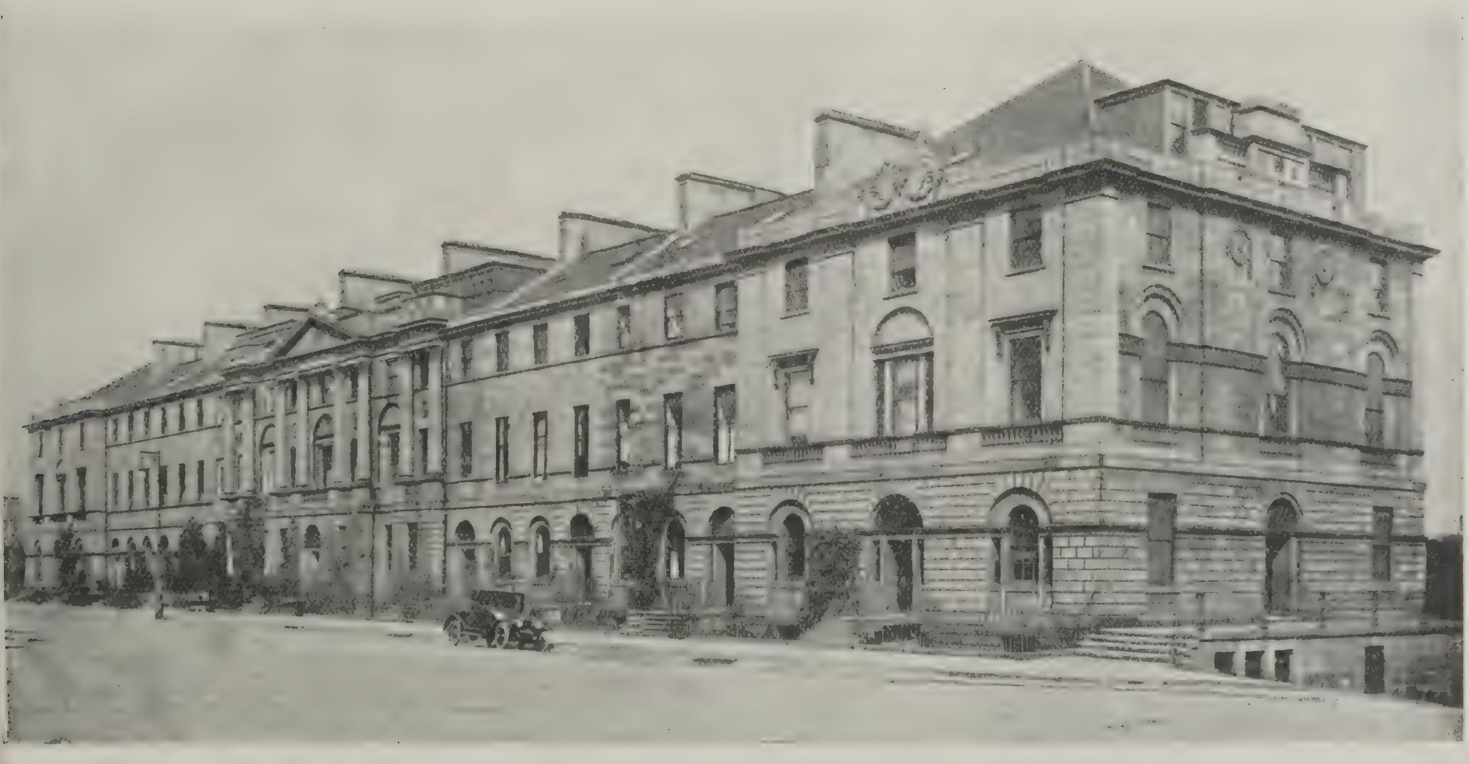
The Architecture of Robert and James Adam. By Arthur J. Bolton, F.S.A., F.R.I.B.A. Two vols. £8 8 o. Country Life.



THE NORTH SIDE OF CHARLOTTE SQUARE, EDINBURGH.

(From "The Architecture of Robert and James Adam.")

Gabriel, Adam's senior by eighteen years, and Soufflot, his senior by fifteen, had shown, by the simplicity and purity of their designs, that the classic spirit was again awake in France. The fine volume of Le Roy, which first revealed to the French the beauties of Grecian architecture, was published in the year of Robert Adam's arrival in England after his studies in Italy. If a return to the style of antiquity had been all that Adam wished for, he would have had little difficulty in bringing it about; the Society of Dilettanti were already working for it, and the public mood invited it.

What Adam wished for, however, and had need to wish for, was the return of English designers, not to the style of antiquity only, but to the fine art of architecture itself. Architecture, as understood by Gibbs or by Flitcroft, was hardly more of a fine art than cookery, in which certain quantities of certain ingredients are combined by rule so as to produce certain desired results. Large conceptions, such as Webb's design for Whitehall, or Wren's proposal for rebuilding the City of London, were as far out of the reach of the early Georgian architects as the fantastic combinations of Vanbrugh were beyond their understanding. Adam, on the other hand, was never at a greater advantage than he was when exercising his powers of pure design upon some grandiose and elaborate plan.

A student's exercise made by him at Rome, though faulty in many small particulars, is a strong witness to the early maturity of his imagination. In the designs of his later life this imagination never fails, and there is a degree of art in the disposition of his plans to which no other British architect has attained.

The architectural details of Adam's work have been much admired and much found fault with. Although taken separately, they could mostly be matched in late Roman work or in French work of the Louis Seize period; taken altogether they make up a very personal "style." The north side of Charlotte Square, Edinburgh, and the south front of Stowe, are characteristic, the first of his everyday manner, the second of his magnificence. As a designer of interiors he can be seen at his best in the round hall at Kedleston, or the ante-room at Syon. His furniture and minor decoration are too well known to need any particular illustration here.

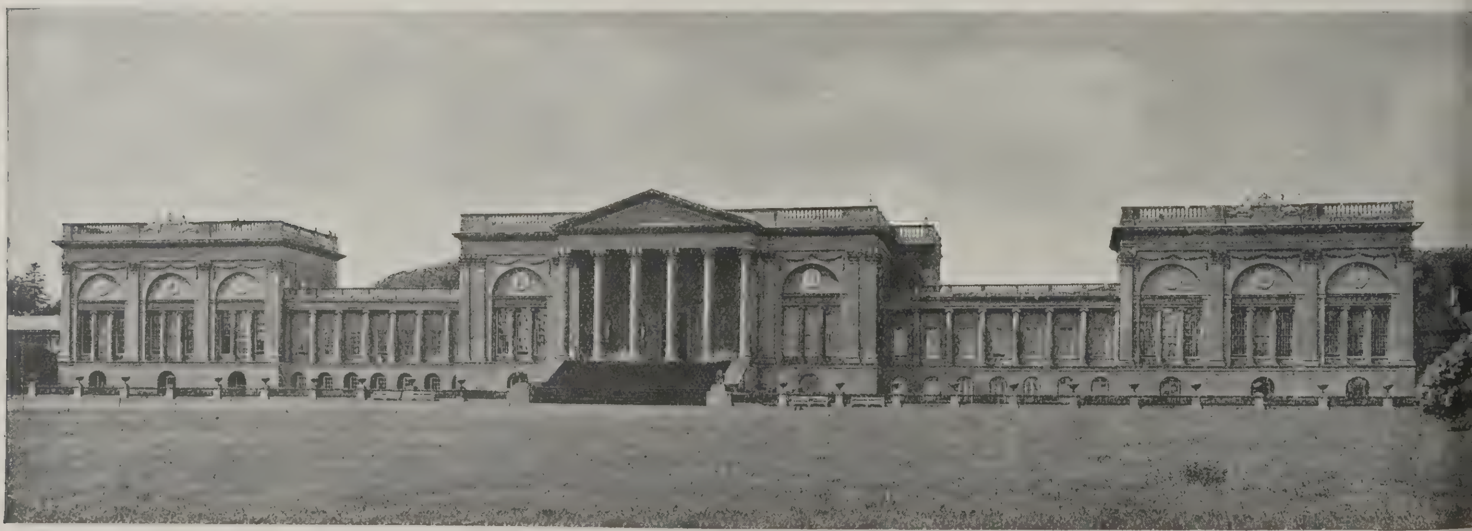
Furniture and minor decoration, however, formed a part of Robert Adam's achievement which is of great significance, since the design of such things is not within the scope of most architects. William Kent, it is true, was a designer of furniture, but of furniture which affords the beholder less pleasure than anxiety, seeing that it is not provided with the concrete foundations which it obviously needs. What Flitcroft's or Gibbs' furniture would have been like we are happily spared from knowing. In their day the design of furniture was left, in the main, to its manufacturer, with surprisingly successful results. These results, however, were not of the same order as those of eighteenth-century France, where artists of real distinction designed for manufacturers who were scarcely less artists themselves. If it cannot be said that Adam raised the quality of English furniture to that of the French cabinet-makers, it can at any rate be said that he taught his patrons that no domestic object was too small or too mean to be capable of beauty. He was, in fact, the first conscious British propagandist of what a later generation chose somewhat ludicrously to call "Art in the Home."

"Art in the Home" has had no recent propagandist more powerful than "Country Life," a journal to which every British architect owes much. The occasion of this article, and the source of its illustrations, is a publication from the "Country Life" offices entitled "The Architecture of Robert and James Adam," consisting of two volumes of brilliant reproductions of photographs and drawings, with text by Mr. Arthur Bolton. Mr. Bolton's curatorship of the Soane Museum, where the great Adam collection is preserved, has enabled him to make an interesting choice of drawings for reproduction, and he has been at the pains of visiting many of the actual buildings illustrated, and causing certain plans to be re-drawn for this publication.

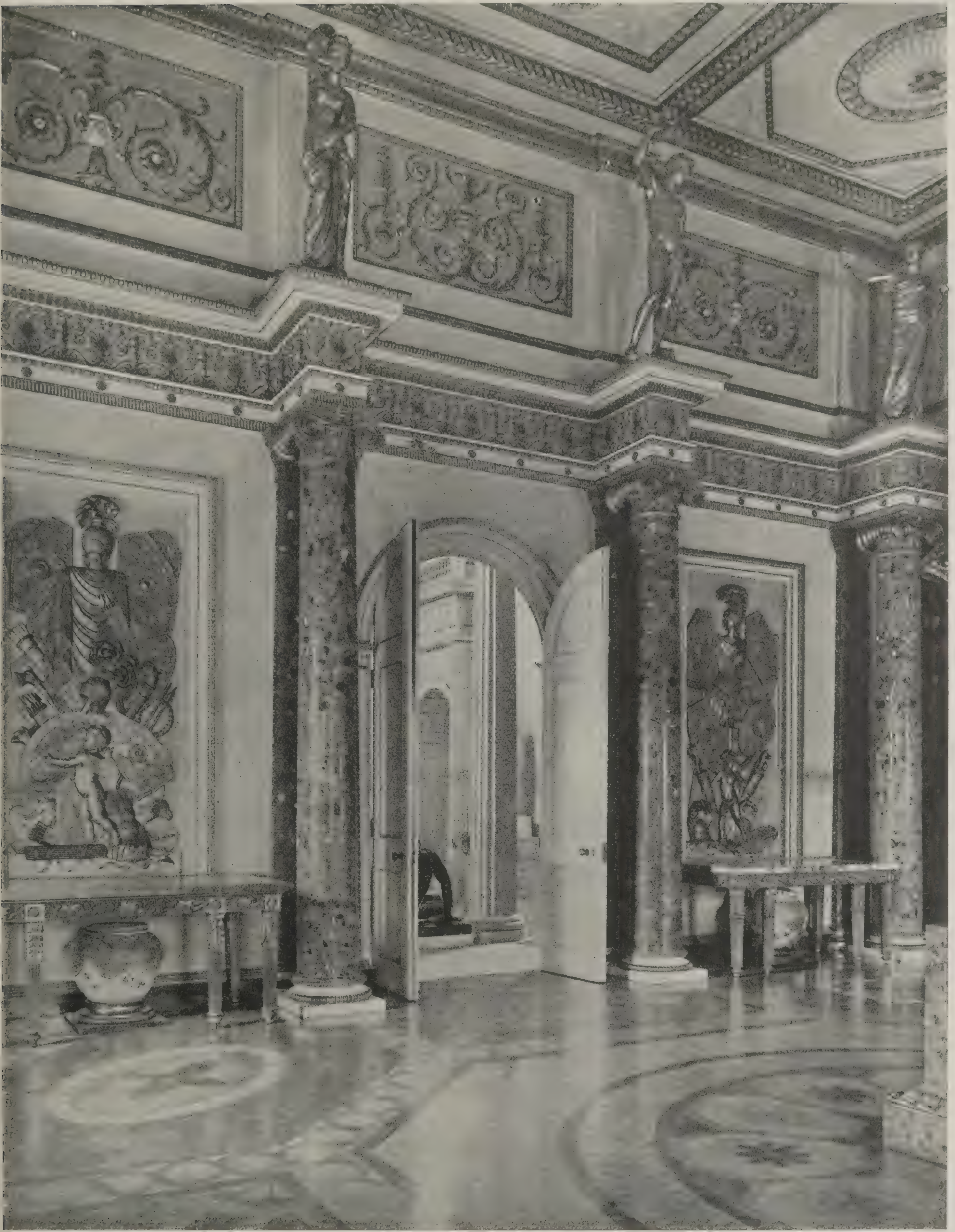
It is probably in the nature of such a compilation that there should be a great deal both in text and illustrations which has nothing whatever to do with Adam. It is also probable that method in the arrangement of such heterogeneous material is difficult to practise. A projecting medallion upon the cover of each volume seems to indicate that the book is intended for the table rather than for the bookcase; and in a table-book the mass of irrelevant chat about Adam's employers to which Mr. Bolton treats us may not be found amiss. The degree of completeness of his account of Adam's work seems to be conditioned by the degree of completeness of the collection of drawings in Mr. Bolton's care—thus Gosford, St. Paul's Walden, and the important decorative works at Inveraray are not described.

Mr. Bolton has made some interesting identifications of work hitherto not known as Adam's, for which every student will be grateful. He has made one attribution, that of the design of the original house at Hatchlands to Thomas Ripley, for which there is no authority beyond a rather remote degree of inherent probability. In causing to be printed the late Mr. Walter Spier's *catalogue raisonée* of the Adam drawings, and in providing it with convenient cross indices, he had done to all lovers of Adam's work a real service. If this list could be made to give some indication as to whether each design described in it was executed or not, and whether or not it has been subsequently destroyed, it would be of greater value still.

H. S. GOODHART-RENDEL.



THE SOUTH FRONT OF STOWE AS EXISTING.
(From "The Architecture of Robert and James Adam.")



SYON HOUSE, MIDDLESEX: THE ANTE-ROOM.

(*From the "Architecture of Robert and James Adam.*")

Rebuilding Soviet Russia

By HUNTLY CARTER

7. Civic Art since 1917

BEFORE the war I was greatly interested in the civic renaissance, which was taking place in Europe and America. During my visits to foreign cities I usually made a note of what was being said and done in the matter of civic art, city development and embellishment, the beautifying of civic centres, the adornment of public buildings, the brightening of boulevards and bridges, and the general work of making modern cities fit for angels to live in. I found that a great deal of interesting work was being carried on in the cities of Europe. It was, however, limited by the original plans, or want of them. The cities had not been planned to admit of modern improvements, and for this reason the proposals to beautify squalid and congested areas often appeared unrealizable.

Such, it seemed to me, was the position of the civic movement in Russia. Extensive schemes of city improvement, including comprehensive systems of lighting, sewerage, transportation, water supply, etc., were numerous enough, but it was never quite clear how they were to be carried out in old or badly planned modern cities, some of which appeared to have been built on the higgledy-piggledy principle of dropping the houses from heaven and allowing them to sort themselves out.

When I re-entered Russia after the war I was filled with the reconstruction ideas which I had been fostering during my four years on the Western Front, and subsequently in Germany. I had heard that the Communists had gigantic schemes involving the reconstruction of the whole of Russia —think of it, a sixth of the world's earth-mass !—and I expected to find cities like Moscow and Petrograd levelled, and being rebuilt according to new communistic town and ground plans. Nothing else, it seemed to me, could be done in order to make them cities beautiful, or electric cities, as the Communists prefer to call the objects of their dreams.

NEVSKI PROSPECT, PETROGRAD.

But I reckoned without the revolution and the counter-revolutionary war, and all the odds and ends of conflict set up by the two. Though these events were quite capable of levelling the cities and towns of Russia, as, indeed, they almost have done, they were hardly fitted to become city builders or city beautifiers, except in a very indirect way. By stirring up the insurgent and resurgent forces, and liberating certain sections of the community to an unaccustomed use of their own initiative, it was quite possible for them to open a path to civic resurrection. This, in fact, did happen. Workers and the intelligentsia were thrown together in such a way that the latter were forced to come out of their hot-houses and participate in the aims of the former. Art became life-centred, and art workers were drawn into a life-centred current of civic renewal, which swept over the depopulated and devastated cities of Russia leaving much that was instructive, but nothing likely to be permanent.

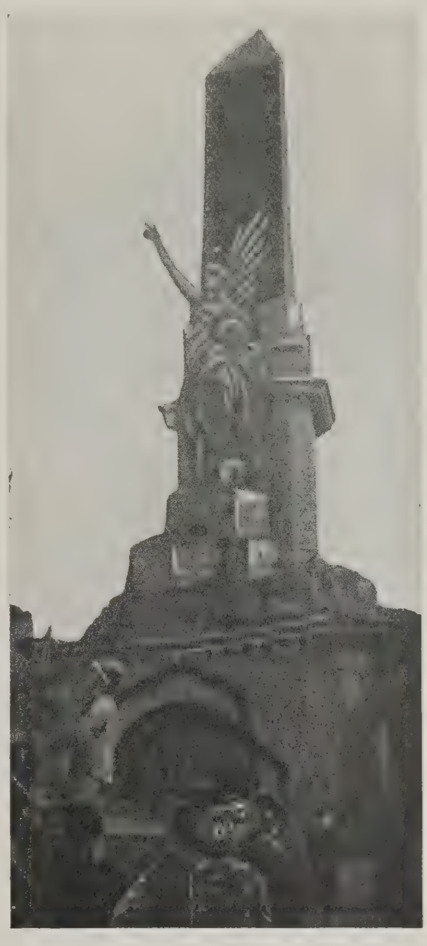
I have shown how the Communist call stirred the hearts of such men as Maiakovsky and Kamensky, who composed odes to the union of art and life, and urged their fellows – poets, painters, decorators, and the rest—to "come on into the streets" . . . "to take all vacant fences, roofs, façades, sidewalks," and to "decorate them to the Glory of Freedom" (whatever this may mean).

For a time the appeal worked. Artists crowded into the streets, mixed with the crowds, tore down some of the old bourgeois civic art forms, and put up others. Their efforts were particularly noticeable in the statuary. Figures and groups of the Imperialists who had moulded the life of Russia and of the big cities were quickly replaced by those of Communists who were remoulding them. And, generally speaking, a large number of monuments that related to the history of Russia, or to the cities in which they were located, were removed and destroyed to make

ANOTHER VIEW OF NEVSKI PROSPECT, PETROGRAD.

THE MODERN ZARSKY-SELO STATION, PETROGRAD room for others that had no history or interest to speak of beyond a strictly contemporary one. Of course, from the point of view of civic art one statue doubtless is as good as another, so long as it harmonizes with, and increases, the beauty of its surroundings. And as harmony is a fundamental law and principle of art it may be questioned whether the figures of Communists can be used to decorate a mediæval city like Moscow with as much appropriateness as, say, the figures of rulers like Ivan the Terrible, terrible though they be—as rulers.

However, the newly-fledged communistic art-craftsmen were not deterred by considerations such as these from letting themselves go civically. Very soon heads, busts, profiles, and three-quarter and full-length figures of the entire range of Communists from Karl Marx to Lenin began to appear in all directions. Thus in Petrograd and Moscow the comparatively short history, theory, and doctrines of communism were commemorated, but not its growth and development, for there has been none. Communism as applied by the Russian Bolsheviks is simply communism as conceived and formulated by Karl Marx. It entirely leaves out of account the advances made in socialistic theory and action during the past century. And by all accounts it no longer exists in Russia.



THE OCTOBER REVOLUTION MEMORIAL IN SOVIET PLACE, MOSCOW.

In turning out this statuary the artists seemed to have found ample opportunity for the exercise of their undoubted ability. At the same time, with one or two exceptions, they kept their expression well within the life-centred limit. They stuck to representational forms mainly because the working-class population would tolerate little else. Among the exceptions was Boris Korolchov, who tried to preserve the absolute essence of an idea in his Michael Bakunin monument, completed in 1919, and erected in the Mchasnichky Market, Moscow. The effect is of something emerging from chaos. It bears the cloudy inscription, "The spirit of destruction is the creative spirit." Something nearer the working-class idea was achieved by another sculptor, S. Konchenkov, leader of the primitives, and the Russian Rodin, as he is called. His most important post-revolutionary work was the wooden group of the Atman, Stenka Rasin, and his comrades, which was erected in the Red Place, Moscow. Stenka has revolutionary propensities which the Communists like. But for the most part the new statues do not differ from traditional forms of art. It is from such traditional heights that the effigies of Marx, Engels, Lassalle, Lenin, Trotsky, and the rest look down. It is mainly as rather handsome, but uninspired, pieces of civic furniture that the newcomers, theorists, doctrinairio, practitioners, and prophets turn their faces towards the rising sun (or should it be the setting one, since it is reported that communism in Russia is dead?). In this respect they match the sprinkling of pre-revolution survivors who are considered to belong to the communistic forerunners. These include popular painters, poets, sculptors, orators, politicians, and scientists. For instance, a very good statue of Pushkin is still standing in one of the Moscow boulevards.

Newcomers include Bakunin, Dostoyevsky, Rasin, Nikitin, Heine, Danton, Robespierre, popular and celebrated poets, painters, and composers, and other outstanding individuals already mentioned. The intelligentsia have been chosen for their revolutionary tendencies. Thus among them one notices the statues of Cézanne, Skriabin, and Rimski-Korsakov—an international choice pointing to a liberality of taste on the part of the Bolsheviks. Several very important historical monuments have been destroyed, including the magnificent bronze statue of Alexander II that stood just outside the Kremlin, Moscow, overlooking the river. On the other hand, some have escaped destruction, for instance, Peter the Great and Catherine at Petrograd.

Besides expending a great deal of energy on statuary, the new civic enthusiasts did their best to plaster the walls of Russia with an amazing display of propaganda and educational posters, as described in a previous article.

A third considerable expenditure took place in connection with pageants, as the outdoor mass performances of political mysteries and revolutionary satires may be called. Special decorations were required calling for originality and ingenuity on the part of the decorators. A number of well-known artists, whose names include those of Dobuschinsky, Professors Mischeyev, Annenkov, Brodsky, Asov, A. R. Kugel, Lopuchin, Temkin, Urvanzov, and Schtschoko, were drawn together in this work. The performances took place in front of public buildings (for instance, the former Bourse), at street-crossings, anywhere that a suitable space offered.

With these three activities the scope of the civic artists may be said to end. Even if the latter had the intention, they were prevented from attempting to alter or embellish buildings, boulevards, and open spaces by lack of materials, and progressive and unpreventable decay, also by the new economic policy of the Government, which by re-establishing free trade threw open the eighteen town squares to petty traders and embellished them with human scenery, so to speak. In 1921 eighteen squares contained nearly 7,000 stands from which the Government drew a rental of 2,555,465,000 roubles. Where the artists ended, the Government began. On the whole the Government contrived to get in a good deal of eccentric work. In one town they put up a statue to Judas Iscariot — the great Poletar - Prometheus and Red forerunner of the world revolution, as the sponsors of the effigy were pleased to re-interpret Judas. Then they planted dead revolutionaries beneath the wall of the Kremlin facing the Red Place and adorned the graves with rude monuments, such as, for instance, the inscribed monolith which serves to perpetuate the memory of John Reed, the American agitator.

Beyond this they have done a good deal, assisted by dirt and dilapidation, to spoil the colour-schemes in the cities and towns.

One of the pre-war features of Russian cities and towns was the predominance of coloured architecture. The extensive use of plaster on the exterior of buildings made it possible and easy to introduce colour. Much of this colour was very bright, interesting, and even refreshing after the monotonous greys and other neutral tones of Western cities. Moreover, it was always fresh, owing to the fact that the plaster did not last and had to be continually renewed. But it must be said that harmony was not always sought, and the mixtures of browns and yellows, and greens and reds, and black and white, were sometimes far from pleasing. The Kremlin, for instance, had very nice bits of colour thrown on in patches without reference to intervening spaces. Some of the effects, though isolated, were striking. A very interesting bit of Oriental colour occurs in that portion of the main Kremlin building which is now occupied by the Ministry of Education. This portion has the unusual appearance of having been inserted without reference to the architectural requirements of the rest. Moscow used to be a magnificent example of a colour city, especially when viewed from the Kremlin. Distance seemed to lend enchantment to the colours—the toned-down buildings, with their masses of dull red roofs, the green settings afforded by the trees in innumerable parks and gardens, and the brilliant golds and blues of the church domes and spires.

In those days the Russian hated whitewash. To-day, the Communists love it—it may be for more reasons than one. At any rate, they have put a great deal on the walls of Moscow and Petrograd, and not a little on themselves. They have tried to warm it up here and there by introducing patches of blood-red. The latter seems to be the hallmark of Government buildings. You know the Kremlin by its dull red dome. All other domes are glittering gold or turquoise blue. Likewise you know Soviet Place by the great building facing it which is smothered from roof to cellar with the gory tone. And so on elsewhere. Nowadays visitors to Moscow find their way about by the all-red route.

AN EQUESTRIAN MONUMENT TO PETER THE GREAT IN PETROGRAD.

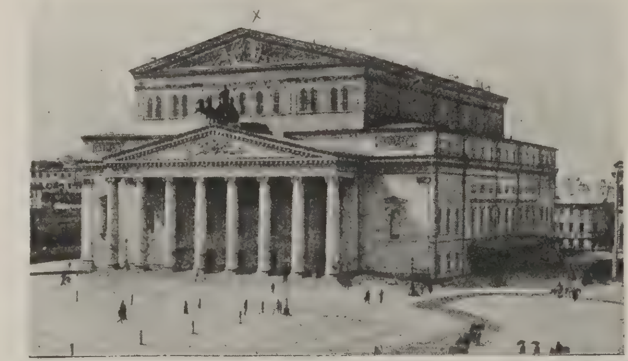
The Government, too, has been very busy re-naming streets, boulevards, academies, and other public buildings, vessels, etc., all of which are now dedicated to Labour and its stalwart champions. In this way they have laid a sort of labour-veneer over Soviet Russia. Thus one finds squares rechristened, Soviet Place, Revolution Place, Red Place, etc.; public institutions, House of Art, House of Science, Palace of Labour, Museum of Revolution, etc.; theatres, in Moscow, the State Opera House becomes the Bolshy or Big Theatre; in Petrograd, the Marinsky becomes the Theatre of Opera and Ballet, the Alexandrinsky, the Dramatic Theatre, etc.

There has been a feeble attempt at restoration. The Moscow Kremlin is in scaffolding, but the work is greatly hindered by the difficulty of getting materials. There has been also an attempt at preservation. The National Educational Committee, feeling that their duty lay in the preservation and systematic care of monuments and highly-developed works of art of the past, endeavoured to safeguard established museums, and enriched their collections with property taken from private collections and churches. Beyond this, they increased the number of public museums. But for all their care they have not prevented the wholesale destruction of precious monuments, the looting of big private invaluable collections, and the destruction and decay of public buildings, many of which are now in a ruinous condition.

For the rest, from a civic art point of view both Petrograd and Moscow remain as they were, with the exception that they are both worn-out beyond repair. In Petrograd there are the very wide streets and generous expanse of open space and avenues branching from a common centre much as they do in Paris. Its boulevards are embellished with many statues, monuments, and fountains. Its colour has gone, except in the gardens and parks where the trees and shrubs manage to keep alive. Its numerous large open bare spaces, which at one time enabled one to see the surrounding buildings in perspective, are now mostly littered with booths. Moscow also retains many of its pre-war civic attractions; the great open cobbled spaces like the Red Place, the ring boulevards, the great number of little parks and gardens, which, viewed from the Kremlin, give the city such a charming rural aspect, the decorative churches and chapels, and old buildings (crumbling to ruin, it is true), the statuary and fountains—all these offer an attractiveness which not even the great pseudo-European hotels and stores which surround the Theatre Place, or the dirt, destitution, and disease—the aftermath of revolution—can conceal. But when all is said for both cities, the fact remains that they want pulling down and rebuilding according to a modern inspired town-plan.

THE RED GATE, MOSCOW.

The foreground is a typical cobbled open space.



THE IMPERIAL THEATRE, MOSCOW; NOW THE BOLSHY THEATRE.

The Imperial Arms (marked x) have been removed.

Staple Inn Hall:

The Condition of the Roof Timbers

THE history of Staple Inn is a long one, and, as its name implies, it dates back to the Ordinance of the Wool Staple. In 1353 the Ordinance of the Staple was embodied in the Statutes of the Realm, and from that time formed one of the chief taxes and one of the most lucrative sources of the Royal income for the next century and a half. Staple Inn, however, had always had a leaning to the law, and by 1463 it had yielded up all connection with wool, and had become one of the regular Inns of Chancery.

The Hall itself is not very large, but it is well proportioned. Its chief glory is the roof, which is dated with a panel bearing the date 1581, with the initials R.C. entwined in a cord device. The initials are those of Richard Champion, Principal of the Inn, and the panel is curious, because the date and other incised carving were filled with coloured wax. A few years ago this wax was gilded, as it was becoming obliterated by dirt, and it was thought to be the best method of preserving it.

In 1887 a certain amount of work was done by the late Alfred Waterhouse, R.A., to strengthen the roof, and this principally consisted of strengthening the oak timbers with tie rods. In those days the presence of the "worm" was noted, but its work was confined to small areas; and as, unfortunately, science had not by then realized the fatal power of the pest or discovered its remedy, little was done to check the ravages beyond putting a coating of preservative on the outside of the timber.

The failure of a lintel over one of the windows a few months ago drew attention to the fact that *Xestobium tessellatum*, the Death Watch Beetle, was at work here as in the famous Westminster Hall roof. It was discovered, on opening up the base of the roof, that the beetle, or more properly speaking, the grub, had entirely devoured all except a small part of the built-in woodwork, and that, as this supply was being exhausted, he was turning his attention to the feet of the principals and hammer-beams. There was an exceptional amount of built-in wood, as the common rafters and principals each rested on separate plates, and the spaces between these plates and the wooden lintels were filled in with wood packing-beams.

The Prudential Assurance Co., the owners of the building, gladly assented to Mr. Waterhouse's proposal to call in Professor Lefroy, the entomologist, who has done such valuable work in this direction, and he gave advice as to the best way of destroying the pest and preventing a further visitation.

This work is now in progress, and the most decayed portions of the wood are being cut out. Steel plates and lintels are being inserted, and the feet of the principals and hammer-beams are having new oak scarfed into them where necessary. In order that the roof may continue to stand in its present form, it has been arranged to take the entire weight on steel principals, which are being inserted above the old plasterwork so as to be entirely concealed. It has also been contrived that the purlins, hammer-beams and braces shall be independent of the steel, so that in the event of further failure from any cause there shall be no fear of collapse.

The work has had the advantage of the care and interest of the district surveyor, Mr. Perkins, and is in the hands of Messrs. Holland and Hannen, who have shown constant vigilance over this difficult piece of restoration. The various tenants of the Inn have shown great forbearance in tolerating the general discomforts attending the work, and this is particularly the case with the Institute of Architects who are accustomed to hold their meetings in the Hall itself.

M. W.

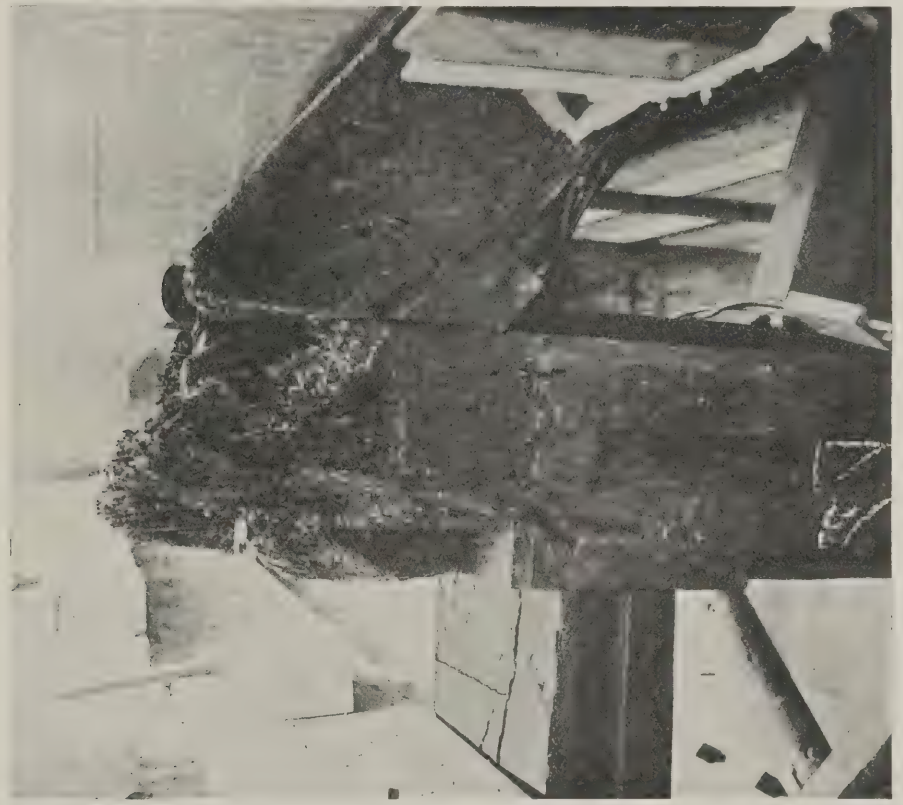


Photo: Architects' Journal.

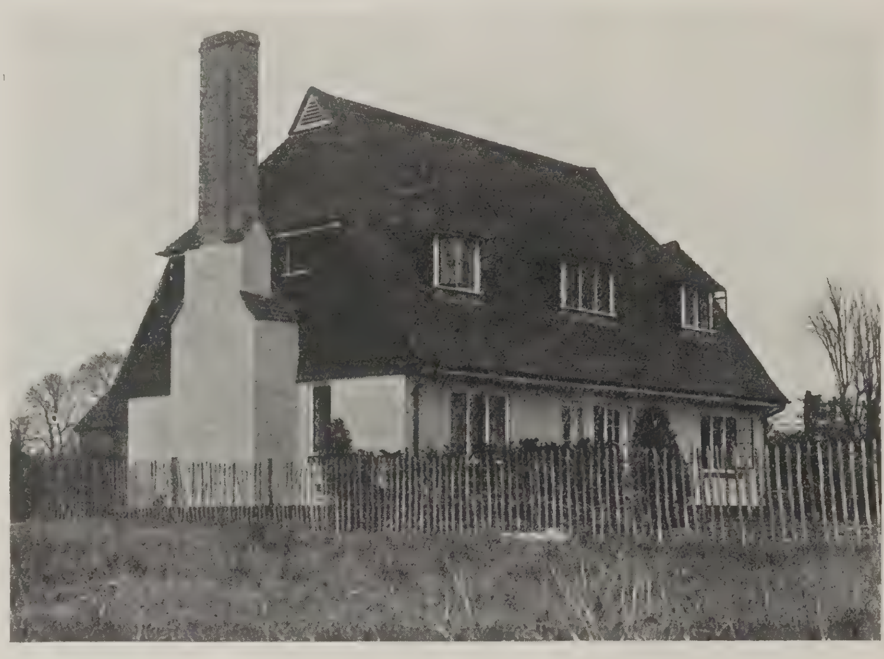
THE ROOF TRUSS IN STAPLE INN HALL.

Showing the ravages of the Death Watch Beetle. It will be noticed that the end of the Hammer-Beam has been eaten away, and the unsupported Principal Rafter must have soon collapsed. The roof is now being repaired, a solution of naphtha and barium soap being used to treat the affected timbers.

"Dormers," Thames Ditton

G. ALAN FORTESCUE, A.R.I.B.A., Architect

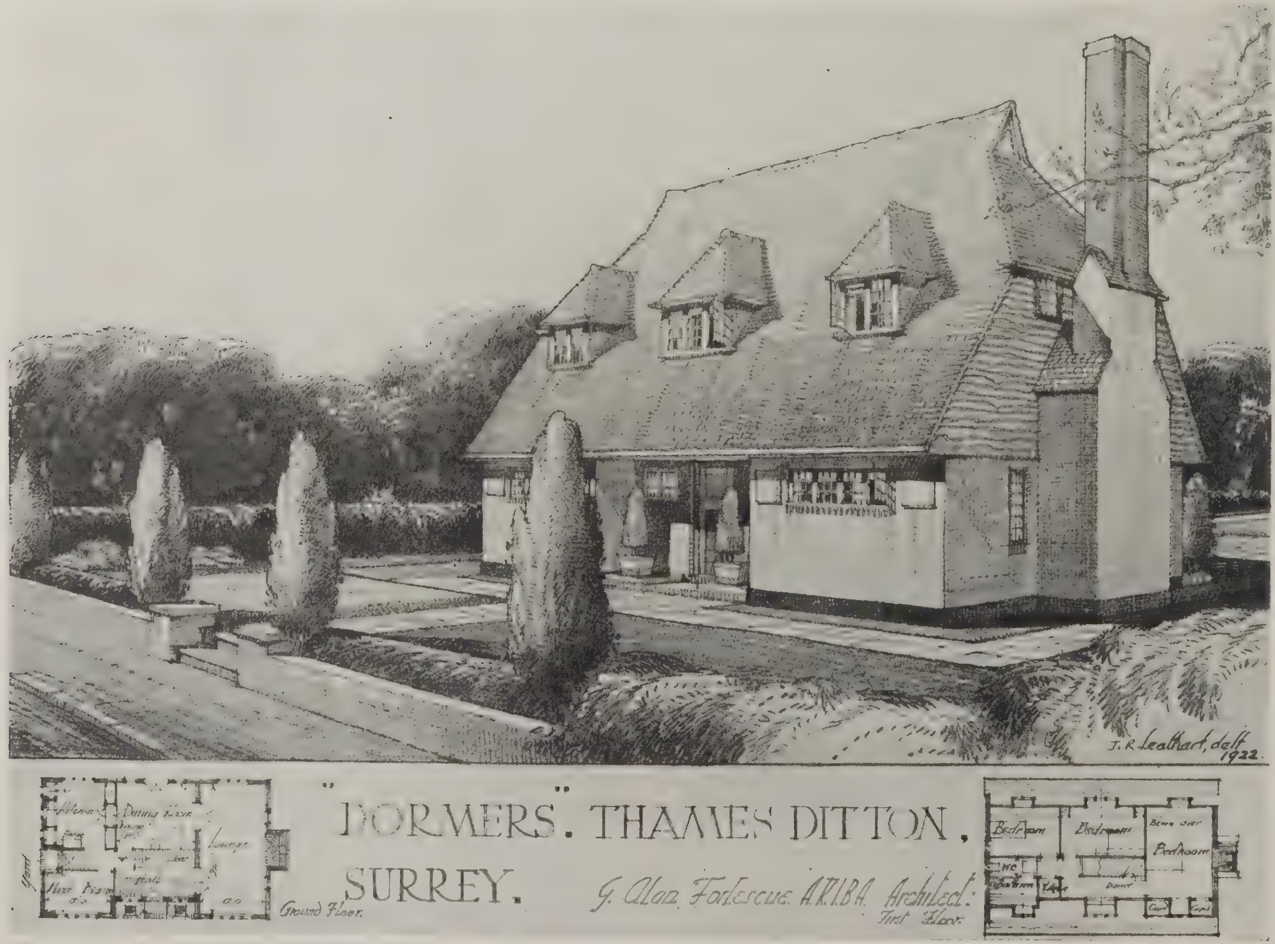
THIS house has been erected from the designs of Mr. G. Alan Fortescue, A.R.I.B.A., architect. The entrance front is laid out as a forecourt, in front of which is a low brick wall, this treatment being thoroughly in keeping with the composition of the house. There are two steps up from the pavement to the forecourt. Externally the 9 in. brick walls are covered with Portland cement, the last coat being applied with a "wood float" to obtain the necessary texture. In order to bring out the colours of the front door the walls have been twice distempered with Duresco white, and the tubs containing pyramid box trees at each side of the front door painted blue. The tiles are a rich dark brown turning to grey, and the elm boarding is stained black with two coats of Solignum to match the 11 in. concrete plinth which is twice tarred.



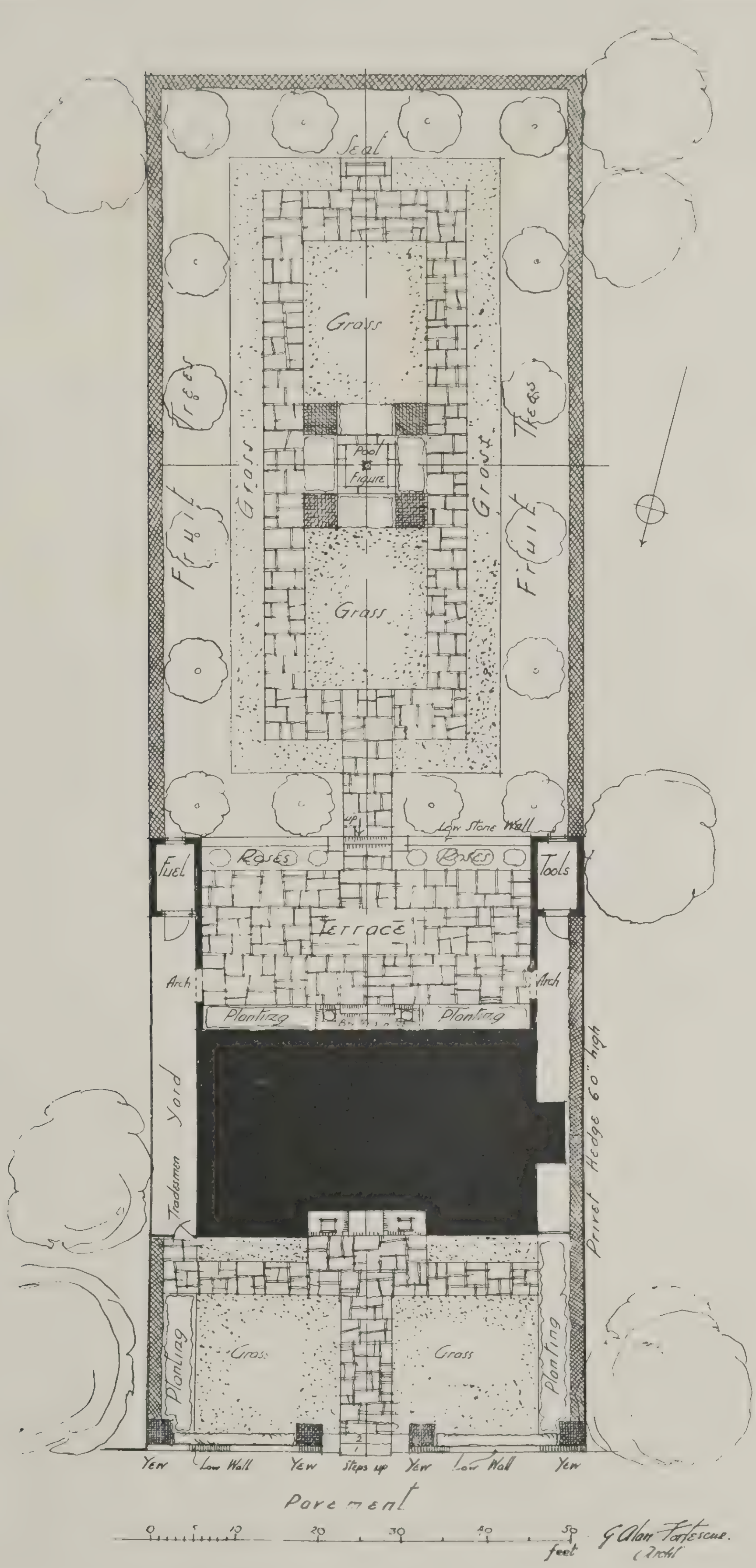
A VIEW FROM THE SOUTH-WEST.

Hand-made sand-faced tiles from Sussex, of dark brown colour on $\frac{3}{4}$ in. boarding, have been used for the roof. The valleys of the dormers are "swept" in the old manner, and "Bonnet" hip tiles have been used; 2 in. silver-grey bricks with rough joints have been used for the chimney stacks, and the external cills, thresholds, and blocks for box-tree tubs are in blue Stafford bricks. The standard steel light windows, in wood frames, have been fitted, the T iron bars of which have been taken out and fitted with $\frac{3}{4}$ in. lead cames.

The dining-room has been planned to be used solely as a feeding room, and is not intended as a room for general use. There is a service hatch from the kitchen to the dining-room. On the kitchen side the top part of the hatch forms a receptacle, with a glazed door, in which china may be stored. Beneath the


J. R. Leathart, delt 1922.
"DORMERS". THAMES DITTON, SURREY.
G. Alan Fortescue. A.R.I.B.A. Architect.
Kitchen
Dining Room
Lounge
Hall
Yard
Ground Floor.
First Floor.
Bedroom
Bedroom
Bedroom
WC
Bathroom
Dormer

THE ENTRANCE FRONT AND THE GROUND- AND FIRST-FLOOR PLANS.



GARDEN PLAN OF "DORMERS," THAMES DITTON, SURREY.
G. ALAN FORTESCUE, A.R.I.B.A., ARCHITECT.

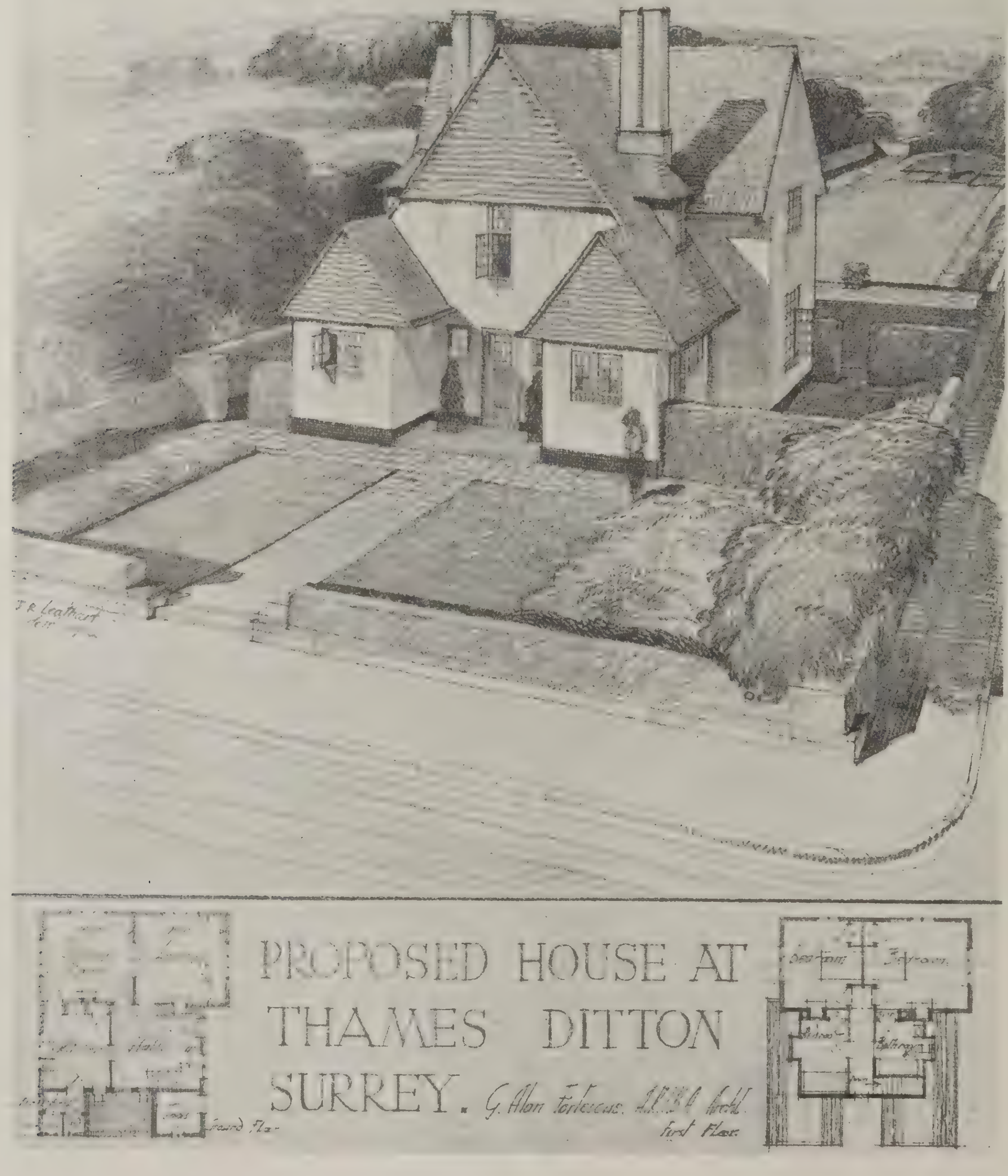
serving portion are drawers to pull in and out either side for knives, and underneath these and above the skirting a cupboard for glasses and decanters, etc. In the kitchen there are cupboards for dry store and for brooms built in each side of the serving hatch, forming one long fitting.

All heating is by built-in gas stoves except to the lounge and to No. 1 bedroom, which have coal fires. The gas stoves have concrete vents built into the brickwork instead of projecting chimney breasts, and these are taken above the ceiling into the loft-space. For the ventilation of the loft-space louvres have been formed in the gables. These also give a free circulation of air to the roof timbers. The surrounds to the gas stoves are of red briquette, 6 in. by 3 in. by 2 in., with $\frac{1}{4}$ in. raked-out joint, and the tile hearths and mantelshelf are of 6 in. by 6 in. red quarries twice beeswaxed. The lounge fireplace is constructed of brick up to ceiling level, with a 9 in. by 6 in. beam over, and the hearth is of herring-bone brick raised 2 in. above the floor.

The floors of the hall and the kitchen are of 9 in. by 9 in. red quarries, and the internal cills of 6 in. by 6 in. red quarries twice beeswaxed; the doors are of two panel, square both sides, the panels filled in with five-ply Venesta (birch), and the whole twice stained with Solignum; the skirting is 6 in. by 1 in. square; and the built-in cupboards to the bedrooms are taken to ceiling level and fitted inside with rods upon which to hang clothes.

All the ironmongery, electric light pendants, brackets, switch plates are in black ebony. The cooking is done, and the hot water for the bath is obtained by a Stimex gas stove.

The tiling was laid by Messrs. Hall & Co., of Croydon. The builders were Messrs. S. Macey and Sons (for "Dormers") and Messrs. Wheatley and Sons (for house at Thames Ditton).



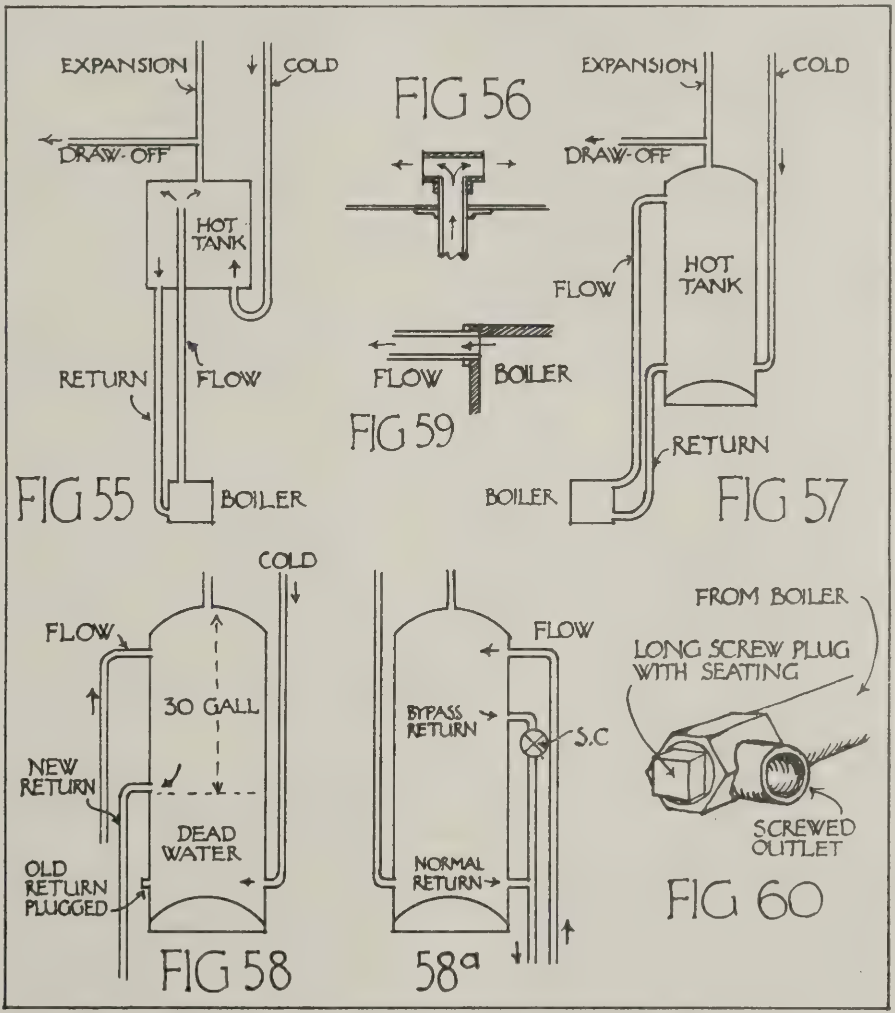
PROPOSED HOUSE AT THAMES DITTON SURREY. G. Alan Fortescue. A.R.I.B.A. Archt.

Little Things that Matter. XVII—Hot-Water Troubles

By EDWIN GUNN, A.R.I.B.A.

HOW often is an otherwise satisfactory house marred by the complaint that really hot water is not readily obtainable? The trouble is often due to quite minor faults, which, though they may be easily avoided, are commonly committed.

The diagram, Fig. 55, shows a type of hot-water system frequently installed. Both the flow and the return pipes enter the bottom of the tank or cylinder, the latter being prolonged inside to deliver its water into the upper part of the storage space. This does not look like a serious fault, but it is, nevertheless, prejudicial. The hot water is cooled in passing through 1 ft. of cold water in the cylinder as much as it would be in passing 50 ft. of air. Although in effect this heat is not lost, since it is given up to the water in storage, the water arrives cooler at the point from which supplies are drawn than need be the case. The cold supply in the same diagram is introduced through the bottom of the cylinder.



Remembering that the pressure of the cold supply is the motive power of the low-pressure system, it is evident that each time hot water is drawn it will be because it is impelled by the cold water entering to replace it. When this upward direction is given to the cold supply its tendency is to rise in a stream—"shooting up" and mixing with the hottest water, which it cools down. If the cold supply must necessarily enter beneath, a tee should be fitted on the connection inside the tank as shown in Fig. 56, to divert and spread its flow.

A better arrangement is shown in Fig. 57, in which the flow pipe enters at the side near the top, the return being taken off on the same side at the bottom, and the cold supply brought in opposite. Even where connections are correctly made the provision of a tank or cylinder out of proportion to the boiler may result in dissatisfaction. About twelve to sixteen gallons per sq. ft. of boiler heating surface is considered good practice. Where existing apparatus, which is not in that proportion, has proved unsatisfactory, a simple remedy may often be arrived at merely by raising the return connection higher and so reducing the bulk of water circulating. This increases the heat attained—see Fig. 58, where the effective capacity of the cylinder is reduced from 50 to 30 gallons, since the dead water in the lower part will not circulate.

Akin to this expedient is the contrivance of a by-pass return pipe, as Fig. 58a, which may be brought into action by opening a fullway stop valve at X. This is very useful where alternative gas-heating is in use on the ordinary circuit, as the capacity of the tank may be reduced at will when this is in action, which is particularly advantageous where the gas circulator is controlled by a thermostat—bringing it into use much more rapidly and checking gas consumption.

Further points in connection with hot-water supply, which are worth attention, are as follows:—

(1) In case the flow pipe tapping of a range boiler is made otherwise than on top be very careful to see that it is as high up as possible—in line with the top inside; otherwise the packing of the boiler manhole will soon be burnt owing to the cushion of air trapped in the boiler (Fig. 59). If it is on top the same bad effect will follow should the pipe drop below the upper surface of the boiler.

(2) The drain cock from a domestic boiler should be used periodically to flush off dirt and deposit, as done in larger installations. For this purpose a full-way stop-cock or plug valve is best, and as running off is a messy business, it is convenient and can usually be arranged to extend from the cock to a position over an external gulley or channel. Failing this, a screwed nipple adapter for a hose pipe should be fitted (Fig. 60).

(3) Where pipes pass through brickwork (as at the back or side of an independent boiler), it is best not to build them in in such a way as to leave no latitude for slight movement.

STUDENTS' SECTION

The Orders and their Application by the Italian Masters

By CHARLES GOURLAY, B.Sc., F.S.A. (Scot.), Professor of Architecture and Building, The Royal Technical College, Glasgow

(*Continued from October* 11, *page* 494)

THE Old Library, Venice, is a very dignified building by Sansovino, 1536, which sets rules at defiance. The lower arcade is Doric and has an entablature one-third, instead of one-fourth, of the height of the column. The upper arcade is Ionic, and its entablature is, in height, equal to one-half of the column which supports it. The adjoining building to the west is the Zecca or Venetian Mint, also built by Sansovino in 1536. The heavy cornice at top of its second story cuts off the topmost story, giving it the appearance of being a later addition. Except for this defect this design is well worthy of study because of its suitability for present-day practice, in which the varied treatment of its three stories and the regularity of its composition are applicable.

The garden front of the Villa Medici, on the Pincian Hill, Rome, by Annabale Lippi, 1540, is a very beautiful and indeed playful composition in the Orders, which is most appropriate to a loggia on a garden front. The archivolt of the central opening springs from the top of the entablature, the columns are coupled, and there is a column adjoining a pilaster at each end of the loggia.

The Loggetta at Venice, by Sansovino, dating from 1536–40, is a triple composition in which three wide archways of slightly low proportion are divided by two Corinthian columns having niches between them. The wider spaces are twice the width of the narrower ones, measuring from centre to centre of column in each case. Above is a high attic with sculptured panels, while the design is terminated by a balustrade of double-bellied balusters, and the pedestals divide the balusters into groups of four.

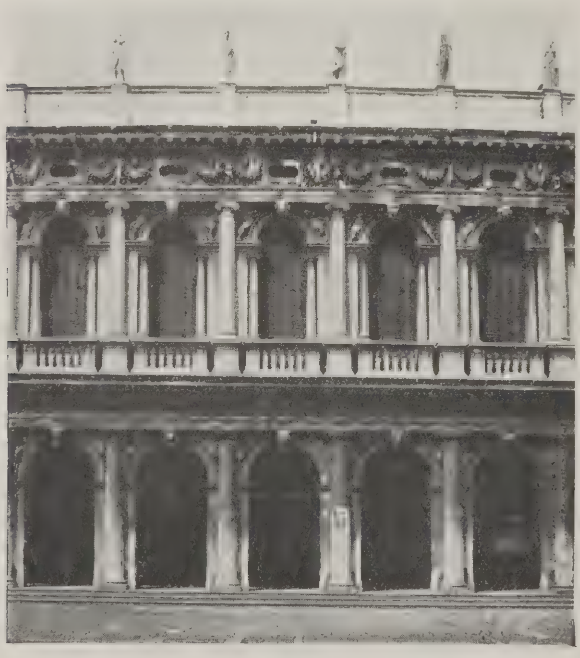
St. Peter's, Rome, the greatest building of the Renaissance period, is by Michelangelo, and dates from 1546–64. The application of the Corinthian Order internally as pilasters on a very large scale is probably due to Bramante. The arches between the piers are richly coffered, but the imposts supporting them project too much, for they extend beyond the face of the pilasters. The barrel-vault is coffered and the semi-dome of the apse is ribbed. The baldachino over the high altar has bronze wreathed columns, and was erected by Bernini in 1629–67. The scale is very large for it has a total height of 100 ft.

The three-storied façade of the Grimani Palace on the Grand Canal, Venice, by San Michele, date 1549, is a remarkable instance of the use of two similarly designed stories one above the other, a treatment not to be recommended, although it is quite successful in this instance. Closer inspection shows, however, that the similarity is more apparent than real, for the entablature of the upper story is proportioned to govern the height of the whole façade and not to the Order of the top story only, also the second story has pedestals, while the top story has none.

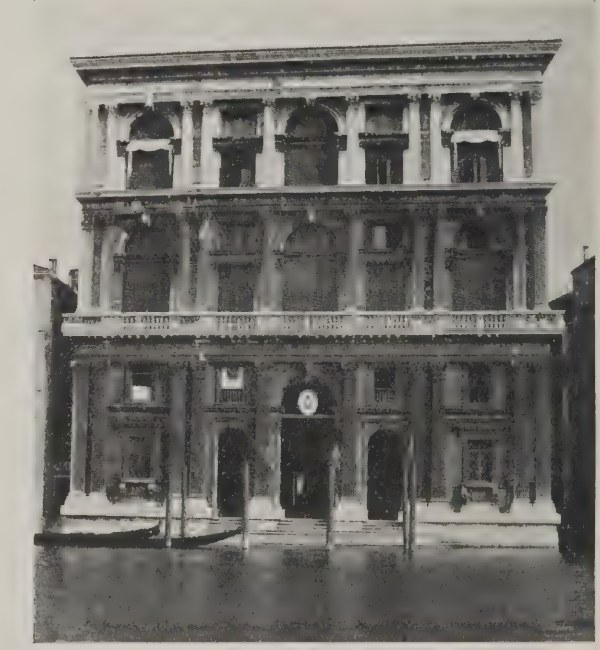
The interior of the circular Capella Pellegrini, attached to the church of San Bernardino, Verona, dating from 1557, is said to be San Michele's most famous work. An attached Corinthian Order is here spaced so as to give four wide and four narrow intercolumniations, the wider spaces being recessed and the narrower containing niches. The jambs have pilasters and the imposts are returned on the face of the jamb, forming entablatures above the pilasters.

The façade of the Uguccioni Palace, Florence, stated to be by Mariotto Folfi, dated 1521–1600, is a stately elevation of two stories of coupled columns resting on a rusticated basement containing an arcade. The great projecting eaves, casting a deep shadow, are a valuable feature of the design.

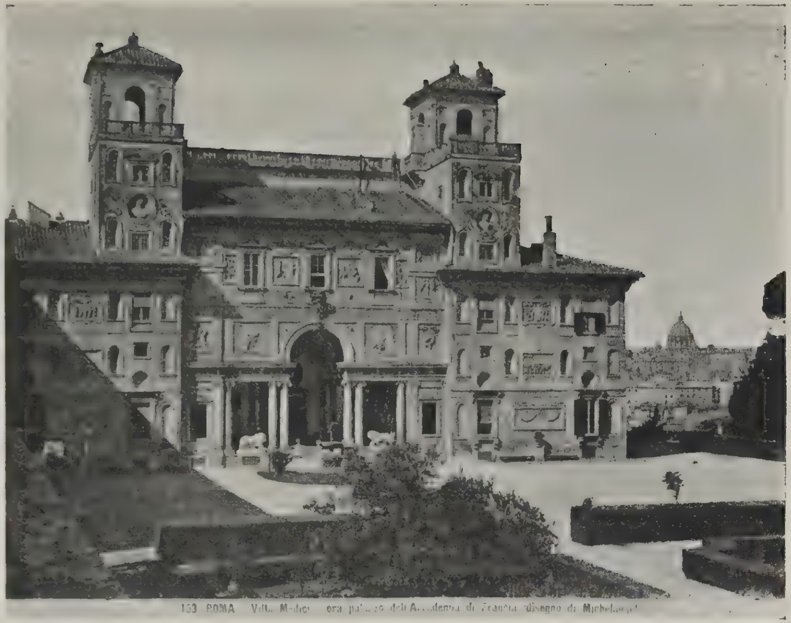
In the Palazzo Municipale, Vicenza,



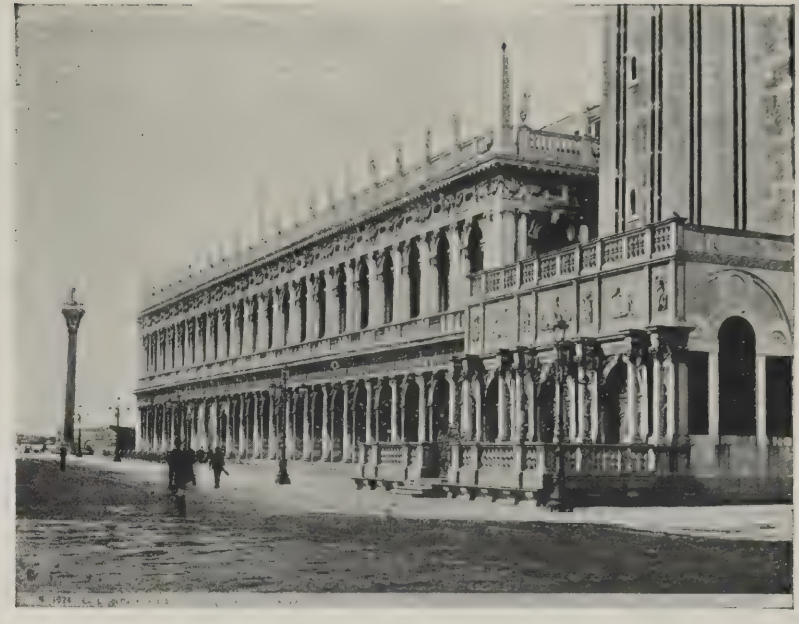
THE OLD LIBRARY, VENICE (1536).
SANSOVINO, ARCHITECT



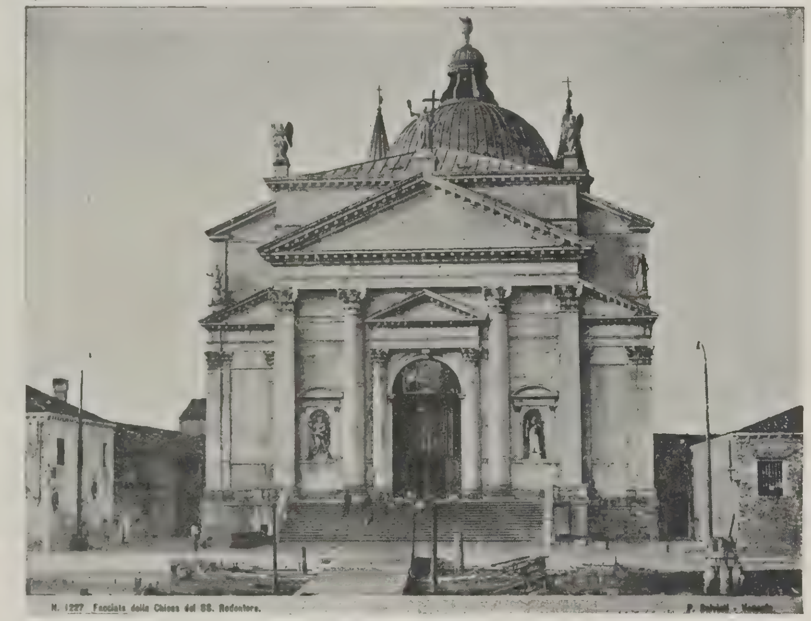
THE GRIMANI PALACE, GRAND CANAL, VENICE (1549).
SAN MICHELE, ARCHITECT.


133 ROMA - Villa Medici ora palazzo dell'Accademia di Francia (disegno di Michelangelo)

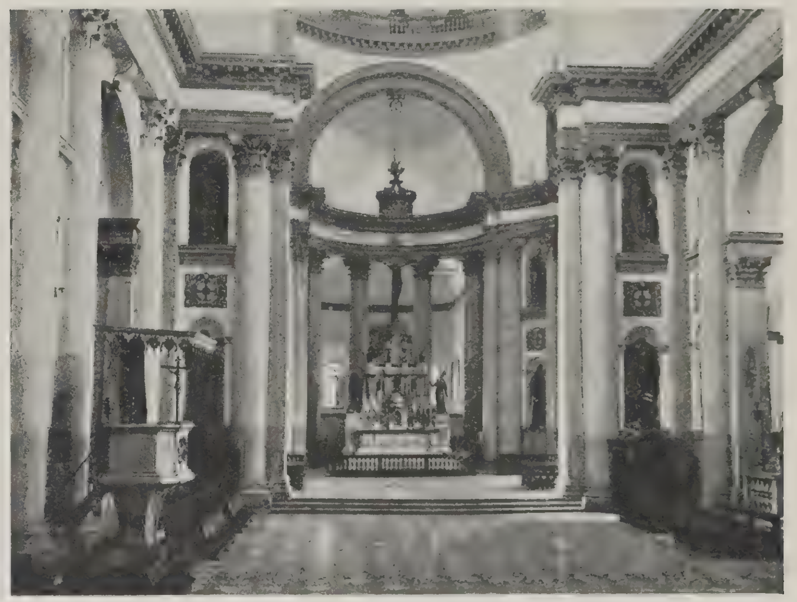
GARDEN FRONT OF THE VILLA MEDICI, PINCIAN HILL, ROME (1540).
ANNABALE LIPPI, ARCHITECT.



THE LOGGETTA, VENICE (1540).
SANSOVINO, ARCHITECT.



FACADE OF IL REDENTORE, VENICE (1576-92)
PALLADIO, ARCHITECT



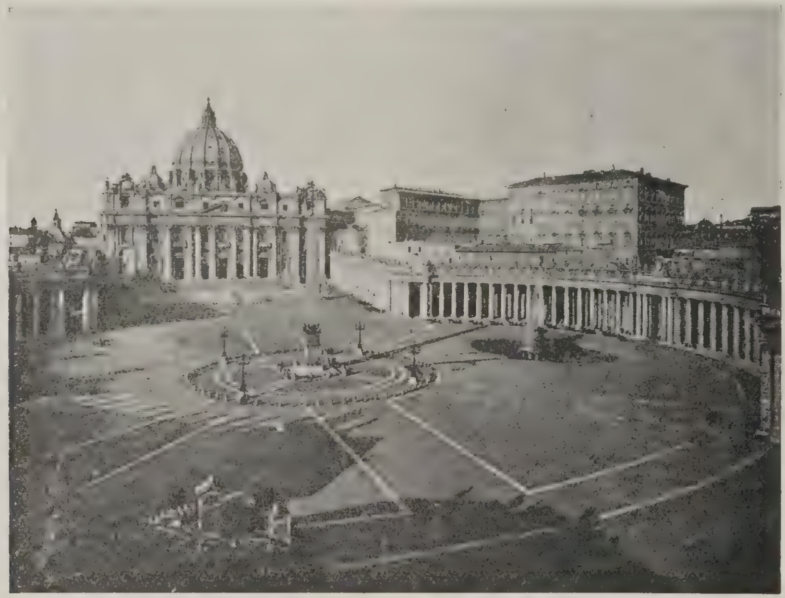
IL REDENTORE, VENICE, INTERIOR LOOKING EAST (1576-92).
PALLADIO, ARCHITECT.

erected in 1571, by Palladio, tall attached columns of the Composite Order rest on high block plinths, and carry the full entablature of the Order, which is broken round them. The lower story is a loggia, and the windows above break through the architrave of the entablature at top and have balconies at their sills, which spring from brackets in the spandrils of the arches below.

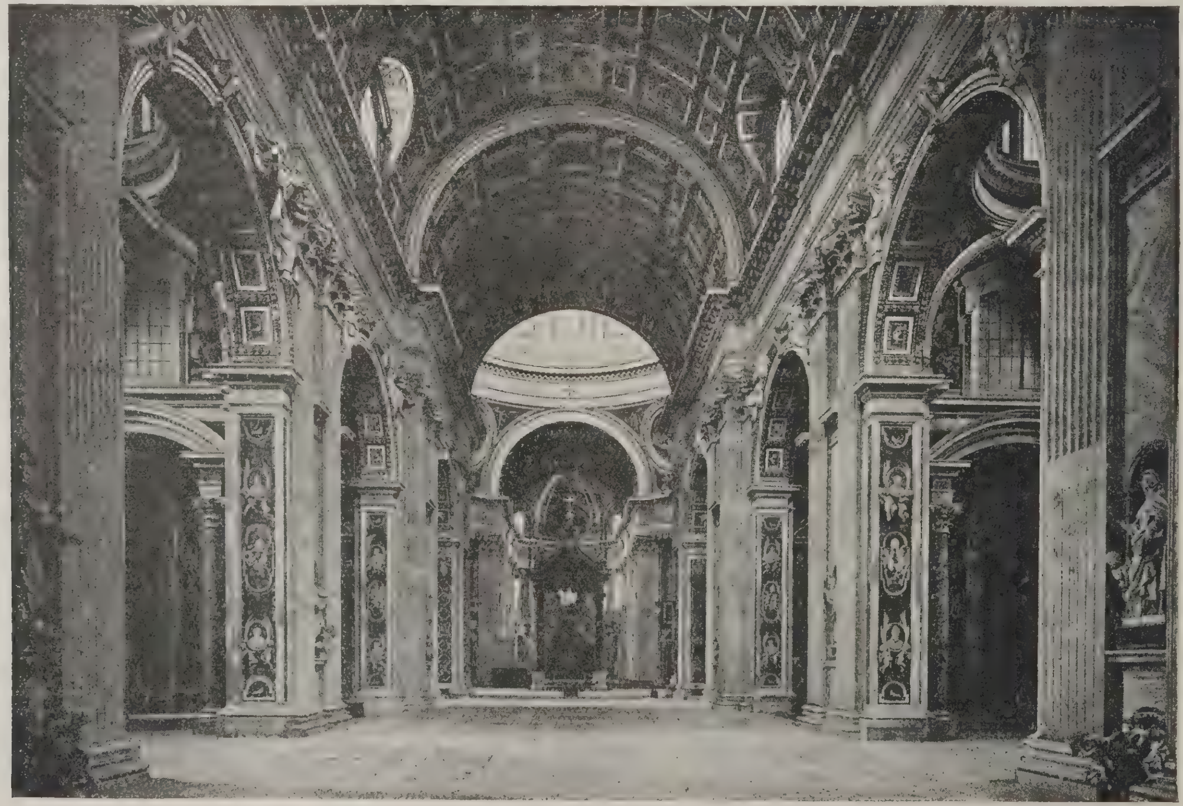
In the façade of the church of Il Redentore, Venice, by Palladio, dating from 1576–92, the largest Orders are Composite, and they rise from the same base as the Corinthian Orders of the doorway. The Corinthian Order is also used to decorate the niches. The pediment over the doorway could be omitted with advantage to the whole design, because it competes with the main pediment above it.

The interior of this church shows the use of attached Corinthian columns with adjoining pilasters, which are diminished and have entasis to the same extent as the columns, which is not good practice. The Corinthian Order is also used as pilasters to enrich the piers from which the arches spring, thus using the same Order on two scales and rising from the same base line.

(*To be continued*).



FACADE OF ST. PETER'S, ROME (1605–12), BY CARLO MADERNO, AND PIAZZI WITH COLONNADE (1629–67), BY BERNINI



INTERIOR OF ST. PETER'S, ROME (1546–64). MICHEL ANGELO, ARCHITECT

The Liverpool University School of Architecture

The Policy of the School and the Work of the Students

THE reassembling of the School of Architecture of the University of Liverpool after the long vacation brings many new students with the obvious gap left by the departed fifth year men. There has been a deal of travelling by students in France, Italy and notably in America.

Messrs. Knight, Vallis and Fry spent six months of the summer—their summer term and long vacation—working in New York offices: Mr. Knight with Amer Embury, whose colonial domestic work is well known on both sides of the Atlantic; Mr. Vallis with Helme and Corbett, the architects of the Bush Terminal Buildings in America and London; and Mr. Fry with Carrère and Hastings, on whom has descended the highest honours of the R.I.B.A.

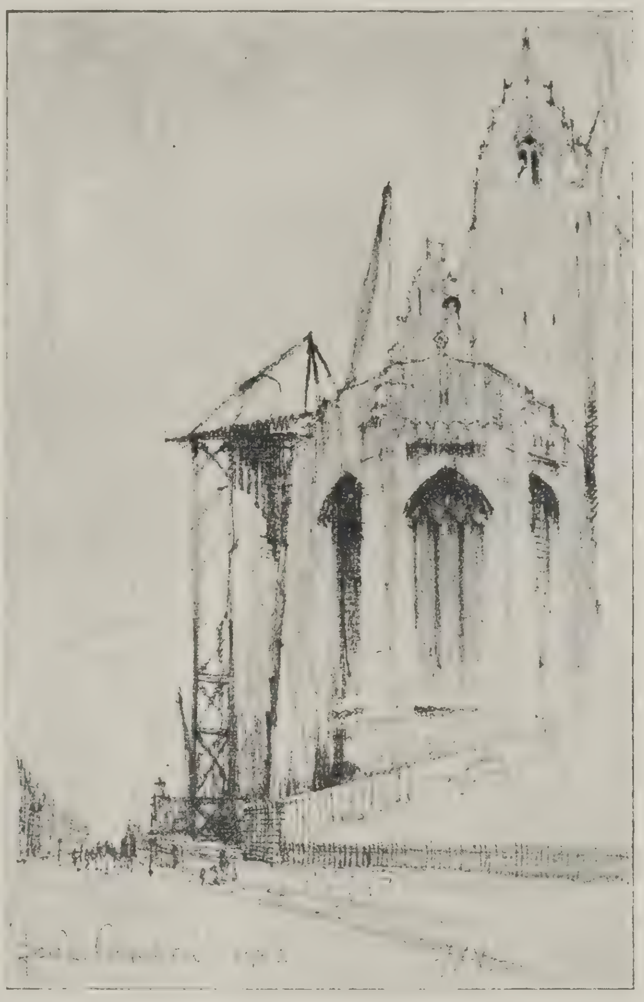
They regard their trip as successful, both for the experience gained in their work there, and for the widening influence that travel and a closer acquaintance with the robust school of American Architecture has brought them. They were able, besides thoroughly exploring the possibilities of New York, to visit Boston, and, memorably, Washington.

Their office experience has been of the most varied character, from great Masonic Memorials to Spanish Mission domestic work and cheap New York apartments.

The annual exhibition of students sketches made during long vacation has resulted in a very cheerful show in colour, pencil and pen. Mr. Velarde took the first prize, and other awards went to Messrs. Bridgwater and Fry. Some examples of the work of these students are illustrated in this issue.

MR. P. B. HASWELL, B.ARCH.
THE WINNER OF THE R.I.B.A. MEDAL FOR DESIGNS.
(*See also page* 625.)

One of the students, Mr. P. B. Haswell, B.Arch., has just been awarded by the Council of the R.I.B.A. their new medal for the best set of four designs—one carried to the working drawing stage—by any student of a recognised school who has obtained his A.R.I.B.A. by taking a five years' course.



LIVERPOOL CATHEDRAL. FROM A SKETCH BY F. A. VELARDE, LIVERPOOL UNIVERSITY SCHOOL OF ARCHITECTURE.

The courses of study arranged by the school are as follows :—

(1) FOR CERTIFICATE AND DEGREE OF B.ARCH.

Ordinance.

1. The degree of Bachelor of Architecture shall be conferred either as an Ordinary Degree or as a Degree with Honours in Architectural Design or with Honours in Architectural Construction.

2. All candidates for the degree of Bachelor of Architecture shall be required to have passed the Matriculation Examination, and, thereafter, to have attended approved courses of study. The entire course of study shall extend over not less than five academic years, except as provided in Clause 4.

3. There shall be five examinations and reviews of work for the degree of Bachelor of Architecture :—

The First Examination.
The Second Examination.
The Third Examination.
The Fourth Examination.
The Final Examination.

The First and Second Examinations may not be taken before the end of the First and Second Years of University study respectively, except as provided in Clause 4: the Third, Fourth and Final Examinations may not be taken before the end of the Third, Fourth and Fifth Years of University study respectively.

4. Graduates of approved Universities and other matriculated candidates, who in the opinion of the Faculty are qualified by previous work and training, may be excused the first and second years' study and examinations, but shall be required to take, together with the Third Examination, one or more papers of the First and Second Examinations as the Faculty shall in each case determine.

5. The Degree of Bachelor of Archi-

tecture may be given with (*a*) Honours in Architectural Design, (*b*) Honours in Architectural Construction, on the result of the Fourth and Final Examinations considered together.

6. Candidates during their Fourth and Fifth Years shall be required to spend the third term and summer vacation of each session in practical work under approved conditions, except in such special cases as Faculty shall determine.

Regulations.

1. The subjects of the First Year's course of study and of the First Examination, with the following relative values attached, shall be :—

- (*a*) Studio Work in—
  - (i) Elements of Architectural Construction 5
  - (ii) Elements of Architectural Form 5
- (*b*) Elements of Architectural Construction 3
- (*c*) History of Architecture .. 3
- (*d*) Physics and Mechanics .. 1
- (*e*) Geology 1
- (*f*) Descriptive Geometry and Sciagraphy 1
- (*g*) Presentative Technique and Rendering 1
- (*h*) Elements of Architectural Form 1

2. The subjects of the Second Year's course of study and of the Second Examination, with the following relative values attached, shall be :—

- (*a*) Studio Work in—
  - (i) Elementary Architectural Design 5
  - (ii) Architectural Construction 5
- (*b*) Architectural Construction .. 3
- (*c*) History of Architecture .. 3
- (*d*) Symbolism in Classic Architecture 1
- (*e*) Theory of Architectural Planning 1
- (*f*) Perspective 1
- (*g*) (Optional subject) Drawing or Modelling 1

3. The subjects of the Third Year's course of study and of the Third Examination, with the following relative values attached, shall be :—

- (*a*) Studio Work—
  - (i) Architectural Design .. 5
  - (ii) Architectural Construction 5
- (*b*) Mechanics of Architectural Construction 2
- (*c*) Sanitation and Hygiene .. 1
- (*d*) Laboratory Demonstrations in Strength of Materials .. 1
- (*e*) Theory of Architectural Design 1
- (*f*) Surveying 1
- (*g*) A set of measured drawings and surveys of a building approved for measurement by the Faculty 2
- (*h*) (Optional subject) Drawing from Life or Modelling .. 1

In the First, Second, Third, and Fourth Examinations for the Degree and Diploma in Architecture, students failing in any subject or subjects to which the value of 1 or 2 is attached, shall be permitted to proceed to the next year's course of study and the next examination, but shall be required—in addition to the subjects prescribed for that examination—to repeat the courses and pass the examinations in the subject or subjects in which they have failed in the preceding examination. But in no case shall students failing a second time in such subject or subjects be permitted to proceed to the next year's course of study until they shall have satisfied the Examiners in the subject or subjects in which they have failed on two occasions.

4. The subjects of the Fourth Year's course of study and of the Fourth Examination, with the following relative values attached, shall be :—

(i) *For those taking the Ordinary Degree :*

- (*a*) Studio Work in :
  - (i) Advanced Architectural Design 5
  - (ii) Preparation of Working Drawings 5
- (*b*) Advanced Architectural Construction 2
- (*c*) Decoration 2
- (*d*) Furniture 1

(ii) *For those taking the Degree with Honours in Architectural Design :*

- (*a*) Studio Work in :
  - (i) Advanced Architectural Design 10
  - (ii) Preparation of Working Drawings 5
- (*b*) Advanced Architectural Construction 2
- (*c*) Decoration 2
- (*d*) Furniture 1
- (*e*) Advanced Architectural Programmes 2

(iii) *For those taking the Degree with Honours in Architectural Construction :*

- (*a*) Studio Work in :
  - (i) Advanced Architectural Design 5
  - (ii) Preparation of Working Drawings 10
- (*b*) Advanced Architectural Construction 3
- (*c*) Decoration 2
- (*d*) Furniture 1
- (*e*) Architectural Construction in Reinforced Concrete .. 2

Candidates desiring to take the Degree with Honours in Architectural Construction must, before entering upon their Fourth Year of study, satisfy the Board of Studies in Architecture and Civic Design as to their competence in Mathematics.

5. The subjects of the Fifth Year's course of study and of the Final Examination, with the following relative values attached, shall be :—

(i) *For those taking the Ordinary Degree :*

- (*a*) Studio Work in :
  - (i) Advanced Architectural Design 5
  - (ii) Advanced Architectural Construction 5
- (*b*) Specifications, Estimates and Contracts 1
- (*c*) Professional Practice .. 1
- (*d*) Thesis, showing advanced and individual work in *one* of the following subjects :
  - (i) Historical Architecture : the work to be based on the study of actual buildings 5
  - (ii) Theory of Architectural Design 5
  - (iii) Science as applied to Architectural Construction : a special study of an application of Science to definite problems of Architectural Construction 5
  - (iv) Architectural Design, including Decoration : a study in civic, monumental, decorative or other branch of Architectural Design 5

The subject proposed by the candidate for his thesis must be submitted for the approval of the Board of Studies in Architecture and Civic Design not later than the first day of February, and the thesis presented not later then the first day of June preceding the examination. All theses offered in subjects (iii) and (iv) must be accompanied by a set of drawings.

(ii) *For those taking the Degree with Honours in Architectural Design :*

- (*a*) Studio Work in :
  - (i) Advanced Architectural Design 10
  - (ii) Advanced Architectural Construction 5
- (*b*) Specifications, Estimates and Contracts 1
- (*c*) Professional Practice .. 1
- (*d*) Civic Architecture and Landscape Design 3
- (*e*) Thesis, as specified under Regulation 5 (i) (*d*) (ii) or 5 (i) (*d*) (iv) and subject to the same conditions .. 10

(iii) *For those taking the Degree with Honours in Architectural Construction :*

- (*a*) Studio Work in :
  - (i) Advanced Architectural Design 5
  - (ii) Advanced Architectural Construction 10
- (*b*) Specifications, Estimates and Contracts 2
- (*c*) Professional Practice .. 1
- (*d*) Quantity Surveying .. 2
- (*e*) Thesis, as specified under Regulation 5 (i) (*d*) (iii) and subject to the same conditions 10

6. The minimum attendance required of candidates in each Term shall be twenty-five hours a week.

7. Students in the School of Architecture shall not be permitted to take the Certificate or Diploma Courses in the Department of Civic Design, until they have passed the Third Examination in Architecture.

8. The fees for the First, Second and Third Years' courses of study shall be £35 in each case, and for the Fourth and Fifth years' courses of study, £22 10s. in each case. The fee for the Examinations shall be £5 payable in one sum.

(2) FOR CERTIFICATE AND DIPLOMA

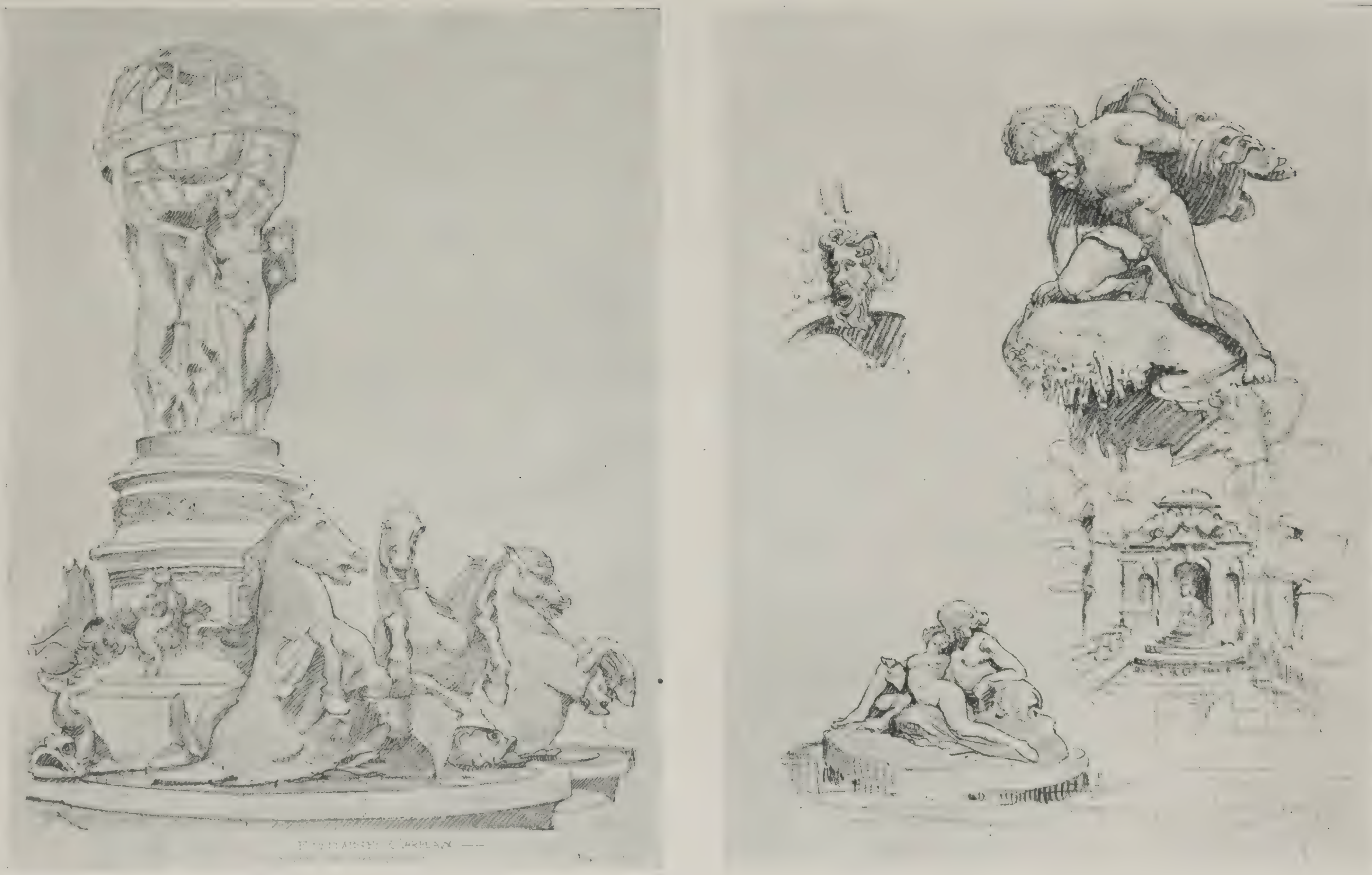
Ordinance

1. The University shall award a Diploma in Architecture to candidates who take the Degree Course and pass the five examinations of that course, but who have not passed the Matriculation examination.

2. Candidates who, in the opinion of the Faculty, are qualified by previous work and training, may be excused the First and Second Years' study and Examinations, but shall be required to take, together with the Third Examination, one or more papers of the First and Second Examinations as the Faculty shall in each case determine.

3. The Regulations governing the five years' courses of study for the degree of B.Arch. shall apply to and govern the courses for the Diploma in Architecture.

4. The Diploma in Architecture may be given with (*a*) Distinction in Architec-



THE FONTAINE CARPEAUX AND THE FONTAINE DE MÉDICI, PARIS.
FROM SKETCHES BY D. L. BRIDGWATER, LIVERPOOL UNIVERSITY SCHOOL OF ARCHITECTURE.

tural Design, (*b*) Distinction in Architectural Construction, on the results of the Fourth and Final Examinations of the Degree in Honours considered together.

5. The University shall award a Certificate in Architecture to Candidates for the Degree or Diploma in Architecture who take the first three years of the Degree Course, and who pass the First, Second and Third Examinations.

6. The exceptions specified under Clause 2 of this Ordinance shall apply also to the Certificate.

7. Candidates for the Diploma during their fourth and fifth years shall be required to spend the Third Term and Summer Vacation of each session in practical work under approved conditions, except in such special cases as the Faculty shall determine.

8. The Regulations governing the first three years of the course for the Degree of B.Arch. shall apply to and govern the course for the Certificate in Architecture.

(3) CERTIFICATE IN ARCHITECTURAL DESIGN

This Certificate is designed to meet the case of students who wish to come to the School of Architecture for its special teaching in Architectural Design.

CERTIFICATE IN CIVIC DESIGN

Students may take Civic Design as an additional optional subject in the Fourth and Fifth years of the Degree or Diploma Course in Architecture, and may thereby qualify for the Certificate in Civic Design.

The staff is as follows: School of Architecture: C. H. Reilly, O.B.E., M.A., Cantab., F.R.I.B.A., Professor (Roscoe Professor of Architecture in charge of School); L. B. Budden, M.A., A.R.I.B.A. (Senior Independent Lecturer and Studio Instructor); E. R. F. Cole, M.C., B.Arch., A.R.I.B.A. (Lecturer in Rendering, Perspective and Sciagraphy, and Studio Instructor in Design); J. E. Marshall, B.Arch., M.S.A. (Lecturer and Studio Instructor in Construction); B. A. Miller, A.R.I.B.A. (Junior Lecturer and Studio Instructor in Design); J. W. Williams (Junior Lecturer and Studio Instructor in Construction); G. Gilbert Scott, R.A., F.R.I.B.A. (Reader in Ecclesiastical Architecture); C. J. Allen (Recognised Teacher of Modelling, City School of Art); W. C. Penn, M.C., R.O.I. (Recognised Instructor in Drawing from Life, City School of Art); J. P. Droop, M.A., Professor (Special Lecturer in Classical Archæology); P. G. H. Boswell, O.B.E., D.Sc., M.Inst.M.E., F.G.S., Professor (Special Lecturer in Geology); W. Mason, D.Sc., Assoc.M.Inst.C.E., A.M.I.Mech.E., Professor (Special Lecturer in Strength of Materials); L. R. Wilberforce, M.A., Professor (Special Lecturer in Physics); Miss A. E. Edwards, M.B.E. (Secretary and Librarian).

Department of Civic Design: L. P. Abercrombie, M.A., A.R.I.B.A., Professor (Lever Professor of Civic Design); T. H. Mawson (Special Lecturer in Landscape Design); J. A. Brodie, M.Eng., Past Pres. Inst.C.E., M.I.Mech.E., Associate Professor (Special Lecturer in Civic Engineering); S. A. Kelly, F.S.I. (Special Lecturer in Civic Engineering); H. B. Ward, M.Eng., Assoc.M.Inst.C.E., F.S.I. (Special Lecturer in Civic Engineering); E. W. Hope, O.B.E., M.D., D.Sc., Professor (Special Lecturer in Civic Hygiene); J. J. Clarke, M.A. (Special Lecturer in the Law of Housing and Town Planning); A. C. Holliday, B.Arch., A.R.I.B.A. (Research Student in Civic Design); Miss S. Townshend (Secretary).

R.I.B.A.

The War Memorial.

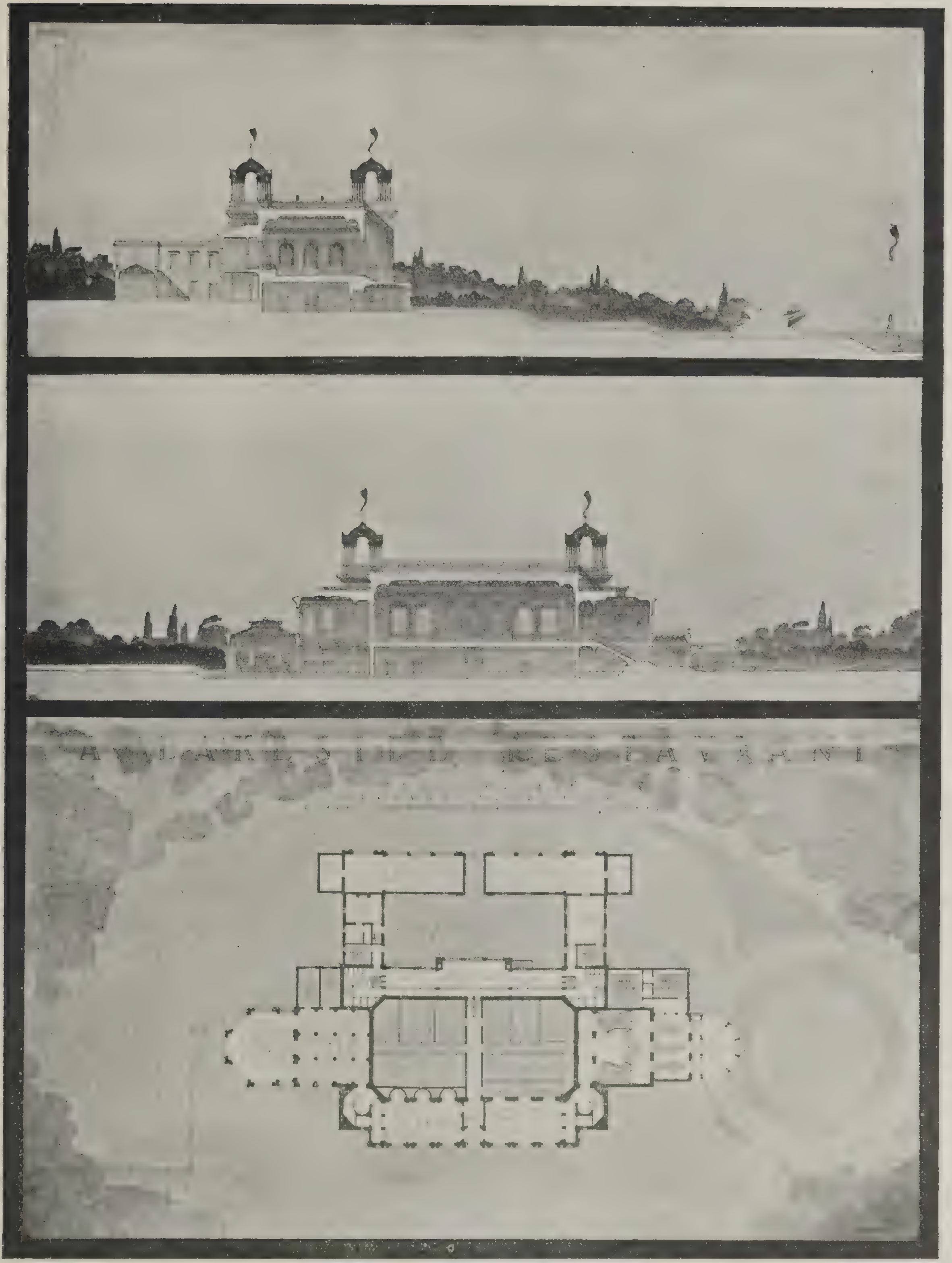
The Rt. Hon. the Earl of Crawford and Balcarres has consented to unveil a war memorial tablet in the Galleries of the Royal Institute on Monday, November 20, at 3 p.m.

Council Meeting.

At the last meeting of the Council it was decided to take immediate steps to lodge the requisite Parliamentary notice in November next of the intention of the R.I.B.A. to bring forward an Architects' Registration Bill. It was further decided to convene a general meeting of the Royal Institute at an early date to obtain the approval of the general body to the draft Registration Bill prepared by the Registration Committee. The Code of Professional Conduct and Practice adopted in 1920 and published in the Calendar was rescinded and ordered to be deleted from the Calendar. The Ashpitel Prize for 1922 and the Mark of Distinction for Thesis in connection with the Final and Special Examinations were awarded to Mr. A. S. Reid.

Max Fry 22
The Hecksch[er] Building from the Plaza
Queensborough Bridge. 12.6.22.
Max Fry 22

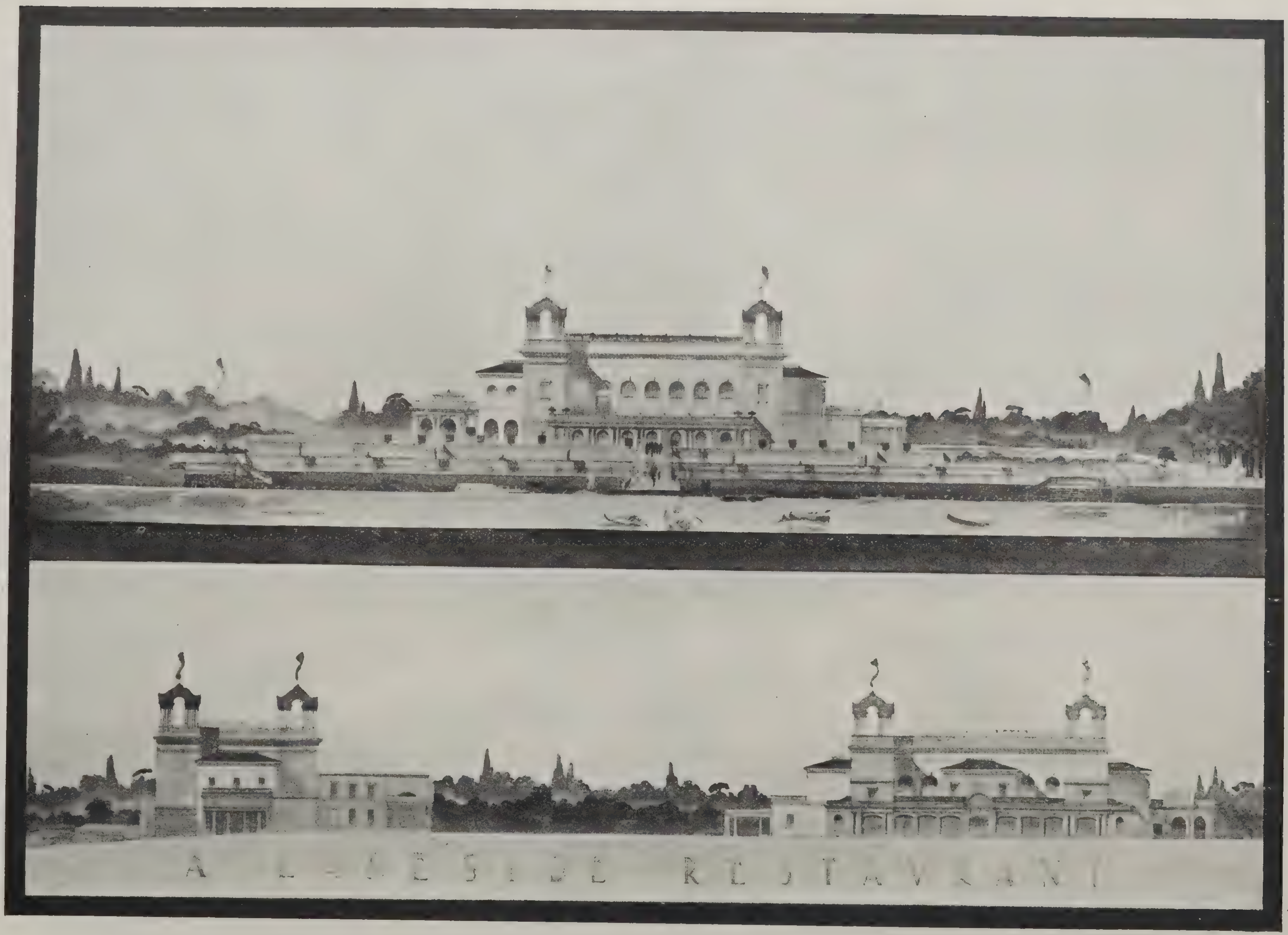
THE HECKSCHER BUILDING AND QUEENSBOROUGH BRIDGE
FROM SKETCHES BY E. MAXWELL FRY, LIVERPOOL UNIVERSITY SCHOOL OF ARCHITECTURE.



"A DESIGN FOR A LAKESIDE RESTAURANT."

BY P. B. HASWELL, B.ARCH., LIVERPOOL UNIVERSITY SCHOOL OF ARCHITECTURE.

(One of a set of Drawings awarded the R.I.B.A. Medal for Designs.)



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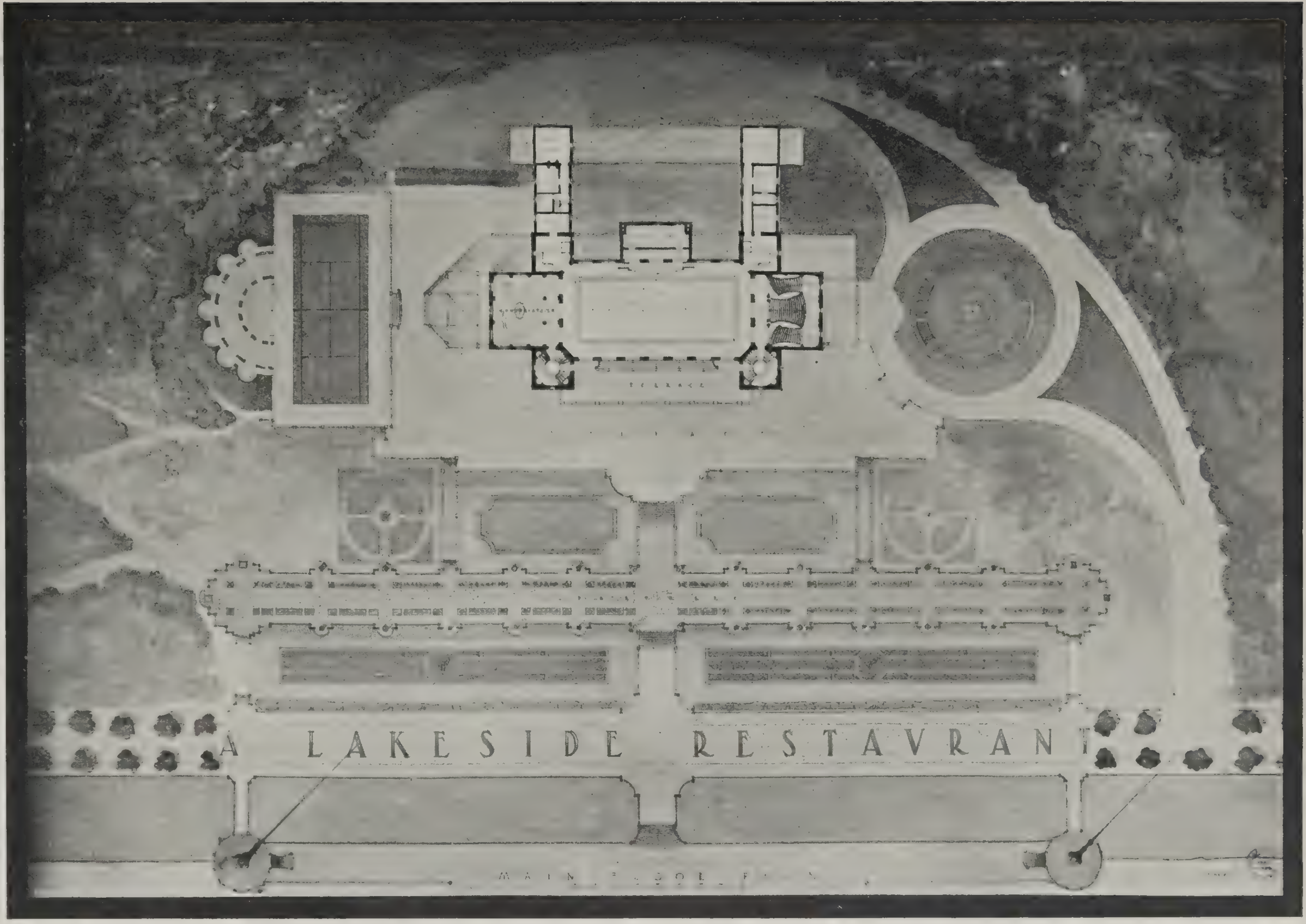

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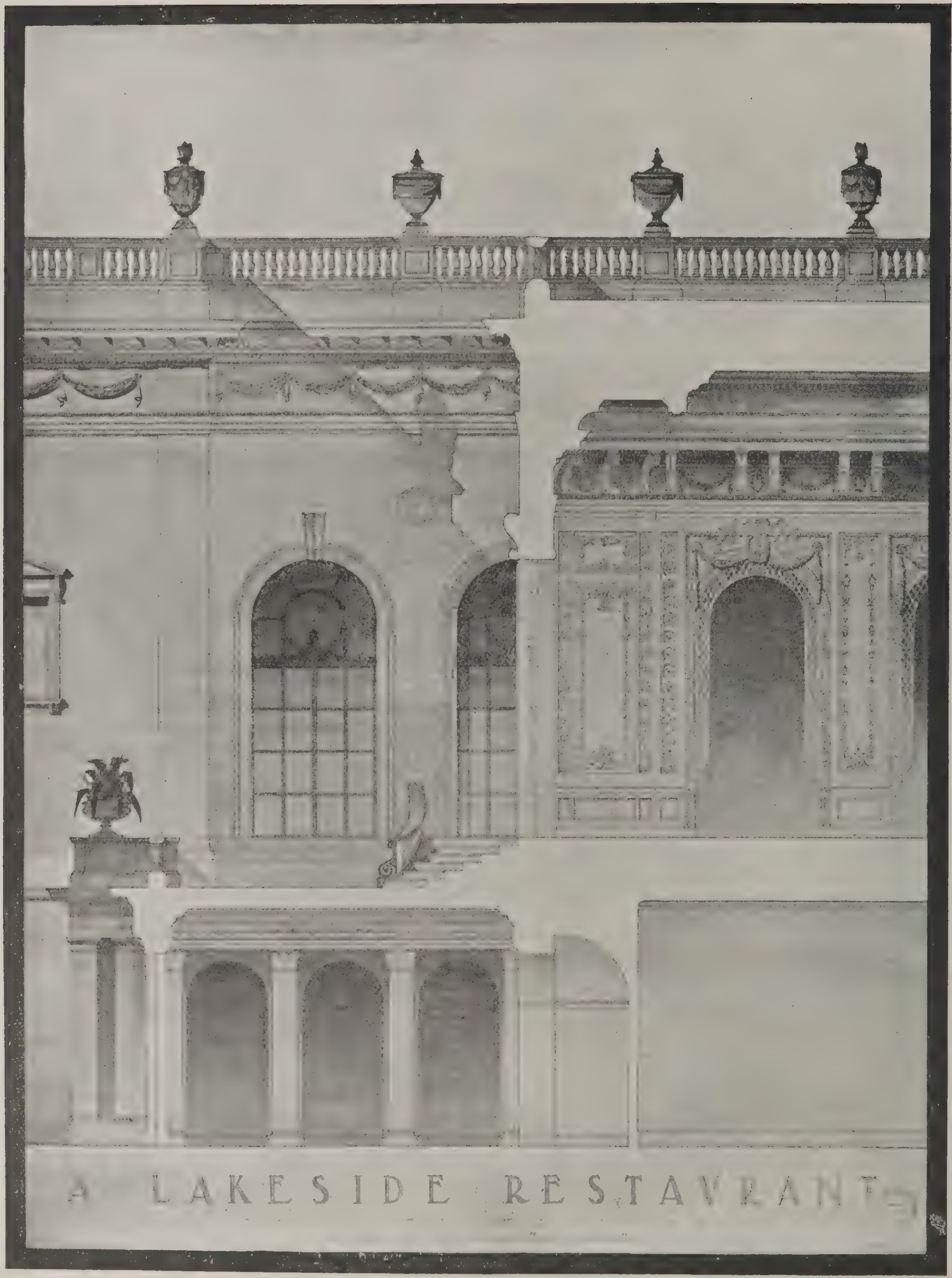

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Magazines of the Month*

A Literary and Pictorial Digest

MODERNE BAUFORMEN illustrates, as usual, a good deal of modern German housing-scheme work, and also publishes illustrations of buildings and interiors designed by Mr. Derry Roth, the Berlin architect. Some fine specimens of furniture designed by him are included.

L'EMULATION, the organ of the Société Centrale d'Architecture in Belgium, has some fine plate illustrations of the Place Royale in Brussels, described as one of the city's most precious possessions. In spite of the strictures of the Emperor Joseph II, who condemned it as "stupid and tasteless," the Place Royale has remained an object of universal admiration, and certain portions, notably the Borgendael of Embrace, may justly claim to be considered models of their kind.

The chief feature of the October issue of THE ARCHITECTURAL REVIEW is an article on Sir Philip Sassoon's house at Lympne, illustrated by delightful photographs by Mr. F. R. Yerbury. A coloured reproduction of Conrade's painting of the interior of Les Invalides is also given, and Mr. Chalton Bradshaw contributes an article on Two Tombs on the Via Latina, accompanied by finely photographed details.

DOORWAY OF A GOVERNMENT OFFICE IN BERLIN. WERRY ROTH, ARCHITECT.
(From "Moderne Bauformen")

THE ARCHITECTURAL FORUM illustrates a Chinese Temple in Formosa. A Buddhist temple of the type usually found on unrestricted sites, it is beautifully situated on the side of a little hill, facing south-west.

The well-known conservatism of the "heathen Chinee" is nowhere better demonstrated than in the art of building. In other countries to see a building is to be able to date it fairly accurately, but in China the same rules have been adhered to for so long that the appearance of a temple such as that described gives no sort of clue as to whether it has stood for 30 years or a thousand. Obviously, however, a type of architecture which could endure for so long must have its good points.

The house built for himself by Mr. F. L. S. Mayers, of Mr. Bertram Goodhue's office, is the subject of an illustrated article. The colour-scheme of the exterior, a combination of stone and stucco, is thoroughly harmonious.

THE AMERICAN ARCHITECT, of September 13, treats of colour in architecture, illustrating various examples of its successful use. In the Fulton Theatre, New York, the material used was terra-cotta throughout, except the painted panel under the cornice, which is in coloured cement, and the reveals of arched doorways in highly coloured glass mosaic. Diaper pattern of walls is developed in deep amber yellow and ivory, with blue spots at the intersection of lattice, this blue being repeated in the brackets, soffit, and fret ornament of the cornice. Mr. Cameron continues his article on the Relation of Pipe Organs to Architecture, and the prize-winning designs in the Beaux Arts competition are also reproduced.

SOUTH FRONT OF SIR PHILIP SASSOON'S HOUSE AT LYMPNE. HERBERT BAKER, F.R.I.B.A., ARCHITECT.
(From "The Architectural Review.")

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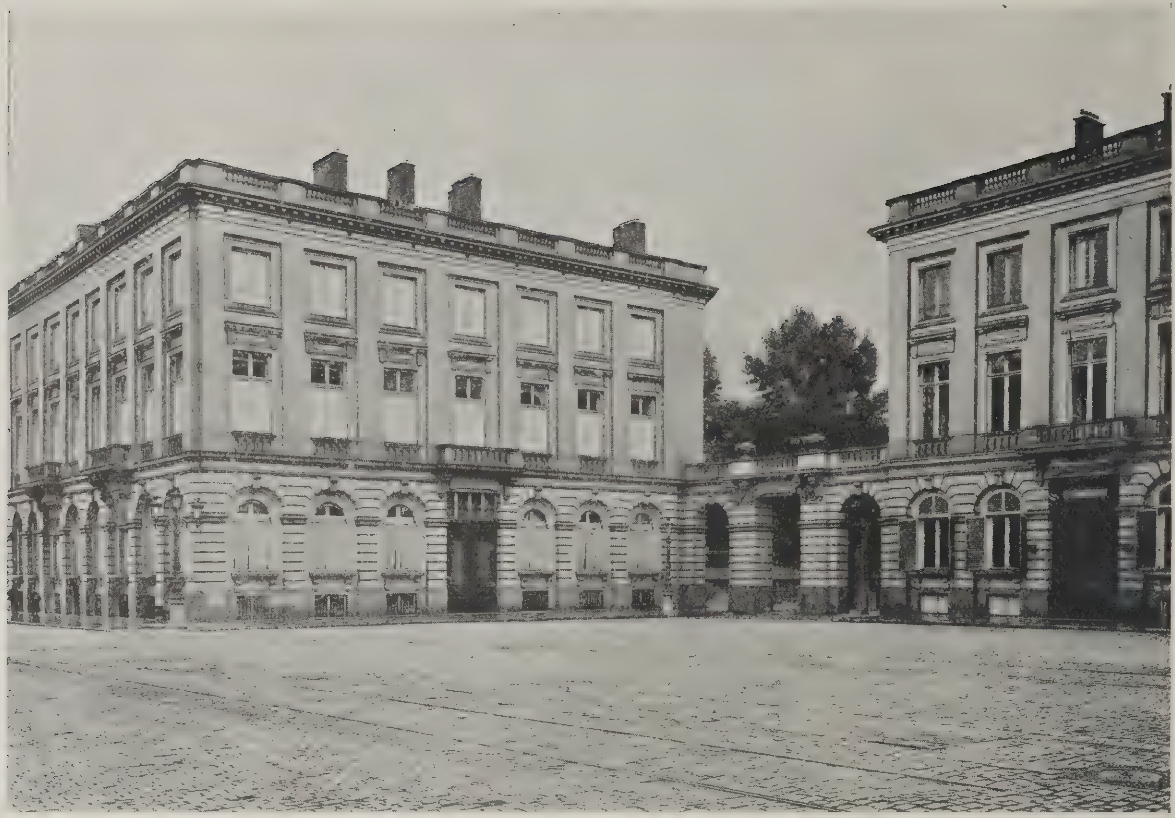
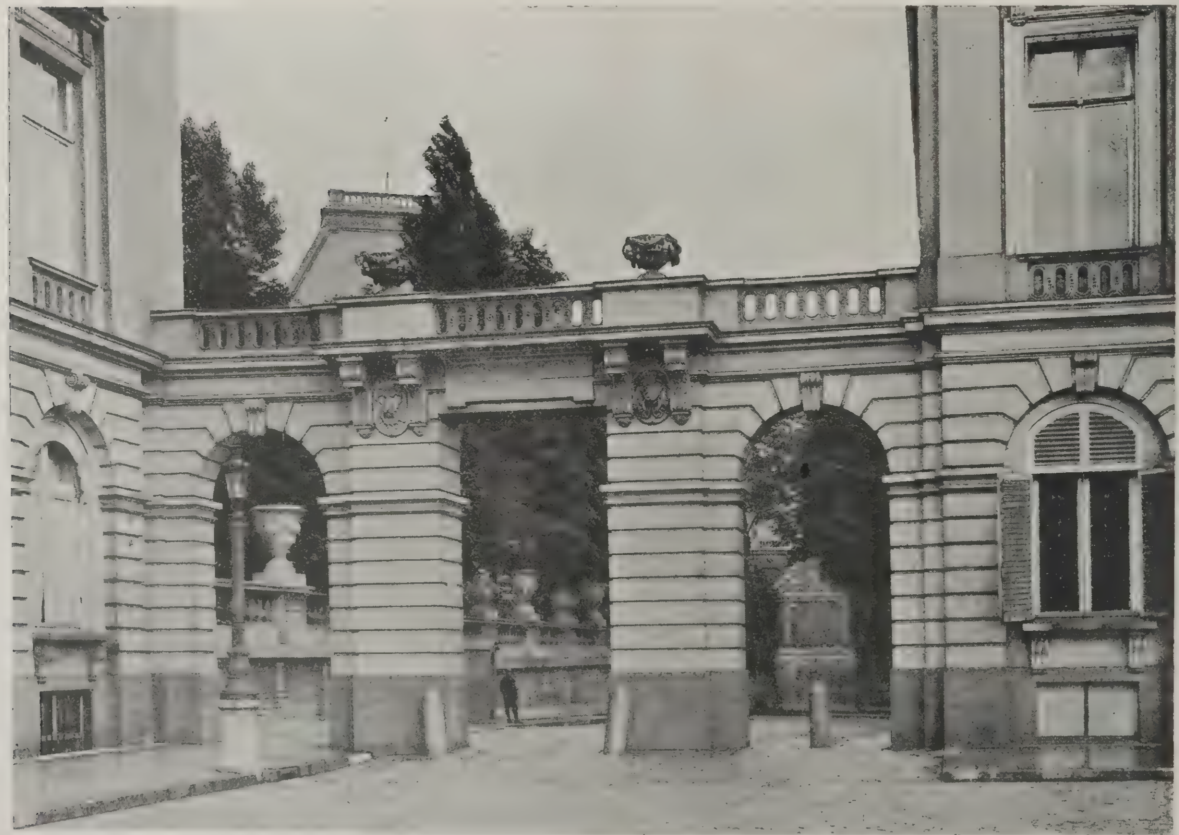
* All the above magazines and many others may be seen in the Reading Room at 29 Tothill Street, Westminster.

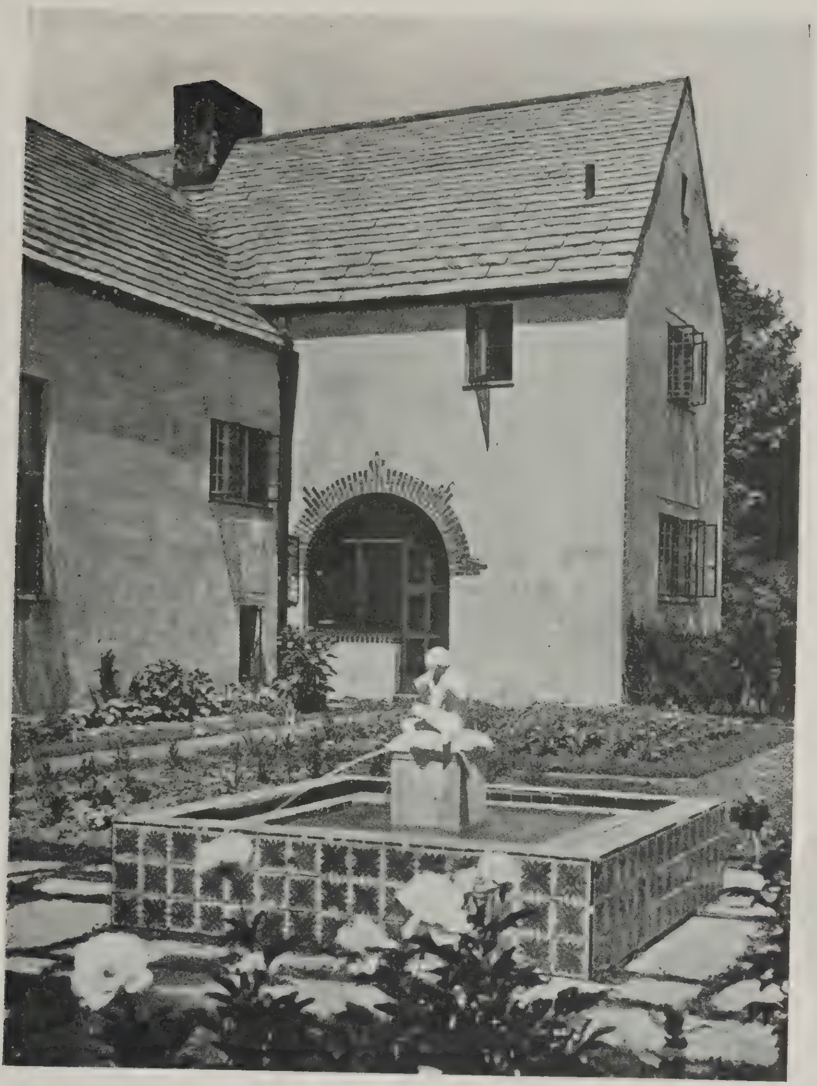


VIEW LOOKING TOWARDS THE BORGENDAEL.

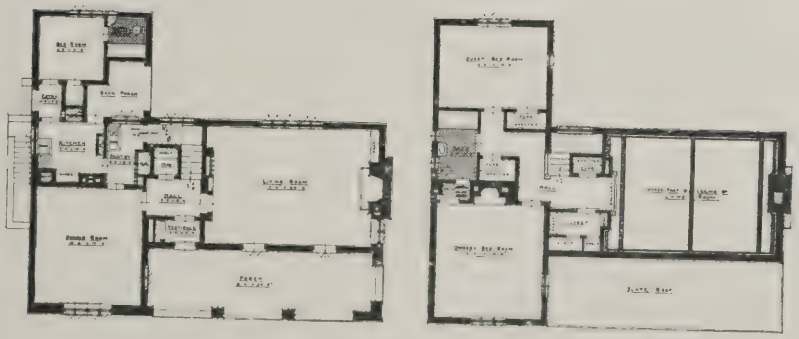


ENTRANCE TO THE BORGENDAEL.

PLACE ROYALE, BRUSSELS (1777–1780). BARNABÉ GRIMARD, ARCHITECT.
(From "L'Emulation.")

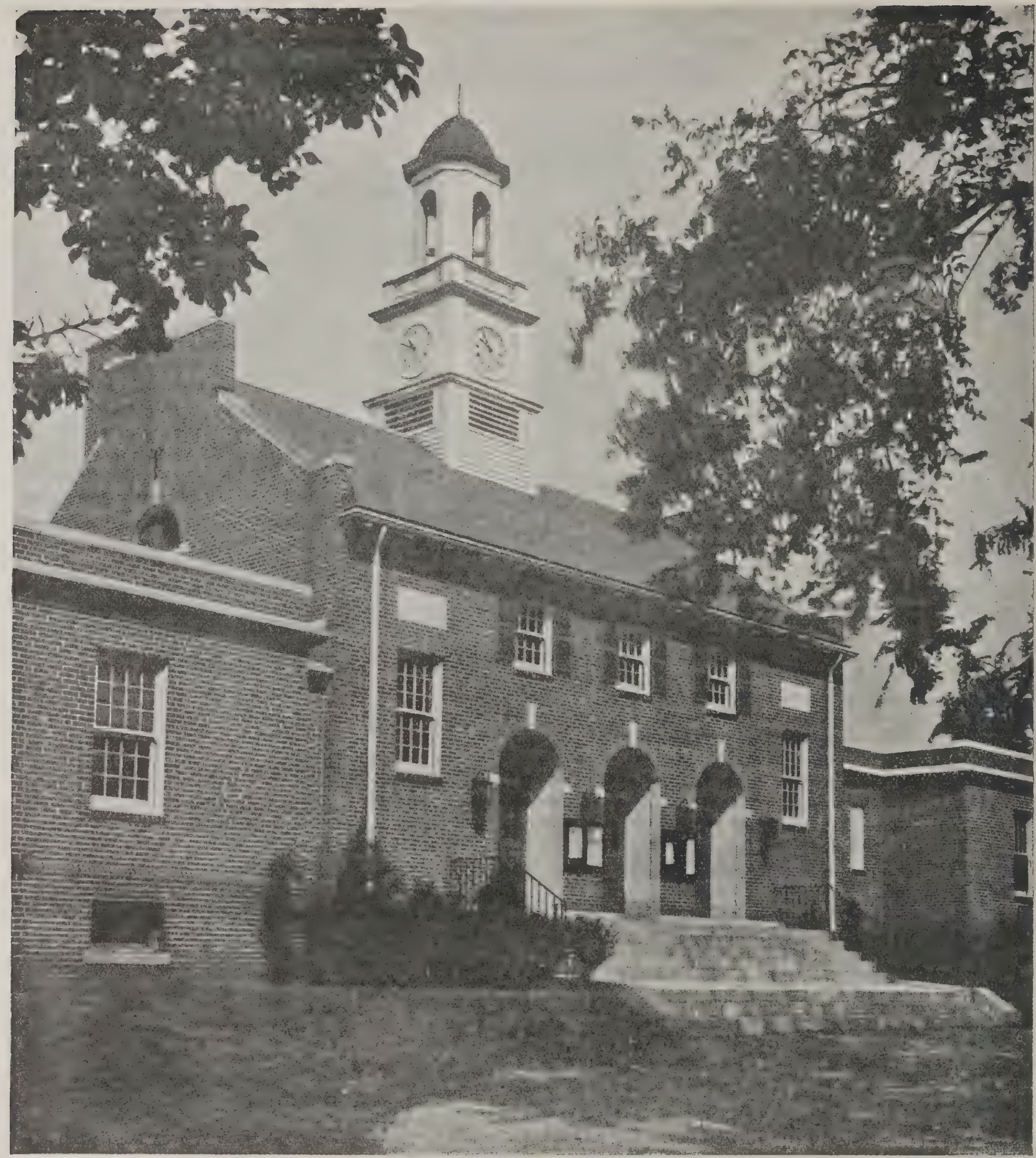


DETAIL OF GARDEN FRONT.

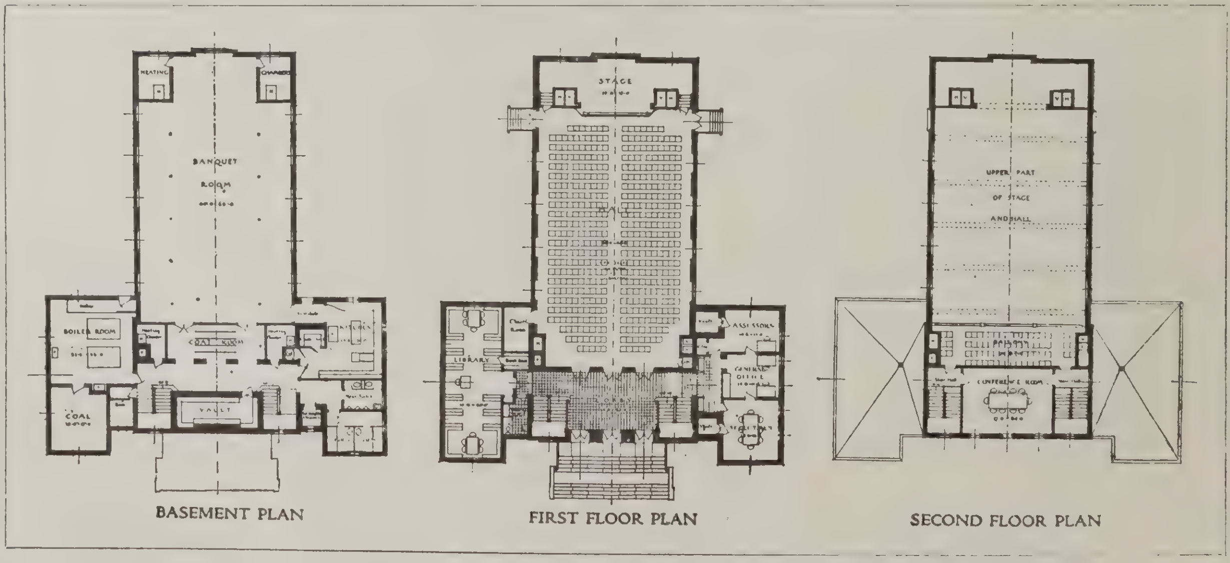


GROUND AND FIRST FLOOR PLANS.

HOUSE AT SHIPPAN POINT, STAMFORD, CONN. F. L. S. MAYERS, ARCHITECT.
(From "The Architectural Forum.")



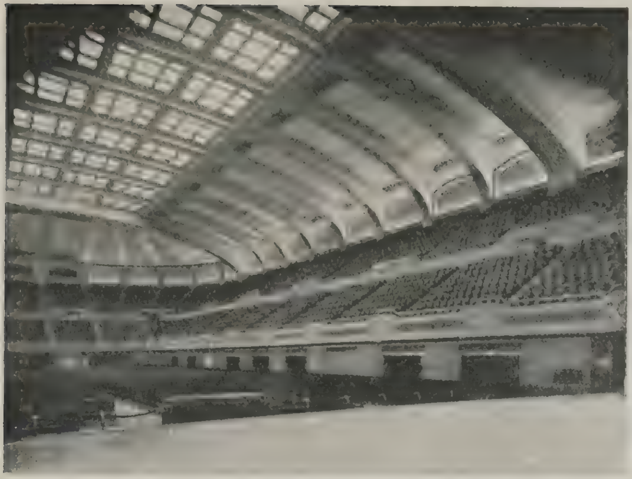
DETAIL VIEW FROM APPROACH.



BASEMENT PLAN FIRST FLOOR PLAN SECOND FLOOR PLAN

TOWN HALL, TEWKESBURY, MASS. KILHAM, HOPKINS & GREELEY, ARCHITECTS.

(From "The Architectural Forum.")



PUBLIC AUDITORIUM, CLEVELAND, OHIO.
J. H. MACDOWELL, ARCHITECT.

THE FULTON THEATRE, NEW YORK CITY.
HENRY B. HERTS AND HUGH TALLANT, ARCHITECTS

(*From "The American Architect.*")

The issue of September 27 illustrates the new Standard Oil Building in New York and the Henry Ford Hospital, Detroit. It is believed that the former building is the first in New York in which extensive foundations have been installed by the compressed-air method before the removal of existing buildings on the site. The advantage of this procedure is, of course, that the old building need not be vacated until the foundation work is practically complete, and that as soon as the old building is wrecked the foundations of the new building are ready for steel.

GARDEN CITIES AND TOWN PLANNING illustrates the much-discussed £300 house, and the practical cost method is fully discussed in an interesting article by Ernest B. Belham.

HOUSE AND GARDEN for October gives some very charming illustrations of a terraced garden in Tuscany, and the confessions of a post-war house-builder embody a great deal of information calculated to assist the layman. The possibilities of pergolas are discussed in another delightfully illustrated article.

GOOD FURNITURE for October illustrates some fine examples of present-day American craftsmanship, decorative fabrics playing a very prominent part.

L'ARCHITECTURE of September 10 reproduces the winning designs in the Concours du Grand Prix d'Architecture. The subject set was an Ideal Military School, including accommodation for elementary, advanced, and special courses of military training, administrative buildings, and a sports arena. The successful competitor was M. Girond, pupil of MM. Laloux and Lemaresquier Duquesné and Recoura, whose design embodies a great central court, open in front, and surrounded by the main buildings.

Le Château de Fontaine Henry is also dealt with in an illustrated article. The issue of September 5 has an interesting article on the Ruins of Djemila in Algeria. The Curcal of ancient times, it was probably founded by Trajan, and excavations

STANDARD OIL BUILDING, NEW YORK CITY.
CARRERE AND HASTINGS, SHREVE, LAMB
AND BLAKE, ARCHITECTS.

PRIZE AND FIRST MEDAL ROGER BAILEY FINAL
COMPETITION. 15TH PARIS PRIZE. A CITY HALL.
SOCIETY OF BEAUX ARTS, ARCHITECTS.

(*From "The American Architect.*")

HENRY FORD HOSPITAL, DETROIT, MICHIGAN. ALBERT WOOD, ARCHITECT.
(*From "The American Architect."*)

still in progress have revealed extensive ruins. These include a basilica, fort, theatre, tombs, houses, market place, forum, temples, etc., and much more remains to be discovered.

Professor Leonard Hill at the R.I.B.A.

A Chadwick lecture on "Ventilation and Atmosphere in Factories and Workshops" was given by Prof. Leonard Hill, M.D., F.R.S., at the R.I.B.A. last Thursday. Sir William J. Collins, K.C.V.O., who was in the chair, introduced the lecturer, who demonstrated the Kata-Thermometer, a large-bulbed spirit thermometer, by means of which the cooling power of an atmosphere as due to evaporation, radiation, and convection, may be determined. By keeping the cooling power in proper relation to the work done and the heat output of the worker, the latter can be kept from sweating, and, working with comfort and ease, naturally stimulated to greater production.

Among instances of the good results attending careful regard for ventilation and atmosphere in factories and other enclosed places of labour given by Dr. Leonard Hill, was a large English steel tube-drawing-shop where clusters of large air ducts have been installed over the heads and to the side of the workers in front of the furnaces. The men are warmed by the radiant energy and cooled by the wind alternately, as they draw the tubes from the furnace and pause. The output here is stated by the firm to be greater than any other factory of the kind, and industrial unrest is unknown.

The ventilation of furnace-rooms, engine-rooms, etc., by fans placed at the bottom of wide trunks down which the cool air naturally sinks, the fan breaking up the air into fine streams, was advocated by the lecturer. Such fans, he said, are called "Joy Wheels" in the turbine-rooms of Cunard liners.

Radiant heat from gas or coke fires, or warmth from heating coils, should warm the floors and walls; and open windows, or a system of fans to impel cool, fresh air through gratings about 8 ft. from the ground and extract it through the ceiling, according to the size of the room or hall, were the best methods of heating and ventilating.

Expensive Plenum systems are not wanted. There must, however, be proper control by a skilled attendant of heating coils, open windows and extract fans in offices, shops, and workrooms of all classes.

The Builders' Benevolent Institution

The seventy-fifth annual report (with rules and regulations) of the Builders' Benevolent Institution has just been issued. There are now 22 men and 29 women receiving the benefits of this Institution, as against 16 and 30 respectively last year. The Committee express their sincere thanks to the members of the family of the late Mr. Joseph Hill, who have transferred to the Trustees of this Institution certain investments, the income from which is sufficient to endow a pensioner. The only conditions attached to this gift are that it shall be known as the "Joseph Hill Memorial Fund," and that one pensioner shall be identified therewith. The Committee were again able to grant a Christmas Gift of £5 to each pensioner. The Institution, which is supported by voluntary contributions, was established in June, 1847:—"For granting temporary relief and pensions to necessitous masters who have been engaged in the building trade and its branches, and their widows." The offices of the Institution are 48 Bedford Square, W.C.1.

TRIUMPHAL ARCH OF CARACALLA AND TEMPLE OF THE SEVENTH RACE, DJEMILA. (*From "L'Architecture."*)

Correspondence

Acoustical Research

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have been extremely interested to read in your columns a suggestion to the effect that further work is required on the subject of acoustical research. As you are no doubt aware, I have been conducting experiments on this subject and urging its further investigation for the past twelve years. During the war I constructed a number of machines for research in connection with the testing of gun silencers, and I have also experimented at length upon the reverberation effects of motor traffic, horse traffic, and the London Underground Railways.

The fact that sound means the wasting of energy, which requires actual effort to resist from the human body, seems to have escaped attention. Not only do the irregular waves of noise and the low frequency regular oscillation of sound have a very trying effect upon the nerves, but they are responsible for actual mechanical wear and tear. In many cases the human ear is the only means we possess of judging as to the efficiency of noise production or the reproduction of speech. Just as when inspecting a troublesome sound from a piano, it is usual to test roughly the frequency of the note of noise in part, and to vary this frequency or increase its speed to such a pitch that no effect will be audible to the human ear and no beat or reverberation can take place, so by mechanical means it is possible to investigate the wave shape of various sounds and noises. By this means it is so often the simplest alteration that will effect a cure with a consequent saving. It is little use relying upon the human ear for this work which can only be employed by methods of slow elimination.

There was a time when the rattling of a coach over the cobble stones of an hotel, or the cry of a street seller were regarded as an asset. Progress has brought us to rubber roads and "Organs and street cries are prohibited." It is the effects of noise with which we should concern ourselves from the mechanical standpoint. Nearly every mechanism is without power of recuperation. It is therefore the machine, not necessarily the human frame, that we must pity.

A. M. LOW,
A.C.G.I., D.Sc., etc.

Whitgift Hospital

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have been much interested in the plan which you have reproduced, having as its object the preservation of the Whitgift Hospital. The plan has on previous occasions been before my committee, but, in spite of its many advantages, it is not practicable owing to the expense involved. Locally, we have to look for a practicable scheme, and your correspondent can scarcely have adequately considered the values attaching to properties in Central Croydon. It may, I think, be taken as quite settled that Croydon ratepayers will never consent to such a scheme. I am afraid its promulgation is calculated to do harm to our cause in Croydon.

EDWARD A. MARTIN,
Joint Hon. Sec. Whitgift Hospital
Preservation Committee.

[The plan referred to appeared in our issue of October 11, and was put forward some years ago by Mr. Harold Williams.]

The Institution of Structural Engineers

THE new Institution of Structural Engineers is now an established fact. As mentioned in a previous issue, at a meeting of the Concrete Institute, held on September 28th last, resolutions were passed changing the name of the Institute to that of The Institution of Structural Engineers. On that occasion there was some opposition to the change from a minority of the members, but at a meeting of the Institute, held on October 19th, for the purpose of confirming the resolutions, this minority abstained from voting, and they were confirmed without opposition.

Mr. Wentworth Sheilds, who proposed "That this meeting confirms the resolution passed at the last Extraordinary General Meeting, held on 28th September, 1922—'That the name of the Company be changed to The Institution of Structural Engineers,'" said they were very nearly all agreed that the change of name which was proposed was the natural outcome of the work which the Institute had been doing in the past, and was due to a desire to express the work they had been doing, and would continue to do, in a more logical manner than they had hitherto done. In discussing the matter at the previous meeting, some of what he would call the "diehards" had suggested that they were trying to form a sort of addition to some of the small engineering societies existing, to range over the subject of engineering generally. That was far from being the case. He pointed out that the civil engineering profession is a very many-sided one. The Institution of Civil Engineers included within its ranks men who had specialized in different branches of civil engineering, because it was impossible for an engineer to make himself acquainted with the details of all those different classes of work, and for that reason, since the Charter of the Institution of Civil Engineers was granted, many societies had been formed to deal specially with various branches of the profession. Until 1908 there was no special branch dealing with structural engineering, but at that time the Concrete Institute was formed, and took up structural work broadly; it had more than justified its existence. At first it dealt particularly with concrete and reinforced concrete, but very soon it enlarged its borders, and admitted those interested in allied branches of structural engineering. There was no doubt that that broadening of its interests had been of immense advantage to the Institute and to the profession at large. Therefore, it was considered sensible and right that they should adopt a title which would convey their sphere of usefulness.

Professor Henry Adams, who seconded, reminded his hearers that at the previous meeting the resolution was carried by an overwhelming majority. The meeting that evening was merely a formal one to confirm the resolution, and he suggested that it would be a graceful act on the part of those who had opposed before if they would abstain from voting against it, so that it would be carried *nem. con.*

Mr. Yeatman, who opposed on the previous occasion, said he had hoped that the Concrete Institute, with its aggregate of designers in concrete, the sand of the metallurgists and chemists, and the reinforcement of structural engineers, kept in shape by the forms provided by the architects, and bound together by the cement of the organizing genius of the President, might have remained a durable structure under its old and most appropriate name. The majority at the last meeting had seemed to think differently, and he did not see a sufficiently large number present that evening to make it any use opposing. There were, of course, many fine structures in iron and steel, in which concrete took no part, but those structures needed constant care and frequent painting to preserve them from corrosion. With that word of warning, he wished all success to the Institution of Structural Engineers.

There was no amendment, and the resolution was carried *nem. con.* Two further confirmatory resolutions, dealing with the necessary alterations to the Articles of Association, were also carried *nem. con.*

The point raised by Mr. Yeatman with regard to iron and steel structures was taken up by Mr. Spencer, of Manchester, who, as a steel-work designer, reminded Mr. Yeatman that there were some reinforced concrete designers who were not quite certain what was the basis of the theory of the design of reinforced concrete, and that some reinforced concrete designers had a bigger problem than the steel-work designers. Further, as a steel-work designer, he pointed to the admirable work done by the Concrete Institute. There were, however, too few structural engineers of eminence in the membership, and he felt certain that by broadening the basis of the Institute they would get an increased membership of structural engineers. In connection with an attempt to form a branch of the new Institution in Lancashire and Cheshire, he had made enquiries to find out what increase of membership they might expect thereby, and had found that in the drawing office of his firm 14 members of the staff were willing to join. If they could get 14 new members from one firm, it was proof that they would be able to bring a big increase of membership from the Lancashire and Cheshire area.

It was mentioned by the President (Mr. E. F. Etchells) that preliminary enquiries are being conducted with a view to forming a branch in the west country, by Mr. Gomer Pimm, of Bath, whilst the formation of a Yorkshire branch, in Leeds, and of a Midland branch, probably in Birmingham, is also being considered.

At the conclusion of the proceedings a very hearty vote of thanks was accorded the members of the Council of the Institute for the work they had done in connection with the change of title. The President, who said he would have great pleasure in conveying the vote of thanks to the members of the Council, expressed his gratitude for the manner in which they had advised and helped him. He also pointed out how grieved he was that he had not been able to meet the views of the whole of the members of the Institute, but no man had ever tried harder than he had done to accomplish this.

Votes of thanks were also accorded the President, the Secretary and staff, and the solicitor.

Trade and Craft

The New Samson Clark Building.

On November 6 the new Samson Clark building, in London, will be formally opened by Lord Leverhulme. The occasion will be made a great festival to celebrate the completion of what is claimed to be the largest building devoted solely to advertising service and requirements in Great Britain. The equipment will range from printing presses in the basement to photographic rooms and studios on the roof. The new building is close to Oxford Circus.

Simplex Triple-Purpose Signs.

Messrs. Simplex Conduits, Ltd., of Garrison Lane, Birmingham, have sent us copies of their signs folder No. 957, together with a supplementary list issued some time ago. A glance at the illustrations of the Simplex triple-purpose electric signs at once reveals the possibilities of this form of advertising, especially when it is realized that a sign will not only light the window well, but will, with the same light, draw attention to the name or virtues of the wares displayed. Provided that electric current is available, there is no shop so small nor corporation so vast for whom a publicity scheme could not be devised by the installation of an electric sign. The illustrations shown represent only a selection of the signs, and by no means exhaust the resources of the extensive department set aside exclusively for their manufacture. A large number of signs have been made for leading manufacturers of every description for distribution amongst their agents.

"Alredma" Protective Paint.

The Redaluma Paint Co., Ltd., of 1 Lloyd's Avenue, London, E.C.3, are placing their specially prepared "Alredma" protective paint on the market for the first time. Composed in greater part of alumina, 60 to 72½ per cent. which is mixed with a substance to give it the necessary adherence, it is an entirely neutral product and offers a minimum of corrosion resulting from the special preparation. It is thus claimed to resist indefinitely the action of exterior agents. Moreover, the basis of "Alredma" is chemically a neutral oxide, which in determined conditions can, it is said, act either as an acid or as a base. There are several salts of oxide of alumina (sulphate, acetate, etc.), and also aluminates (of soda, lime, zinc, etc.), but these salts are not formed under ordinary conditions nor at ordinary temperatures. The moisture of the air also, it is claimed, has no action on this product, as carbonic acid will not combine with the base of "Alredma." As a result of these several protective properties it is claimed to be "as capable as red lead of resisting all changes of temperature, dampness, heat, or cold. It shows neither cracks nor scales, even after long exposure to the sun, and can withstand great variations of temperature." The paint is suitable for all kinds and descriptions of ironwork, brickwork, concrete, cement, and plaster surfaces, and woodwork. When thoroughly dry "Alredma" will take paper, distempers, varnish, or other paints or enamels without striking, or it may be used as a finishing coat of itself. It is very suitable for use also in lavatories, bath rooms, sculleries, hospital wards, laboratories, schools, offices, garages, and engine rooms.

The "Relay" Automatic Telephone System.

The "Relay" Automatic Telephone Co., Ltd., of Marconi House, Strand, W.C.2, have issued a brochure giving an interesting illustrated description of their automatic telephone system. The advantages claimed for the "Relay" automatic telephone system are considerable and manifold; not the least important being immediate connections, clear and secret transmission of speech, the elimination of human operators, prevention of wrong numbers, instant disconnection from any one number, and immediate reconnection to any other that may be required.

Directors, chiefs of departments, etc., can have priority of service when this is necessary. Conferences may be held between chiefs of departments whilst remaining at their desks, and when required, principals can have all telephone calls to their numbers filtered through their secretaries to avoid the distraction of attending to telephone calls which could be dealt with by subordinates. With the "Relay" system connections are established in four seconds. The British Post Office has recognized the value of, and the growing demand for the system, and is prepared to replace existing private branch exchanges with a "Relay" private automatic exchange, by means of which a combined public exchange and automatic interdepartmental service is provided on a rental basis.

The Admiralty have the system in use at various centres, likewise the India Office, and many of the leading banks, insurance companies, shipbuilders, merchants, and manufacturers throughout England.

Switchboards from ten line upwards can be supplied and consist of an iron frame into which the "Relay" groups are fitted. The switchboard can be increased as required, from time to time, by the addition of groups for extra subscribers' lines, without putting the service out of action.

The "Relay" takes the place of the human operator, and by a series of electrical circuits actuated through the dial on the telephone instrument, the caller can automatically get into touch with any connection required within four seconds.

The "Relay" switchboard is claimed to embody the following important advantages :—

(*a*) No electro-mechanical switches or other mechanical devices are used, therefore the system does not require any attention in connection with adjustments, oiling, or cleaning.

(*b*) The system is not liable to be affected by varying climatic conditions, whether the result of dust, heat, or damp, etc., etc.

(*c*) The switchboard has no parts that can wear out or require skilled attention.

(*d*) The whole of the operations in the switchboard are entirely controlled and actuated electrically.

(*e*) The only moving parts in the switchboard are small armatures which have a movement of one thirty-second of an inch.

All the operations of number selecting, connecting, and disconnecting are performed by telephone relays, and it is the latter feature which constitutes the keystone of this invention, and allows the business man to get in touch with any of his departments without the intervention of human operators.

The absence of moving parts, as generally understood, reduces the liability for apparatus to get out of order through wear and tear to a minimum. Each piece of apparatus is wired up in unit form in the factory, that is to say, the individual relays, with their associated wiring, are enclosed in a sheet-iron case, and the requisite number of these cases are then mounted up on H iron uprights to form the complete installation. This method of assembly enables the complete switchboard to be tested out in the factory, and, consequently, reduces the work to be executed on the site in connection with the erection and testing of the switchboard.

The Week's News

New Sea Wall for Scarborough.

A new sea wall to cost £50,000 is proposed for Scarborough.

New Art Gallery for Kirkcaldy.

A new art gallery is to be erected at Kirkcaldy, Fife.

The Brighton Aquarium.

The Brighton Corporation have abandoned the scheme to lease the aquarium for conversion into a motor garage.

Housing at Camberwell.

Camberwell has erected 448 dwellings under its housing scheme, which is now practically completed.

School Building.

Building schemes, estimated to cost £237,832, are being considered by the Board of Education.

The Rebuilding of Kinnaird Castle.

Kinnaird Castle, north of the Forth, is in the hands of the builders. It was destroyed by fire, but is being rebuilt in French Chateau style.

Housing at Weetslade.

At Weetslade, near Dudley, the Burradon and Coxlodge Coal Company propose to build from 100 to 200 workmen's houses.

Proposed Baths for Newcastle.

The Newcastle Corporation are considering the erection of swimming baths, Turkish and slipper baths, and a concert hall. The cost is estimated at £200,000.

Leadenhall Street Widening Scheme.

If the London County Council will pay half the cost, the Corporation will widen Leadenhall Street in front of East India House by 50 ft.

£70,000 Hospital Memorial.

A hospital is to be erected at Roseneath, Wrexham, at a cost of £70,000, as a war memorial for Wrexham and East Denbighshire.

New Library for Broughty Ferry.

Mr. James Thomson, city architect, Dundee, has been instructed to prepare sketch plans and costs for a new branch library for Broughty Ferry. The site has been selected.

New Stained Window for Birkenhead Priory.

On November 7 a new five-light stained glass window is to be unveiled in the restored Church House of Birkenhead Priory to the memory of Dr. R. Sydney Marsden.

More Houses for Grays.

The Ministry of Health have sanctioned the erection of twenty-six more houses by the Council, and also the borrowing of £11,123 for that purpose.

Proposed Washhouses for Manchester.

The Manchester City Council are considering the erection of public washhouses at Hulme, Ardwick, Mayfield, and New Islington at an estimated cost of £46,250, and the building of ninety-four houses on the Gorton Mount Estate.

New London Baths.

The London County Council proposes to construct open-air swimming baths in Southwark Park, Highbury Fields, and Peckham Rye, and a south-western storm relief sewer, costing £315,000.

Scottish Building Proposals.

It is proposed to erect a new infirmary at Falkirk, and additions are to be made to the Robertson-Stewart Hospital at Rothesay. At Aberdeen the University will erect a building in the Botanic Gardens at an outlay of £4,000.

Housing at Eastbourne.

It is proposed to erect a commodious concert pavilion, near the shore end of the pier. A scheme has been approved by the Town Council for the building of 100 houses on the Victoria Drive estate, the cost to be borne entirely by the town.

Institution of Civil Engineers.

The roll of honour which has been erected in the Institution of Civil Engineers to the memory of the members and students of the Institution who fell in the war will be unveiled by the Duke of Connaught on October 27.

The New County Hall.

It is proposed to allow visits of inspection to the principal floor of the new County Hall by organized parties of visitors on Saturday afternoons and by parties not exceeding six persons, and accompanied by a member of the Council, at any time while the County Hall is open.

Housing at Glasgow.

The Glasgow Town Council have had a report put before them that 13,000 houses will be required to replace those declared to be not reasonably fit for human habitation. The city housing director has been instructed to submit plans for houses, one room and kitchen with bath, and two rooms and kitchen with bath. There is a great demand in Glasgow for the two-roomed house.

The Lady Margaret Hall Chapel.

The Bishop of Winchester dedicated the temporary chapel of Lady Margaret Hall at Oxford. The ex-army hut is decorated with some stained-glass windows and will shortly be provided with an old Italian painting and an altar, designed by Sir Reginald Blomfield—both of which will be notable features in the permanent chapel that is one day to be.

£30,000 Beach Scheme at South Shields.

An important scheme has been prepared by the South Shields Council for the improvement of the beach. Following upon the acquisition from the Admiralty of the seaplane station, a very large erection, it is proposed to erect an open-air sea-water swimming bath, 176 ft. long and 50 ft. wide, together with shelters, tennis courts, and a children's playground. It is also proposed to extend the concrete platform at the seaplane station, so as to form a promenade to the South Pier. In connection with the swimming bath, it is proposed to provide seating accommodation for 2,000 spectators, and additional standing room for 2,000 people. The whole scheme is estimated to cost £30,000, and is to be undertaken in connection with efforts to provide work for the unemployed during the coming winter.

Nottingham Home for Paralysed Soldiers.

The new wing of Ellerslie House, the Nottingham home for paralysed sailors and soldiers, has been formally opened. The wing, which comprises a large recreation room for the patients on the ground floor, and an extra bedroom for members of the nursing staff on the first floor, together with a large covered veranda, has been built at a cost of approximately £1,200. Three hundred pounds remains to be raised. The extension has made Ellerslie House one of the largest and best-equipped institutions of its kind in the country.

List of Competitions Open

Date of Delivery.	COMPETITION.
Oct. 31	Essay Competition. "The True Function of the Technical Assistant in the Building Industry." Prize £5 5 0. Essays to the Secretary, Architects' & Surveyors' Assistants. Professional Union, 36 Victoria St., S.W. 1.
Nov. 1	Labour saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C. 4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
Dec. 1	Pavilion to be erected in the Eastern Esplanade Gardens, Ryde, for the Town Council. Cost to be from £8,000 to £10,000. Premiums £50 to the successful competitor if the scheme is not carried out, otherwise he will be appointed at an inclusive sum of £300 to carry out the work; and £30 and £20 to competitors placed second and third respectively. Apply for site plans, together with conditions and instructions to Mr. B. F. Holness, M.Inst.M.&Cy.E., Borough Surveyor, Ryde.
Jan. 15	Hospital for a typical small community in America. Competition open to all Architects. Premiums $500, $300, and $200. Apply The Modern Hospital Publishing Company, Inc., 22 E. Ontario Street, Chicago, Ill. Closing date for applications, November 15.
March 31	War Memorial for Port Said, Egypt, to the memory of the soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during 1916, 1917, and 1918. Premiums: 250 guineas, 100 guineas, and 50 guineas. Apply High Commissioner for Australia, Australia House, Strand, W.C.

Competition News

Spofforth Memorial Hall.

In a limited competition amongst local architects for a memorial hall at Spofforth, near Harrogate, in memory of the late Mr. J. Godfrey Long, the designs of Messrs. Gibson and Hill, architects, of Harrogate and Knaresborough, have been placed first. The adjudicator was Mr. Sidney Kitson, F.R.I.B.A., of Leeds.

Ryde (I.O.W.) Pavilion Competition.

The R.I.B.A. Competitions Committee have issued a notice to call the attention of members and licentiates to the fact that the conditions of the above Ryde (Isle of Wight) Pavilion Competition are unsatisfactory. The Committee are negotiating with the promoters in the hope of securing an amendment. In the meantime members and licentiates are advised to take no part in the competition.

Rates of Wages in the Building Trades*

The following table, which is published in the first issue of THE JOURNAL for each month, shows the rates of wages of craftsmen (bricklayers, masons, carpenters and joiners, woodcutting machinists, slaters, plumbers,* plasterers, painters †) and labourers in the building industry. The labour rates for London are given in the Table of Current Prices on pages xix, xx.

District.	Grade A.		Grade B.		Grade C.		Grade D.	
	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
North East Coast	1 8	1 3	—	—	—	—	—	—
Yorkshire	1 8	1 3	1 6½	1 2	1 4½	1 0½	—	—
North Western Counties‡	1 8	1 3	1 6½	1 2	1 4½	1 0½	1 4	1 0
Midland Counties	1 8	1 3	1 6½	1 2	1 5	1 0¾	1 4	1 0
Eastern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
Southern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
South Western Counties	1 8	1 3	1 6	1 1½	1 4½	1 0½	1 3½	0 11¾
South Wales	1 8	1 3	1 4	1 0	—	—	—	—
Scotland§	1 8‖	—¶	1 7	—¶	1 6	—¶	—	—

* In the case of towns printed in *italic type* below, the rates shown in the Table for craftsmen do not apply to plumbers.
† Except in Scotland, where painters are not included within the scope of the area grading scheme.
‡ Excluding Liverpool and Birkenhead, where the rates are 1s. 11d. for plumbers, 1s. 10d. for other craftsmen, and 1s. 5d. for labourers.
§ Excluding Aberdeen, where the rates remain unaltered at 1s. 7½d. for masons, joiners, and plasterers, 1s. 8d. for slaters, and 1s. 9d. for plumbers.
‖ It is reported that the Plasterers' Union in Scotland has not accepted the national reduction in June.
¶ In Scotland, labourers are not included in the general grading scheme.

Grading of Towns.

The localities in which the above rates have been reported to be in operation are as follows. In the case of localities printed in *italic type*, the rates shown in the above Table for craftsmen do not apply to plumbers.

NORTH EAST COAST :—

Annfield Plain, *Birtley*, Bishop Auckland, *Blackhill*, *Blyth*, *Chester-le-Street*, *Consett*, *Darlington*, *Durham*, *Ebchester*, *Gateshead*, *Hartlepools*, *Hebburn*, *Hexham*, *Jarrow*, *Lanchester*, *Leadgate*, Medomsley, *Middlesbrough*, *Morpeth*, *Newcastle*, *North and South Shields*, *Seaham Harbour*, *Stanley*, *Stockton*, *Sunderland*, *Thornaby*, *Tynemouth*, *Wallsend*, *Whitburn*, and *Whitley Bay*.

YORKSHIRE :—

Grade A.—*Altofts*, *Barnsley*, *Batley*, *Bingley*, *Birstall*, *Bradford*, *Brighouse*, Calder Valley, Castleford, *Cleckheaton*, *Colne Valley*, *Crosshills*, *Dewsbury*, *Doncaster*, *Gomersal*, Grimsby, *Guiseley*, *Halifax*, *Harrogate*, *Hebden Bridge*, *Heckmondwike*, Holmfirth, *Horbury*, *Hoyland*, Huddersfield, Hull, *Ilkley*, Immingham, *Keighley*, *Knottingley*, *Leeds*, *Liversedge*, *Mexborough*, *Mirfield*, *Morley*, *Normanton*, *Ossett*, *Penistone*, Pontefract, Pudsey, *Rawdon*, *Rotherham*, Scunthorpe, *Selby*, *Sheffield*, *Shipley*, *Sowerby Bridge*, *Stocksbridge*, *Wakefield*, *Wombwell*, *and Yeadon*.

Grade B.—Barnoldswick, Beverley, Bridlington, Goole, Hornsea, Scarborough, Skipton, *Whitby* (plumbers 1s. 7d.) and York.

Grade C.—Driffield, Kirby Moorside, Malton, Norton, Pickering, and Wetherby.

NORTH WESTERN COUNTIES :—

Grade A.—*Accrington*, Adlington, *Alderley Edge*, *Altrincham*, *Ashton-under-Lyne*, *Atherton*, *Bacup*, Barrow, Birkdale, Bispham, *Blackburn*, Blackpool, Blackrod, *Bolton*, Broughton (Flints), *Burnley*, *Bury*, Carlisle, Chester, Chorley, *Church*, Cleveleys, *Clitheroe*, *Colne*, Connahs Quay, Dalton-in-Furness, *Darwen*, *Denton*, *Droylesden*, *Eccles*, *Farnworth*, Fleetwood, Frodsham, *Glossop*, *Great Harwood*, *Haslingden*, Hawarden, Helsby, *Heywood*, Higher Kinnerton, *Horwich*, *Hyde*, Lancaster, *Leigh*, Leyland, *Littleborough*, Longridge, Lymm, Lytham, *Manchester*, *Middleton*, Morecambe, *Mossley*, *Nelson*, *Ormskirk*, *Oswaldtwistle*, *Oldham*, *Padiham*, *Pendlebury*, Poulton, *Preston*, *Prestwich*, Queensferry, *Radcliffe*, *Ramsbottom*, *Rawtenstall*, *Rishton*, *Rochdale*, Runcorn, St. Anne's-on-the-Sea, St. Helens, *Saddleworth*, *Sale*, *Salford*, *Shaw*, Shotton, Southport, *Stalybridge*, *Stockport*, *Swinton*, Thornton, *Todmorden*, *Tyldesley*, *Walkden*, *Warrington*, Westhoughton, *Whalley*, *Whitefield*, Widnes, Wigan, and *Wilmslow*.

Grade B.—Askam, Broughton, Buxton, Cleator Moor, Congleton, Coniston, Crewe, Distington, Egremont, Grange-over-Sands, Harrington, Knutsford, *Macclesfield*, Maryport, Market Drayton, Middlewich, Millom, Mold, Nantwich, *New Mills*, Northwich, Sandbach, Tarporley, Ulverston, Winsford and Over, Whitehaven, Workington, and Wrexham.

Grade C.—Ambleside, Bala, Bangor, Bowness-on-Windermere, Carnarvon, Colwyn Bay, Conway, Grasmere, Holyhead, Holywell, Kendal, Langdale, Llandudno, Llandudno Junction, Mostyn, Penrith, Prestatyn, Rhos, Rhyl, and Windermere.

MIDLAND COUNTIES :—

Grade A.—Alfreton, *Belper*, Bilston, *Birmingham*, *Blackheath*, *Burslem*, *Cheadle*, *Chesterfield*, Coalville, Coventry, *Derby*, *Hanley*, Heanor, Hinckley, *Ilkeston*, Kenilworth, *Leicester*, Lincoln, *Long Eaton*, *Loughborough*, *Mansfield*, Newcastle-under-Lyme, *Nottingham*, *Nuneaton*, Oldbury, Ripley, Stoke-on-Trent, *Sutton Coldfield*, *Sutton-in-Ashfield*, West Bromwich, Willenhall, and Wolverhampton. (Plumbers employed by the Birmingham Master Plumbers' Association within 8 miles of Birmingham, 1s. 9d.)

Grade B.—Atherstone, Bewdley, Boston, Brierley Hill, Bromsgrove, Burton-on-Trent, Cannock, Coseley, *Darlaston* (plumbers 1s. 7½d.), Dudley, Gainsborough, Gornal, Grantham, Halesowen, Hednesford, Kidderminster, Knowle, Leamington, *Leek*, Lichfield, Louth, Malvern, Market Harborough, *Matlock*, Melton Mowbray, *Newark*, Northampton, Oakengates, Old Hill, Peterborough, Redditch, Retford, Rugby, *Rugeley* (plumbers 1s. 7½d.), Sedgley, Shifnal, Shrewsbury, Skegness, Sleaford, Solihull, Southwell, *Stafford*, Stamford, Stourbridge, Stourport, Stratford-on-Avon, Swadlincote, Swanwick, Tamworth, *Walsall* (plumbers 1s. 7½d.), Warwick, Wednesbury, Wellington, Worcester, and Worksop.

Grade C.—Ashbourne, Bridgnorth, Church Stretton, *Horncastle*, Kettering, Ludlow, Newport, Oakham, Oundle, Raunds, Rushden, Spalding, Thrapston, Uttoxeter, Wellingborough, and Wirksworth.

Grade D.—Buckden, Eaton Socon, Huntingdon, St. Ives, and St. Neots.

EASTERN COUNTIES :—

Grade A.—Baldock, Bedford, Berkhamsted, Biggleswade, Braintree, Brentwood, Chelmsford, Cambridge, Colchester, Halstead, Hatfield, Harpenden, Hemel Hempstead, Henlow, Hertford, Hitchin, Hoddesdon, Ingatestone, Ipswich, Letchworth, Luton, Norwich, Ongar, St. Albans, Sandy, Sawbridgeworth, Stevenage, Stotfold, Ware, Welwyn, and Witham.

Grade B.—Aldeburgh, Ampthill, Attleborough, Aylsham, Braughing, Chatteris, Cromer, Dovercourt, Dunstable, Ely, Fakenham, Felixstowe, Frinton, Gorleston, Halesworth, Harwich, King's Lynn, Leighton Buzzard, Leiston, Lowestoft, March, Much Hadham, Newmarket, North Walsham, Puckeridge, Renthem, Saxmundham, Southwold, Standon, Stowmarket, Walton-on-the-Naze, Wickham Market, Wisbech, Woodbridge, Wymondham, and Yarmouth.

Grade C.—Bungay, Coltishall, East Dereham, Royston, Saffron Walden, and Tring.

[N.B.—Bury St. Edmunds :—bricklayers, masons, carpenters and joiners, slaters, plumbers and plasterers, 1s. 4½d.; painters, 1s. 2d.; labourers, 11d.]

SOUTHERN COUNTIES :—

Grade A.—Abingdon, Addlestone, Amersham, Ascot, Ashford (Middlesex), Banbury, Beaconsfield, Bournemouth, Bracknell, Brighton, Byfleet, Chalfont, Chesham, Christchurch, Cremborne, Eastbourne, Eastleigh, Egham, Eton, Gerrard's Cross, Goring, Gosport, Gravesend, Guildford, Henley, Hove, Laleham, Maidenhead, Marlow, Northfleet, Oxford, Poole, Portsmouth, Reading, Southampton, Staines, Stanwell, Sunningdale, Sunninghill, Tilehurst, Tonbridge, Tunbridge Wells, Wallingford, Windsor, Winkfield, Woking, Wokingham, and Wycombe.

Grade B.—Arundel, Ashford (Kent), Aylesbury, Bagshot, Basingstoke, Bexhill, Bicester, Bletchley, Bognor, Bosham, Broadstairs, Brockenhurst, Buckingham, Burgess Hill, Camberley, Canterbury, Chatham, Chichester, Chipping Norton, Cranleigh, Deal, Dorking (plumbers 1s. 5d.), Dover, Fareham, Faringdon, Faversham, Fenny Stratford, Folkestone, Gillingham, Godalming, Hailsham, Haslemere, Hastings, Havant, Herne Bay, Horsham, Hythe, Lambourn, Liphook, Littlehampton, Lymington, Maidstone, Margate, Midhurst, Milford, Milton Regis, Newbury, New Milton, Newport Pagnell, Oxted, Pangbourne, Petworth, Ramsgate, Redhill, Reigate, Rochester, Sandgate, St. Leonards, Sevenoaks, Sittingbourne, Strood, Stony Stratford, Stow-on-the-Wold, Thame, Walmer, Wantage, Wendover, Westerham, Westgate, Whitstable, Winchester, Winslow, Witney, Wolverton, Woodstock, and Worthing.

Grade C.—Andover, Ardingley, Farnham, Godstone, Hawkhurst, Hartley Wintney,* Haywards Heath, Horley, Isle of Wight, Liss, Petersfield, Rye, Smallfield, Staplehurst, Steep, Turners Hill, and Uckfield.

[N.B.—Leatherhead :—painters, 1s. 5½d.; plumbers, 1s. 6½d.; other tradesmen, 1s. 6d.; labourers, 1s. 1½d.]

SOUTH WESTERN COUNTIES :—

Grade I.—Bristol.

Grade II.—Plymouth * and Devonport.*

Grade III.—Dartmouth,* Exeter,* Kingswear,* Newton Abbot, Paignton, Portishead, Stroud,† Taunton, and Torquay.

Grade IV.—Barnstaple, Beaminster, Povey Tracey, Bradford-on-Avon,* Bridgwater, Bridport,* Brixham, Bruton, Burnham-on-Sea, Calne,* Castle Cary, Cheddar,* Cirencester,* Clevedon, Coleford,* Corsham,* Crewkerne,* Dawlish, Dorchester,* Exmouth, Fairford,* Frome,* Glastonbury, Lydney,* Melksham,* Midsomer Norton, Minehead,* Radstock, Shepton Mallet, Street, Swanage,* Teignmouth,* Tetbury,* Thornbury,* Totnes,† Trowbridge,* Wells, Westbury,* Weston-super-Mare, Weymouth,* and Yeovil.*

[N.B.—Bath, Cheltenham, Gloucester* (except painters), Hereford,* and Swindon* :—tradesmen, 1s. 5d.; labourers, 1s. 0¾d.]

SOUTH WALES AND MONMOUTHSHIRE :—

Grade A.—Aberavon, Aberdare, Abergavenny, Ammanford, Barry, Bridgend, Briton Ferry, Brynmawr, Cardiff (plumbers, 1s. 8½d.), Chepstow, Duffryn Valley, Ebbw Vale, East Glamorganshire and Monmouthshire Valleys, Garw Valley, Gorseinon, Llanelly, Maesteg, Merthyr, Mountain Ash, Neath, Newport, Ogmore Vale, Pontardulais, Pontypool, Pontypridd, Porthcawl, Port Talbot, Rhondda and Rhymney Valleys, Sirhowy Valley, Swansea, and Tredegar.

Grade B.—Haverfordwest, Pembroke and Pembroke Dock.

[N.B.—Brecon and Carmarthen :—tradesmen, 1s. 6d.; labourers, 1s. 1½d. Llandrindod Wells :—tradesmen, 1s. 5d.; labourers, 1s. 0¾d.]

SCOTLAND :—

Grade A.—Airdrie, Alloa, Alva, Armadale, Ayr, Bathgate, Bellshill, Bridge of Weir, Buckhaven, Burntisland, Clydebank, Coatbridge, Dumbarton, *Dundee*, Dunfermline, Edinburgh, Falkirk, Glasgow, *Gourock*, Grangemouth, *Greenock*, Haddington, Hamilton, Harthill, Irvine, Kennoway, Kilmarnock, Kirkcaldy, Larbert, Largs, Leith, Leslie, Leven, Markinch, Methil, Motherwell, Neilston, Newmains, Paisley, Pencaitland, Perth, *Port Glasgow*, Renfrew, Stenhousemuir, Stirling, Uddingston, Uphall, Wemyss, Whitburn, Windygates, and Wishaw.

Grade B.—Arbroath, Montrose, and Peebles.

Grade C.—*Dumfries*, Galashiels, Hawick, and *Maxwelltown*. (Plumbers at Dumfries and Galloway, 1s. 6d.; and at Inverness, 1s. 7d.)

[Douglas and District (Isle of Man :—Bricklayers, masons, carpenters and joiners, plumbers, plasterers, and painters, 1s. 4½d.; labourers, 1s. 0½d.]

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* The rate for painters is 1d. per hour less than that shown for craftsmen in the above table.
† The rate for painters is ½d. per hour less than that shown for craftsmen in the above table.

* From "The Labour Gazette."

Wednesday, November 8, 1922

Vol. LVI. No. 1453

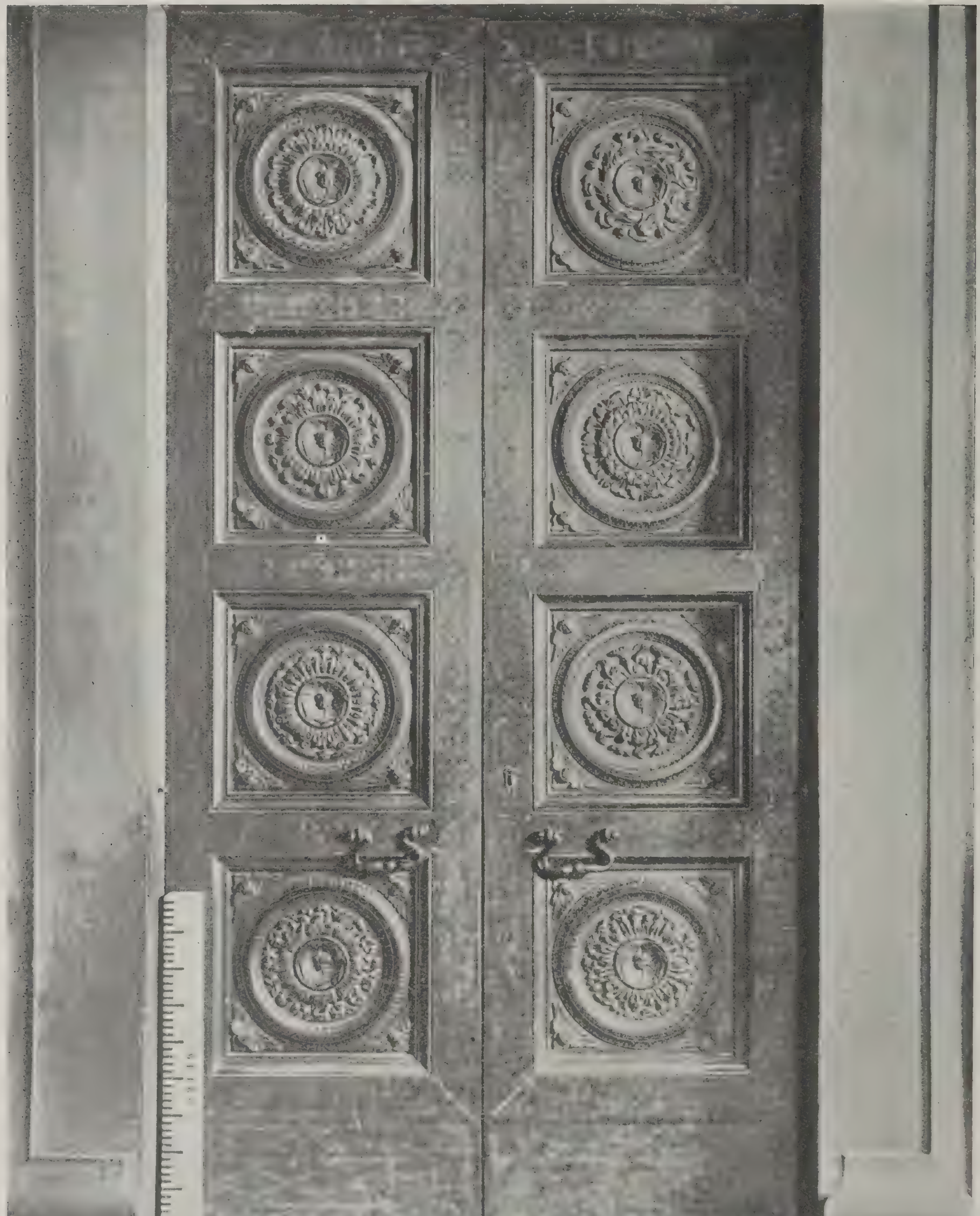
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

A FOUNTAIN IN THE BOBOLI GARDENS. FROM A DRAWING BY GILBERT LEDWARD.

27-29 Tothill Street, Westminster, S.W.1.

Architectural Details. 36.—Door in the Church of Santa Croce, Florence



This magnificent door is notable for its dignity of design and richness of detail. It is of good proportion, and the carved wood panels and the surrounding mouldings are in perfect harmony, though perhaps the two wrought handles are not happily placed.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, November 8, 1922

Volume LVI. No. 1453

The Common Apathy towards Art: A Remedy

SEVERAL architects, including Sir Ernest George, R.A., have taken part in the continuous correspondence (in "The Times") on the newspaper practice of systematically suppressing the names of the authors of war memorials and other monuments.

It is natural enough that architects should join in this protest, because in reality they suffer from this injustice more generally than sculptors, buildings being so much more numerous than examples of statuary, while attracting much less public attention, complimentary or derogatory.

The correspondence was started by the Duchess of Rutland, whose powerful plea for a more just and more generous recognition of the artist we print on a later page. It will be seen that the Duchess's protest was directed against the common and disreputably mean practice of suppressing the names of the designers of war memorials, but it has, of course, a much wider range, and Sir Ernest George was entirely in order in putting in a word for the architect, and was only too entirely right in the reminder that "architects as well as sculptors suffer for the want of general interest in the creative part of their work." The indifference of the public is reflected not only in the lay press, but in the work of the artist, whose super-sensitive soul is always strongly affected by praise, blame, or indifference; and the better sort of architect is most distinctly of this susceptible type. Appreciation encourages him to high endeavours, but dispraise or indifference is apt to damp his ardour and dull his genius.

Sir Ernest George's letter is followed by a useful expression of opinion by Mr. Fredk. R. Hiorns, who, needless to say, is in full sympathy with Sir Ernest's point of view, and with "all who desire proper recognition of the work of artists and the association of their names with their works." As an architect speaking up valiantly, but temperately, for his own order, Mr. Hiorns makes the poignant but true remark concerning the appalling general apathy towards our important and often very fine modern buildings, that "not one in a thousand of our citizens knows the authors of even the more recent of them, or, what is worse, is interested enough to enquire." The sting of the accusation is that last painful clause. The public do not care! Why? Mr. Hiorns thinks that "the reason is perhaps not far to seek; only a very small section of our nation has what may be called an intelligent appreciation of æsthetics or any real sense of its value."

That again is only too true. But while the case is certainly grave, it is by no means hopeless. Mr. Hiorns is rightly optimistic about it. He believes—and most architects have the same robust faith—that our country would be quite responsive to the right sort of instruction, and that it is for the exponents and professors of the arts to see that they get it.

Nothing of all this will be seriously disputed. The sole outstanding question relates to ways and means; for it is above all things necessary to convince those who pull the purse-strings that there is value in art—that to educate the public in æsthetics is not only possible, but, all things considered (especially ultimate issues), would be well worth while—would, in fact, be economy at long range.

There is no need to remind us that the largest section of the British public, in their hectic craze for violent and percussive pleasures, have coarsened their tastes well-nigh irremediably. Among the thirty-five thousand to fifty thousand opportunists roaring themselves hoarse at an inconsequent football match, it cannot be confidently supposed that even one enthusiast of a moment has ever been inside Burlington House, or is capable of taking reposeful pleasure there—except perhaps some plumber who may have gone there to inspect, not the pictures, but the pipes. All the pictures he wants to see are living pictures.

Not that his preference for athletics over æsthetics should bring scorn upon him. Rather should his hard and artless case evoke sincere commiseration; he is sacrificing to percussive violence he knows not what of refined pleasure; and Mr. Hiorns is no doubt correct in his conjecture that many of our people are "quite responsive to the right sort of instruction." If they do not get it, the fault lies at other doors than theirs. It is not sufficient to open wide the doors of museum and picture gallery. The people who so persistently remain outside must be advised and persuaded that inside there is something well worth seeing. That is but another way of recognizing that the capacity of the public for the appreciation of æsthetics is not dead, but only dormant.

Yet at the adult age the faculty of æsthetic appreciation is likely to have become atrophied for want of exercise. The "human boy"—or, for the matter of that, the human girl—must be captured for art when young and tender; but the mischief is that not one school in a thousand spreads the like lure. Children are drilled in drawing, painting, modelling, carving, and other "Mechanick Exercises," as old Moxon called them, but the principles underlying them are not efficiently instilled. The pupil's capacity for admiration is not developed in the process. He is but seldom taught how to recognize good design from bad, or what are the elements of amenity in a town or in a street. He is not brought to a true understanding of shape, proportion, colour.

He should be so educated as to be able to discern for himself, by his own sharpened faculties, wherein beauty consists, and to tell whether or why a building, picture, statue, vase is beautiful or not. It is with a wry and wistful smile that one here recalls the hackneyed aphorism, "We needs must love the highest when we see it," so strong is the virtue of "when." Therein is the gist of the matter. Our faculties should have been trained to see it, and not only to see it, but to feel it, and to become obsessed with a more or less urgent desire to emulate it.

In the schoolroom there should be none but seemly objects in orderly array—flowers if you will, but certainly good pictures, including very specially views of important buildings, old and new. Beautiful and dignified objects should surround the child, moulding his mind and shaping his thoughts "in a concatenation accordingly"—creating for him an atmosphere favourable to the steady growth of a love of the beautiful and noble.

That this favourable atmosphere is almost entirely absent from our elementary and secondary schools is the gravest defect in our system of education, and the nation is suffering from it no less cruelly than the architect and the other creative artists. Hence the value of the fine protests made in "The Times" by the Duchess of Rutland, Sir Ernest George, Mr. Hiorns, and others, who have done the country an excellent service in reminding our would-be legislators, who are mainly appealing to the electors on issues that are really much less important, of a subject that has suffered from cruel neglect. We refer, of course, not to the mere omission of an artist's name from newspaper accounts of examples of his work, but to the deeper significance that this comparatively trivial fact always discloses—that it is symptomatic of the public apathy to art, which must be by all means overcome, lest the people be left without vision to perish. The remedy is to import into education the vitalizing element of Art.

The A.A. Presidential Address

Mr. Stanley Hamp's inaugural address as president of the Architectural Association was of a different complexion from the addresses of most of his precursors in office. Mr. Hamp seemed more concerned with practicality than with polish, with substance than with style. To be equally rich in both respects is to achieve a rare distinction. He did well to direct thought to a consideration of what is the architect's niche, for that is a subject on which there is much confusion in the public mind, if not among architects themselves; and Mr. Hamp's declaration of what an architect should not be expected to do—that he should not be expected to supersede any sort of specialist, still less to take upon himself the functions of all kinds of specialists, that, in effect, the public must be disabused of the idea that an architect is a Jack-of-all-Trades—is a reminder that needs frequent reiteration, lest we (or they) forget. Mr. Hamp did well, also, to uphold the dignity, not only of his own calling, but also that of the builder who is proud of his work and jealous of his reputation.

Housing Reform

The recent concerted housing appeal from the pupils of all London should spiritualize the movement. Hitherto that form of inspiration had been sadly lacking to it, and was long overdue. Until now it has been insufficiently realized that the housing of the people is something more than a purely secular matter, or a merely economic problem. Its moral aspects seemed to have been somewhat neglected by the churches, which, however, have evidently not overlooked the problem, but would appear to have been brooding over it in the hope of discovering a solution. They have not yet produced one; but the committee of the Religion and Housing Campaign have expressed a "pious hope" that, "in the midst of party strife, men and women will be able to sink their differences and unite in trying to secure the reform, which is overwhelming in its difficulty; but which can be rendered practicable by those who believe in the power of the spirit in everyday life." It is not necessary either to urge or to contest this as a point of dogmatic theology or other species of pious polity. Quite evidently the housing question has been made the football of political partisans and greedy profiteers, and it is time that these sinister housing experts should make way for humanitarians whose concern is not to get out of it all they can, but to put all they can into it. In other words, to spiritualize the movement. Hitherto, housing has been completely dominated by an extraordinarily high (but low would be the more appropriate word) degree of selfishness all round, not less observable in the persons for whom houses have been, or were to be, provided, than in those who sought to turn the opportunity to pecuniary advantage. It is to the churches that the community is entitled to look for guidance in matters of the heart and conscience, and the housing movement is one in which a change of heart is a crying need. With respect to the workers, their wholesale defeat in the municipal elections should be for their chastening, showing plainly enough that the electors will not tolerate a policy of greed and confiscation. Getting away from politics and polemics, it must be admitted that, on the whole, housing has been a horribly soulless business, always excepting the efforts of Mr. Aldridge's fine society, with certain other philanthropic endeavours of like sincerity, and the intervention of the churches was, as we have said, rather overdue. For a more purely secular view of the situation commend us to the letter of Mr. Ernest A. Fuller, of Repton, who suggests that "in order to cope with unemployment, the income from every house built during 1923 be tax-free for five years," as "this would be sufficient, probably, to induce investors to build in all directions, thus relieving unemployment amongst builders and allied trades, as well as going far to solve the housing problem. At the end of the five years there would be a much larger taxable income from house property than if nothing is done towards encouraging private enterprise in building." But then nothing ever is done; or, alternatively, as surely as a Mond succeeds to an Addison, is promptly undone almost as soon as initiated. As soon as fruition was imminent the Geddes axe was laid to the root of the tree.

Anonymous Architecture and Other Art

In "The Times" of November 1, the Rev. Waldegrave Bainbridge-Bell, of the Vicarage, Epsom, advocates the signing of architecture and other works of art. He does so feelingly, having a direct personal interest in the matter. "When seeking for the right architect," he says, "to prepare plans for the rebuilding of our church, I naturally took steps to visit recent examples of modern architecture. Often I had considerable difficulty in discovering the name of the chief craftsman. Surely there ought to be some method of recording, as in pictures, his signature." He adds that "the same necessity applies to screens, stained windows, church plate, and other important details of ecclesiastical and civic furniture." We do not follow him all the way. He is fully entitled to look for "the right architect," but there is something repugnant in the idea of stamping or engraving the church plate with the name of the artificer. With respect to the name of the architect, churches and chapels are less reticent than secular buildings. Very often the foundation stone bears the names of architect and builder, as well as of witnesses to the deed of laying it; and one has noticed, in the instance of a certain church in Edinburgh, the name of the architect, Playfair, placed in a prominent position at the entrance.

The Municipal Elections

It is with rather mixed feelings that one notes the overwhelming success of the "Economical" candidates in the municipal elections. There is such a thing as being too successful; and economy is so little understood that there is no small danger of the newly elect acting on the decidedly perilous assumption that they have been given a mandate of meanness—a rooted policy that was certainly in no need of emphasis. That our country is greatly in need of true economy is perfectly obvious, but their conception of economy is often as wasteful as that of the miser who starved to death the animal that bore the burden. To save the oats and lose the horse is the asinine conception of many a newly elected borough councillor, and our particular interest in the fact is the apprehension that a policy of muddle-headed meanness that mistakes miserliness for economy (whose name it is persistently taking in vain), will result in bad building, and little of it. We trust that this fear may prove to be groundless, but it is dictated by bitter past experience. It seems necessary to repeat once again that unwise saving is not economy, but the worst form of waste.

The Architect's Niche

Mr. Stanley Hamp's Presidential Address to the A.A.

At a well-attended meeting of the Architectural Association last week Mr. Stanley Hamp delivered his inaugural address. The gathering included Messrs. Arthur Keen, Maurice Webb, Ralph Knott, Austen Hall, Manning Robertson, H. M. Fletcher, Roland B. Chessum, and Professor Gerald Moira.

Mr. Stanley Hamp, in the course of his address, said: My predecessor in this chair gave you some very sound advice as to how to be a student. I am going, perhaps you will say, to sermonize on "The Architect and his Duties." That sounds a formidable subject, but it is not so bad as it sounds.

In meeting the Dutch architects it was forcibly impressed upon me that we architects in England were very far behind in the appreciation by the general public of our work; in fact, the more I talked with them about it the more I realized that here the architect was not really understood or appreciated as he should be. Now, why is this?

I think the present-day architect's training gives that appreciation for form and colour which no other does—and if this were more realized (and it is the architects themselves who are responsible that it is not) then this training would be more highly thought of and sought after.

The more architectural your training is, the more you will realize the truth of what I am saying, and it is the A.A. School, the Liverpool School, the London University, and others like these, that will in time make this felt. The results of the training have not yet had time to do so, but it is already interesting to see signs of what I am foreshadowing.

One of the masters here, I am told, took in hand the designing of the body of the motor car, and produced in a short time one of the best to be obtained—and what is more important, made the manufacturer realize that the designing of the body of a car was an architect's job.

Do we explore the commercial world for every new material with a view to its artistic use?

How are we to do this? Being the creative artist, which is our calling, we should at least be held partly responsible for all new departures in design made necessary by new materials and new inventions, in fact, we must follow in close touch with all these new developments.

Take, for instance, the advent of electric heating and lighting. What did architects do at its first introduction, and what might they have done? Surely it opened up a large field for design.

Until the public say at every new invention affecting the artistic appearance of their buildings or any object they live with, "What do our architects say?" we shall not occupy in their minds the place we should, in fact, we shall not occupy our proper niche.

I do not think it is our job to experiment and find out the strength of materials, such as stone, wood, metal; neither is it our job to discover the reason and remedy for dry rot—all such work should be undertaken by the builders. It is much more their duty as responsible builders to see that all this research work is done—we should only use the knowledge they would obtain. They would do this readily enough and much better than we could, if we as architects asked it of them, instead of trying to do it ourselves.

We too often look upon the builder as one who is trying to make profit at the expense of his work, but my experience is that responsible builders in this country are as anxious as we are to do really good work for the high reputation which many of them possess. They should be more encouraged to do research work upon all materials usable in buildings. They have the opportunity, and what is more, volumes of experience behind them.

In the same way, we are not steelwork engineers, neither are we experts in electric lighting and hot-water engineering, nor sanitary engineers. The sooner we leave these matters to the expert, and let the public, our clients, realize the fact, the better.

Our course surely is to collaborate with the expert. It would be a fine thing if there were a group of these various experts whom we could consult, whose knowledge and experience is so necessary to all architects nowadays.

If such a group of men started, they would, I am sure, soon get a large connection with all practising Architects, and save much waste of time and energy which now prevails. Such a body of men, if they confined their energies to this work, could do most valuable research work in the interest of the building public. It only needs a few men to start the idea and architects would soon take advantage of it.

These men must not in any sense represent any particular system but must be open to all, to advise in the particular way best suited to the particular problem. They would be men who would study every new development on its merits, and in that way be not only of great value to the architectural profession, but of service to the public.

We should say quite frankly to our clients that we are not engineers, but architects, and that for all such special work which we control we employ experts in each particular branch. If we did this, there would be fewer failures, and clients would be better served.

I think, for instance, it is a bad practice for the architect to leave to the steelwork contractor the designing and detailing of his steelwork construction in competition. It is quite impossible under such conditions to get fair competitive estimates, with the result that the firm who unwisely cuts down the weight of steel in the work will be the lowest in price.

The one difficulty which has always stood in the way of this being done by architects is on account of the additional fees payable by the client to these experts.

The architect has a duty to humanity to deal with all new requirements in the spirit of the new inventions. It is no good repeating traditional motives in our designs where, obviously, they are unsuited to present-day requirements.

With the introduction of electric heat, gas and steam heat, take, as a simple illustration, the open fire. Do we realize that in many rooms now that this is not required the chimney as a feature in our designs may disappear.

You may be interested to know that in such a building as the Savoy Hotel, and others like it, nearly all the fireplaces in the bedrooms have been filled in, and electric fires and central heating relied upon; that means that the chimney-stack for this purpose is no longer required, and with the open fire this decorative feature in our rooms will probably disappear. Are we thinking out a new treatment for when this happens? Do we lead in these things, or are we going to leave it to the trade?

To give but one more instance. Take such a residential neighbourhood as Kensington. What is to happen to the large derelict houses which, on account of changed conditions, are no longer desired? Is there no solution of this problem which can bring into use for modern requirements these buildings which are constructionally sound. Someone must solve this problem in the near future in this and other neighbourhoods.

Take again whole streets of houses in a district like Clapham. Are we as architects making any suggestion for their use. We are the people to do it in a really comprehensive way. We should think this out and guide the public to the solution.

Why not start a Designing Guild, the object of which would be to assist all those who are really anxious to improve their goods, and who at present do not consult the practising architect? Let the speculative builder come and have his houses designed. Let the factory builder, who would not employ the architect, come for advice; in fact, encourage the whole commercial world to realize that they can get sound artistic advice upon any matters and materials to do with our buildings, at a fee which would not deter them as at present; for there is no doubt that but for this the architect would be more often consulted, and the result would be to raise the general standard in design in matters which now receive no artistic consideration. It would also be a means of getting quickly in touch with practical design.

If we are creative artists, as we should be, we should demand to be consulted upon all branches of industry where artistic advice is needed, and if you think for a moment you will realize the thousand-and-one things that would be the better for such consideration; but at present it is left to the good taste of the layman, often the business man. The architect is not in his niche.

Take, for instance, materials, such as bricks, tiles, figured woods. All firms providing these materials should be encouraged to seek the advice of the architect; at present they are almost afraid to do so, although some realize that we do possess the knowledge they need.

What a field of work lies here for architects if we occupied our place in these matters. There would be no talk of us encouraging too many to enter the ranks of the profession. We should never have too many in our schools, for the outlet of their energies would be so much increased—in time, the whole world of commerce would be influenced by the training we give.

Then take all fittings, such as grates, door-furniture, and electric fittings, &c. Why is so little progress made in these things in this country? Are architects consulted by the firms who make them—and if not, why? Is it because they do not realize it is our work, or is it that they think we are above these things, or is it that they think we know nothing about them, or that if they ask our advice they will be incurring an unknown expense?

I was told by a firm of brickmakers the other day that they badly needed the architect's advice upon the right kind of brick to manufacture, but did not know how to approach anyone. They said quite frankly, "We are not designers, and therefore cannot be expected to know what various shapes and colours would be the most useful." They would willingly make and experiment if they had someone to advise them.

We have a duty to another section of the community, which, I fear, we as the controlling force in building work generally do not fully recognize. I mean the professional craftsman, such as the young decorative painter, the sculptor, the wood carver and the metal worker.

We have a number of gifted men working individually in this country who should be able to rely upon the architect for their chances. What do we do? In a large number of cases we are inclined to place such work in the hands of contracting firms. It is our duty to see that these artists are fully employed by us. Our buildings should express their time by employing these men.

I should like to see the time arrive when the architect will consider no building, however small, complete without there being in it the personal work of other artists.

For instance, instead of having in our rooms a richly moulded plaster cornice, reduce the size of the cornice and have a little plaster or coloured decorative panel executed by an artist; instead of having yards and yards of moulded enrichments in stone façades, let us have less, and, instead, have a beautiful carved panel by an artist.

We are all anxious that architects should be better appreciated in this country. We all do our work, such as we can get, and charge for it; but do we ever consider that there is much practical work we could do if we would accept for our remuneration our countrymen's approval and gratitude?

Take the Housing Problem. Have we, as architects, done all that we might have done? Why do we let Government Departments prepare for the building-public books of designs which can be bought for a few pence? I think such information is valuable, but we, as practising architects, should have produced such a book. Are we afraid of giving something away for nothing? We can hardly be so short-sighted. Then why is it?

Are there not many things that architects as a profession could do without the usual fee? Yes, there are, and I shall presently try to tell you a few of them.

There are plenty of subjects waiting to be so dealt with, as, for instance, the lay-out in front of Victoria Station. Are there not in all our cities many such problems that we, as architects, should turn our hand to? They may not be carried out, but every effort in this way is good for the profession, and in time will bring its own reward.

Take the scheme that was produced and published with regard to the Charing Cross Bridge first suggested by Mr. Collcutt, Sir Aston Webb, and Sir Reginald Blomfield. They may or may not entirely approve the scheme, but the public is interested and they are made to realize that in any case it is an architect's conception. The more work that is done in that way the more will the public realize what architects are for. At present when they consult us they often think it is an expensive luxury.

If we look back into the ages and see the big men in architecture, we shall surely see them in their proper "niche"—their reputation lies in their art, not in their qualities as engineers, or even men of literature. These things some of them did, but their energies were not hampered by all the scientific matters as ours must be if we do not ask the assistance of the men experienced in these modern scientific matters.

If we occupy the "niche" we should in the eyes of the general public, and if we do our *duty* to humanity, there is little doubt in my mind that these towns and villages of ours would be better places in which to live than they are to-day.

DISCUSSION.

Mr. Maurice Webb said that Mr. Hamp had talked a great deal about the creative artist, but there was no creation without knowledge, and he rather doubted whether architects were qualified to design the body of a motor car properly. He himself was the owner of a small car, and he thanked God every time he got into it that he had not designed the body.

He agreed that the architect ought to lead the public, and he could do it in some things, such as town planning, public health, but not in motor cars and illuminated signs.

With regard to housing, America had given us a lead, the architect's fees working out at sixteen dollars a house compared with about £30 a house in England. Housing could not stand this, and the Americans had realized it. If architects in this country were to follow, they would do more to identify themselves with housing than by any other means.

Mr. Austen Hall said that he entirely agreed with what Mr. Hamp had said. It was very natural that Mr. Webb should have referred to the way these things were done in America. It was almost impossible to keep America out of these discussions on architecture. In America they were so much more proud of their cities, and he told an anecdote of how, even at a funeral, when the followers were asked if anyone would like to say a few words, there arose one who said he would like to say a few words about Los Angeles!

Mr. Benslyn said that Mr. Hamp's remarks naturally fell into three heads: the relation of the architect to his fellow men; the relation of the architect to the experts assisting him; the relation of the architect to his client.

With regard to the employment by the architect of experts, he thought that it was largely a question of liaison.

Mr. Arthur Keen humorously remarked that had it been a stranger and not a friend who had read that paper amongst them they would have arisen in their wrath and destroyed him. Had Mr. Hamp forgotten that it was an architect who designed the hansom cab?

Mr. Roland B. Chessum spoke on behalf of the master builders, and expressed the pride a good builder always took in a completed job. Quite as much as an architect was a builder proud to walk in a great city and see the buildings he had helped to create.

Professor Moira, the painter, said that in his opinion architects were too much in a niche, and he thought it was about time they came out of it and gave other people a chance to come in.

In his reply to the vote of thanks and expression of goodwill for Mr. Hamp's term of office as President of the Architectural Association for the coming year, Mr. Hamp said that though everybody except Mr. Austen Hall had appeared to disagree with him, he found that all his critics had passed opinions which were really what he himself had already voiced. He was quite sure that he and they were all of the same mind.

Rebuilding Soviet Russia

By HUNTLY CARTER

8. The Future of Russia: A Forecast

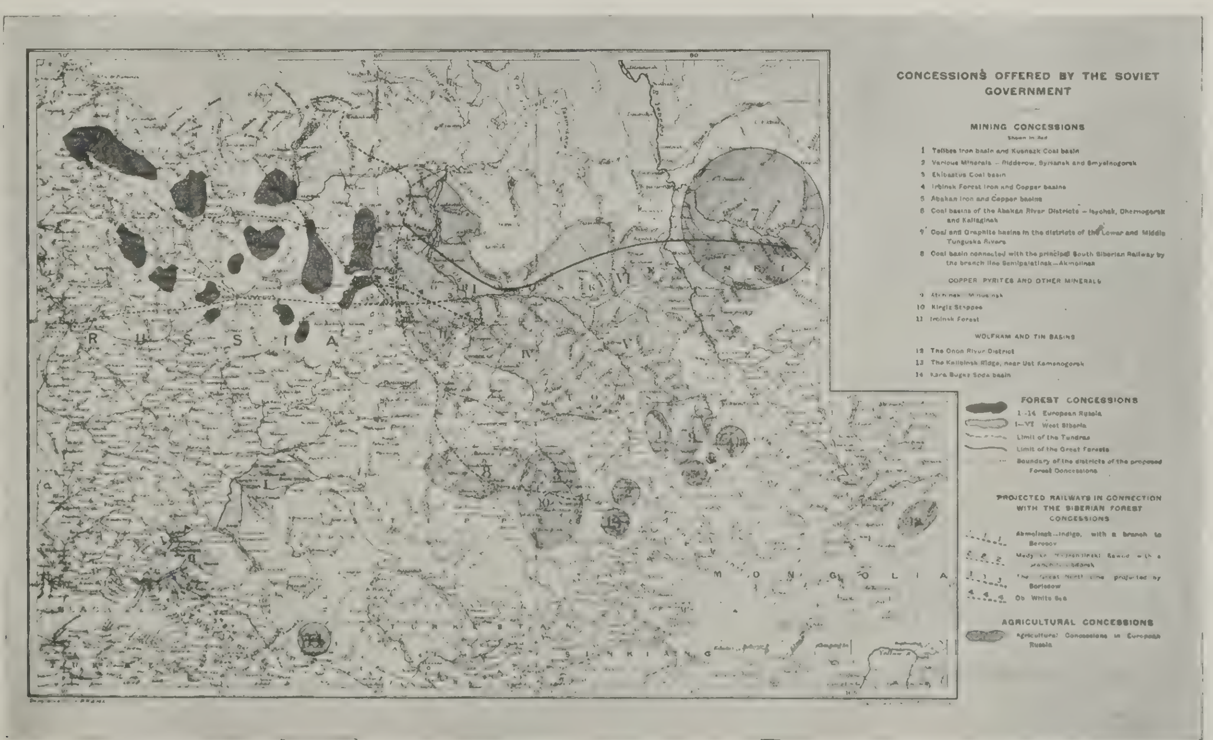
(*Concluding Article*)

THE game of prophesying the future of Russia has occupied the attention of a good many outstanding writers since 1918. It has been, and still is, one of the most prominent features of Press articles and books on the Russian situation. "Economic Russia does not exist"; "The World needs Economic Russia"; "Russia is a Potential Klondyke"; "Russia is the Modern Aladdin's Cave"—are some of the headlines adopted to express the anxious interest in a veritable Tom-Tiddler's Ground. Statesmen, politicians, financiers, tradesmen, art and craftsmen of all countries are glancing eagerly towards a country full of mystery and uncertainty. They are told that it is being ruined beyond recovery by its present occupiers. They refuse to believe this, and even the strongest opponents of the Soviet régime are unable to compel persons possessed of common sense to accept the statement that Russia is ruined beyond recovery, or that it will become a totally wrecked country separated from civilized countries if it remains under the present Government. This does not mean that the present Government are absolutely necessary to its recovery.

Perhaps Russia's strongest hope of recovery lies in the fact that the Western World, at least, needs it economically and otherwise. It is, in a familiar trade term, a world supplier. There's no doubt about that. It can supply the world with wheat, with timber, with oil, with minerals, and with many other essentials, as an examination of pre-war exports certainly proves. Take away everything except the oil, and Russia will still remain a great commercial and economic necessity.

The world needs Russia. It is equally true that Russia needs the world. This is the age of co-ordination, not of isolation. Let Russia be modelled after a new pattern, called proletarian, communistic, or what you like; let its old bourgeois population be replaced by horny-handed sons of toil, thick-set men and massive women, naturally equipped for the wear-and-tear sort of life that a modern industrialized country is bound to provide, it is perfectly unreasonable to believe that the new type of country and its population can exist separated from the rest of the world.

It is not unreasonable to believe that the oil behind Russia is sufficient to guarantee its recovery, and, perhaps,


CONCESSIONS OFFERED BY THE SOVIET GOVERNMENT
MINING CONCESSIONS
Shown in Red
1 Telibes Iron basin and Kusnezk Coal basin
2 Various Minerals – Ridderow, Syriansk and Smyeinogorsk
3 Ekibastus Coal basin
4 Irbinsk Forest Iron and Copper basins
5 Abakan Iron and Copper basins
6 Coal basins of the Abakan River Districts – Isyohsk, Chernogorsk and Kaliaginsk
7 Coal and Graphite basins in the districts of the Lower and Middle Tunguska Rivers
8 Coal basin connected with the principal South Siberian Railway by the branch line Semipalatinsk—Akmolinsk
COPPER PYRITES AND OTHER MINERALS
10 Kirgiz Steppes
11 Irbinsk Forest
WOLFRAM AND TIN BASINS
12 The Onon River District
13 The Kalbinsk Ridge, near Ust Kamenogorsk
14 Kara Bugaz Soda basin
FOREST CONCESSIONS
1–14 European Russia
I–VI West Siberia
Limit of the Tundras
Limit of the Great Forests
Boundary of the districts of the proposed Forest Concessions
PROJECTED RAILWAYS IN CONNECTION WITH THE SIBERIAN FOREST CONCESSIONS
Akmolinsk–Indigo, with a branch to Beresov
Ob White Sea
AGRICULTURAL CONCESSIONS
Agricultural Concessions in European Russia
R U S S I A
M O N G O L I A

MAP SHOWING CONCESSIONS OFFERED BY THE SOVIET GOVERNMENT.

a rapid one. In my experience there are several more significant factors to guarantee recovery. I shall doubtless be told that I am too optimistic for my facts. I shall be accused of taking back much that I have implied in my previous articles. But I must say that I had no intention of implying that I am at all pessimistic about Russia's splendid future. If I appear to have done so I can only say that I have expressed myself badly. My articles were written for the purpose of showing that externally Russia is in a terrible condition. It is a condition that justifies the opinion that Russia ought to be rebuilt from end to end. In my view there is no reason why the truth of this condition should not be made widely known, so that foreign technicians and others may watch for favourable opportunities to participate in what is likely to be a memorable piece of nation building.

The pictures I have sketched of Russia, then, are real. They linger vividly in my mind. But behind them is a great and wonderful country—one that in olden times might easily have figured in Arabian Nights' stories of fabulous wealth hidden from the eyes of all but beings with eyesight capable of penetrating the steel walls of a Dreadnought. It has never been developed. The sight of the undeveloped agricultural areas alone is sufficient to break an agriculturist's heart. I have sat in a train and throughout a long journey noted acres upon acres of rich, fertile black earth—earth in which anything could be grown—lying idle, absolutely untilled virgin soil.

This great and wonderful country is not one to be destroyed. The Communists know it. It is a country to be built up and developed on the broadest basis. That is the only reasonable thing anyone can expect who is acquainted with Russia to-day. Some believe that the Communists will make good, and will work out their schemes. Others believe that they will be replaced by organizers and administrators of a different type, or, at any rate, that the Communists will work out the salvation of Russia, not as Communists. Personally I do not think it matters much what we call the men who do start building the new Russia. The thing that matters is that Lenin and his immediate followers have conceived vast plans—really magnificent plans—for the reconstruction of Russia, and that these plans are informed with ideals and ideas drawn from advanced, scientific, industrial, social and economic thought and action prevalent in the most modern centres of the world.

Such ideas have carried them, in spite of themselves, far beyond the Marxian standpoint. They have made them neo-Marxians — ultra-materialist philosophers, neo-proletarian economists—anything but the undiluted Marxians which they claim to be. All this is perfectly clear in their proposal to apply ideas with which Marx could not possibly have had acquaintance. Take the idea of the application of knowledge to industry, not for the sake of acquisitive gain, but for the sake of communal wealth—that is post-Marxian. The idea of the humanization of industry is Marxian, indeed, pre-Marxian, for Marx derived it from Robert Owen. But the idea that the higher education of the worker must include a human kind of industrial teaching not to be found in science alone goes beyond Marx. Such ideas, and many others as valuable, have been introduced to Russia. They will live, whatever happens to the men who introduced them, and exercise a powerful influence not only on the Russian workers and peasants, but on peoples outside Russia.

In a way we may regard the Russian Communists as planners and architects. They have outlined a new Russia, and they have cleared the ground for the preliminary work of building. But in doing so they have locked up their building resources, and they need a magician's key to unlock them. They have made many errors of judgment and have acknowledged them, and beyond this have tried to profit by the lessons therefrom. Still, after four years of destruction, they have got no further than the threshold of construction.

I think the general plan for rebuilding Russia is pretty well known. Perhaps its details are not known mainly because the plan itself has not come within practical politics as yet. The conversion of Russia into a great power country was, I believe, the original plan at the back, or front, of Lenin's mind. By power country I mean one in which the industrial and scientific sources of power are fully developed and adjusted to national and international requirements. Thus all the potential and industrial scientific resources of the country in labour productivity, in hydro-electric power, oil, turf, minerals, and so on, were to be fully considered, developed, and utilized. Scientific industry and agriculture were to be fully promoted, and humanized, and adapted to education as a means for expanding native aptitude to its full economic stature.

It is almost beyond doubt that this magnificent plan will survive the vicissitudes of changing Russia. In any case, electrification is still one of the predominating questions in Soviet Russia. To this has been added concessions. Both questions are of equal importance to the economic recovery of Russia, but that of concessions now comes first. It is, in fact, the practical one, whereas electrification is still in the theoretical stage, and theoretically faced by many real difficulties. I referred in my first article to the proposal to electrify the whole of Russia. By this means Lenin and his Government see, as they believe, an effective means of regenerating Russia both politically and economically.

Electrification is to serve as a means of proletarianizing the great mass of the population, workers and peasants alike, of realizing Russia's vast material resources, and of adding a spur to productivity and fertility. Not very long ago Lenin, when addressing the Third All-Russia Congress of the Russian Communist League of Youth, said, "Before us stands the task of the economic renewal of the whole country, the reorganization, the restoration of agriculture and industry on modern methods. You fully understand that electrification is not a matter for the uneducated, and that rudimentary education therein is not sufficient. It is not enough to know what electricity is; one must understand how to apply electrical technique to industry and agriculture, and their different branches. One must know this intimately, and the whole rising generation can learn it." Elsewhere he remarks that "it is necessary that the mass of youth from twelve years up should be educated as disciplined and conscious scientific workers." Only in this way can we hope that the great task of the electrification of Russia will be carried out in ten years. This task is no less than that of co-ordinating all parts of Russia and its life—even the life of village communities buried in dense forests or isolated in immense plains with the life of the great cities—by linking them together in a network of electric communication. So old electricity supply undertakings must be overhauled and new ones, including large, central power stations, established. And along with it must go the linking of an entire population of 130,000,000 to the task of modernizing Russia by scientific education.

The task, vast as it appears, has its practical side, and will, I believe, be attempted sooner or later. But before a start can be made there are many difficulties, besides the scientific education of an illiterate population, to be considered. After discussing the question of electrification with experts in Russia and different parts of Europe, I have come to the conclusion that the difficulties are enormous. I will not stop to consider them in detail, but will only say that, electrically considered, Russia is not by any means a privileged country. Its size, primitive conditions, orographical structure, climate, the difficulties of realizing its power resources of coal, peat, wood, and water; its present limited financial and technical resources, are all obstacles of the first magnitude. To take one concrete instance of a difficulty to be overcome in the matter of the development of hydro-electric power. There are many immensely long rivers in Russia, but they are vastly inferior as regards the volume of water they discharge to the rivers of western Europe. They describe immense curves on their way to the sea, flow with gentle gradients, and are so shallow that they dry up in summer and freeze in winter; their chief practical value is for communication between towns thousands of miles apart.

Another present overwhelming difficulty is finance. This has led Lenin to remark that Russia will have to pay the capitalists hundreds of millions of kilograms of oil for help to electrify Russia. A further difficulty worth noting arises from the fact that the plan for electrification is inseparably connected with a consistent scheme of political economy necessitating the study of many complex technical and economic questions before it can be realized in the most rational manner. Still, I need not stress these difficulties overmuch, for in spite of them all Russia presents to many prominent technical experts a wonderful field for electrical and other development. Moreover, the mind of man is ingenious enough to overcome and profit by the vastest obstacles. Look, for instance, how Germany is overcoming the difficulty presented by one of the clauses of the Peace Treaty. It may not develop its aeroplanes in one way, so it is doing it in another cheaper and far finer way. Hence the international competition in gliders.

As I have said, concessions form the immediate practical question. Concessions to the peasants and others is the first practical step towards the renewal of capitalism. But the Soviet Government is pleased to call it a new form of capitalism, to wit, State Capitalism. It looks like juggling with words. Anyhow, capitalism is now accepted as a ground of economic recovery and industrial re-establishment. The Soviet Government are aware of the great possibilities of realizing raw material in Siberia and elsewhere, and they have for some time been inviting foreign exploitation of wide areas, such as those of the timber, mine, and agricultural concessions in the north of Russia and Siberia indicated in the accompanying map (page 645). Only the approximate extent of concession areas is shown. It would occupy far too much space to describe the nature and extent of the forest, mining, and agricultural concessions. With regard to actuality, it may be said that the offer of concessions to foreign capitalists has not attracted many concessionaires. Perhaps the Urquhart bid is the largest the Government has had as yet. It is one of the attempts to obtain from the Soviet Government concessions for old property. It has been rejected on political grounds. Concession is really a method of pawning Russia to get money for rebuilding the large scale industry and carrying out the electrification plan. The reason it hangs fire is that there is a want of confidence in the Soviet Government and a refusal to accede to the peculiar terms of concession, which, for one thing, are bound to bring into conflict imported labour and native labour engaged for capitalistic enterprises.

The logical deduction from the foregoing is this. The Soviet Government are compelled by sheer necessity, political and economic, to make certain concessions, both internal and external. Externally, to obtain necessary outside co-operation to realize the vast resources of Russia and to place them on the world markets, and beyond this to reconstruct the country according to the plan already adopted. Soviet Russia, on the admission of its own Government, cannot do without co-operation, and close co-operation, with foreign peoples. How are these closer relations to be established? That is the main question. Something has already been done by: (1) recognition, as in the case of Germany; (2) exchange of trade delegations, as in the case of England; (3) proposed *rapprochement* through trade pacts, as in the case of France. Doubtless the attempt to establish co-operation will continue, but its success will depend mainly on one thing, the development or disappearance of Bolshevik communism. If Russian communism remains in the hands of extremists clearly the struggle with other nations will continue. Recovery under Bolshevik communism can only come, if at all, through a long destructive process, that is, a bitter struggle against Western forces, not only military ones, but the great world-wide anti-revolutionary body of capitalistic organizations. If, on the other hand, there is a growth of the present moderate policy, the representatives of commerce and industry and private traders of all countries will proceed to negotiate at their own risk with the Soviet Government without waiting for political agreements between their own countries and Russia. For the moment revolutionary ardour has died down all over Europe and strong moderation has ousted excess. Whether moderate politics will have the effect of changing or displacing the Soviet Government is hard to say. It is easier to prophesy that when the great rush to the new commercial Klondyke takes place, and men from all parts of the world have entered Russia to stake out claims, a political miracle will happen. Miracles do happen even in the twentieth century.

The map of concessions is a composite one made from three maps which I brought from Russia. It is produced here by courtesy of the editor of "The Beama."

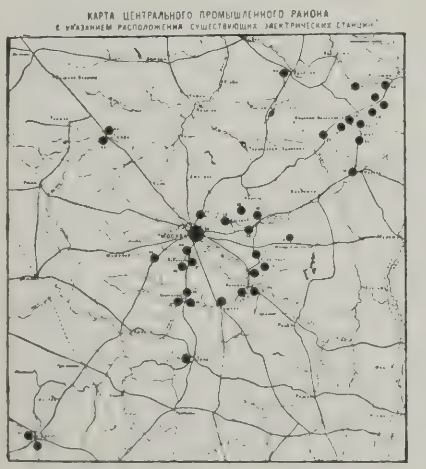

КАРТА ЦЕНТРАЛЬНОГО ПРОМЫШЛЕННОГО РАЙОНА
с указанием расположения существующих электрических станций

CHART OF THE CENTRAL INDUSTRIAL DISTRICT OF MOSCOW, SHOWING THE DISTRIBUTION OF EXISTING ELECTRIC STATIONS.

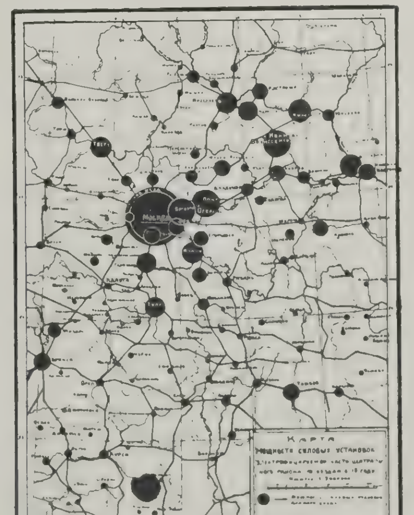
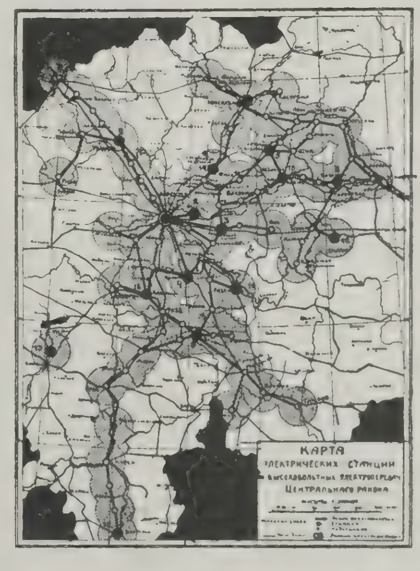


CHART SHOWING THE EXTENT AND DISTRIBUTION OF ELECTRICITY IN MOSCOW IN FIFTEEN YEARS.



PLAN OF THE ELECTRIC STATIONS AND THE HIGH VOLTAGE TRANSFER FOR THE CENTRAL DISTRICT OF MOSCOW.

Peeblesshire County and Town War Memorial

ORPHOOT and WHITING, Architects

THE town of Peebles stands romantically at the junction of the Eddleston Water, with the Tweed surrounded by rolling hills, some well wooded, others heathery moorland. The low hills near the town and the banks of the Tweed offered many fine sites for a memorial, and a number of these were considered. The memorial is placed on the east side of the courtyard of the Chambers Institution. It consists of an arcaded canopy or shrine, hexagonal on plan, sheltering the memorial proper, which takes the form of a cross. The shrine is half recessed into the new eastern boundary wall of the courtyard. The situation was not suitable for symbolic sculptured groups, and it was felt that a cross was most appropriate. The grey old courtyard seemed to call for some colour to relieve its rather sombre character, and it was decided to apply this to the cross itself which was to be the dominating motif. To get this colour and richness various materials were considered. Billiemi stone, inlaid with vitreous mosaic, was finally selected. This is a beautiful Sicilian stone little known in this country. Both these materials will retain their brilliance and withstand smoke and dirt better than those with less highly polished surfaces.

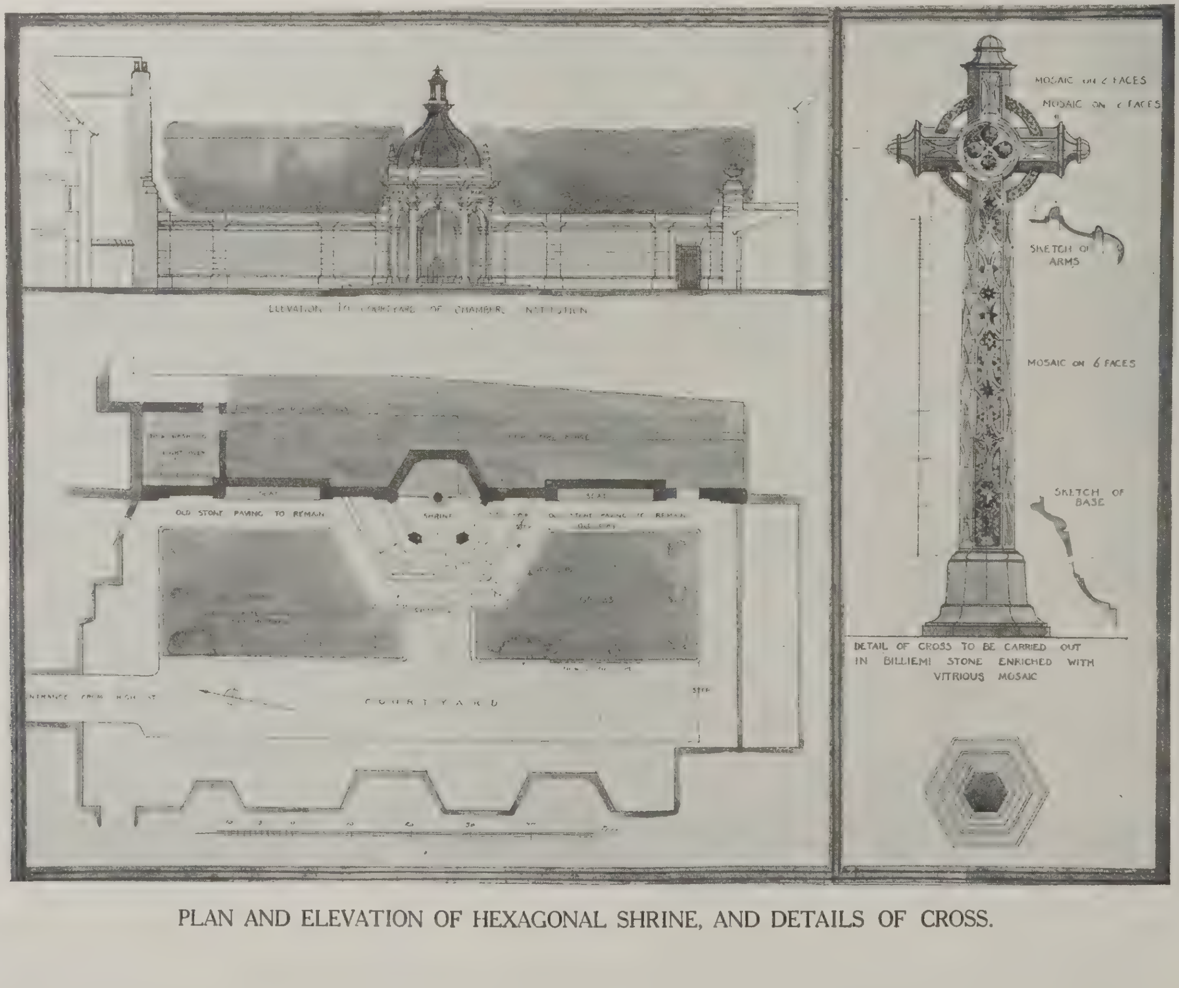
The cross, like the shrine, is six sided, and is a Renaissance version of the celtic form. It is about 13 ft. high, and stands on a low base attached to the back walls of the shrine, and is of the same stone. The shaft is tapered. The head and arms, also six sided, terminate in moulded finials, and are connected to the shaft by a detached ring surrounding the central disc at the crossing. The six faces of the shaft, arms, and head, the disc and the ring, are all inlaid with mosaics of varying patterns, based on the twelfth-century Norman Arabic mosaics of Monreale. The execution of the cross and mosaic was entrusted to a native Sicilian craftsman, Professor Matranga, whose life has been spent in restoring these world-famous mosaics. He has well justified the confidence reposed in him.

The hexagonal shrine sheltering this cross is about 13 ft. in diameter. It is treated with a simple Doric order, and surmounted by a copper cupola or ogee dome and lantern. The three sides facing the courtyard consist of open arches to enable the cross to be seen. The three sides behind the line of the eastern wall are filled in with masonry, and form a setting for panels with the names of the 541 men of the county who gave their lives. These panels are in bronze, quite plain, with bold and clearly readable Roman lettering, and are surrounded by 6 in. bands of mosaic, on the lines of those on the cross, but rather simpler and broader in character.

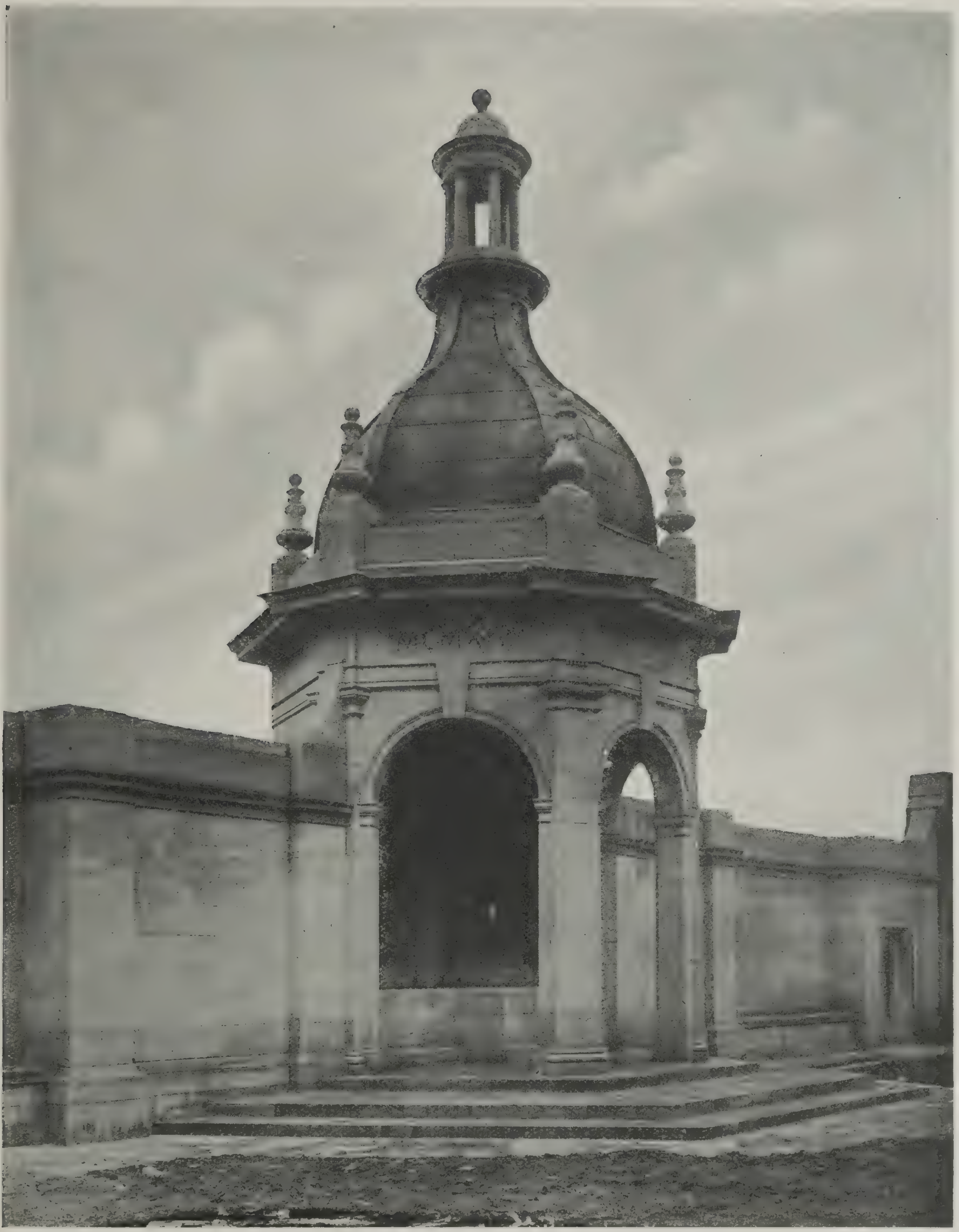
The underside of the roof has a groined oak ceiling divided into panels by moulded oak ribs. The ceiling is gilded to reflect some warm light on the cross. The king post of the roof projects below the ceiling as a moulded pendant.

The whole of the masonry is of Auchenheath stone. A low flight of steps leads up to the three arches of the shrine. Part of the concrete of the courtyard has been removed to make way for green turf to form a foreground for the memorial.

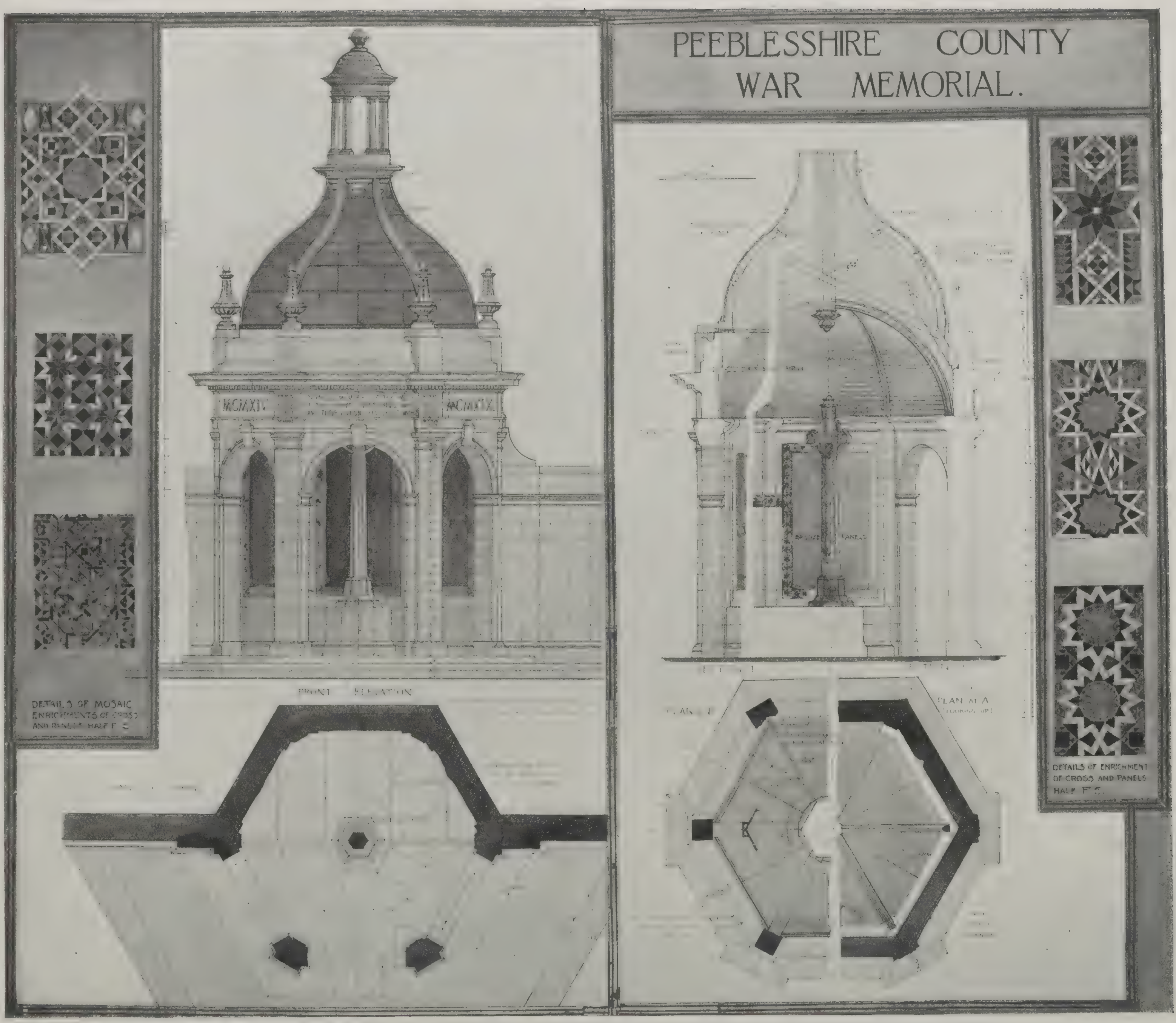
The general contractors were Messrs. J. Millar and Sons, Edinburgh. The sub-contractors were: Mr. T. Murray; Messrs. William Fairbairn and Sons; Mr. L. Grandison; Mr. C. Runciman; Messrs. J. G. Lindsay and Son; and Mr. A. Smythe, all of Peebles; Mr. Thomas Beattie, Edinburgh; Professor G. Matranga, Monreale, Palermo; and The Bromsgrove Guild, Bromsgrove. The Clerk of Works was Mr. William Scott, of Edinburgh.


ELEVATION TO COURTYARD OF CHAMBERS INSTITUTION
SEAT
OLD STONE PAVING TO REMAIN
SHRINE
SEAT
COURTYARD
STEP
MOSAIC ON 6 FACES
MOSAIC ON 6 FACES
SKETCH OF ARMS
MOSAIC ON 6 FACES
SKETCH OF BASE
DETAIL OF CROSS TO BE CARRIED OUT IN BILLIEMI STONE ENRICHED WITH VITRIOUS MOSAIC

PLAN AND ELEVATION OF HEXAGONAL SHRINE, AND DETAILS OF CROSS.



PEEBLESSHIRE COUNTY AND TOWN WAR MEMORIAL.
ORPHOOT AND WHITING, ARCHITECTS.


PEEBLESSHIRE COUNTY WAR MEMORIAL.
MCMXIV
MCMXIX
FRONT ELEVATION
DETAILS OF MOSAIC ENRICHMENTS OF CROSS AND PANELS HALF F.S.
PLAN AT A (LOOKING UP)
DETAILS OF ENRICHMENT OF CROSS AND PANELS HALF F.S.

PEEBLESSHIRE COUNTY AND TOWN WAR MEMORIAL: DETAILS OF THE HEXAGONAL SHRINE
ORPHOOT AND WHITING, ARCHITECTS.

The Restoration of Westminster Hall Roof

SIR FRANK BAINES, C.B.E., M.V.O., Principal Architect to the Office of Works

AT the Institute of Mechanical Engineers on Friday evening last Sir Frank Baines lectured on the repairs recently carried out on the roof of Westminster Hall. He began by saying that the roof had justly been described as the most wonderful example of mediæval carpentry and of a timber-frame roof that the world had ever seen. The roof was begun on January 21, 1394, and the last accounts for expenditure were 1402. It without doubt took the place of an earlier roof, namely, the original William Rufus roof. The entry in the "Saxon Chronicle" recorded the commencement of the William Rufus roof in 1097, and it was completed in 1099. The walls were still the same as those of the time of William Rufus. The William Rufus roof had evidently fallen into decay, for Richard II had given a definite order to repair the hall and re-roof it. John Godmeston, who was given the order, had power to commandeer labour and materials for the purpose, which he seemed to have done.

But the person who was really responsible for executing this great roof was Hugh Herland, the master carpenter who designed the structure. Evidently he was a fairly old man at the time, for it is found in 1366 that he was in receipt of an allowance of 10 mks. per year for his long and arduous services to the Crown. They would ask themselves on what historical basis he proceeded to work. There was, however, nothing extant that would be in the nature of a guide to give him a lead or confidence to undertake the tremendous responsibility of the design of this great roof. There were no records of a hammer-beam roof embodying in general principles those included in this design. The roof at Westminster Hall was really a true hammer-beam roof. There were many other roofs generally claimed to be hammer-beam roofs, but they were not of the true type. It was also interesting to note that in roofs of the hammer-beam type constructed since the Westminster Hall example there had been a gradual falling away in design.

The Office of Works was now dealing with the hammer-beam roof at Hampton Court Palace, but there the problem was not the same—the span was but 40 ft., whereas that in Westminster was 69 ft. Hugh Herland's problem was to re-roof the hall in one great span and to find timbers suited to the work. He adopted the principle of the hammer-beam truss with a timber arch, which acted as a brace, extending from the wall corbel to the collar beam. The design had been referred to as incomparable—the construction was also incomparable. The enormous great brace had been the means of actually holding the roof, when the destruction of the joints caused the roof to fall in. The main brace included three members, two members continuous, and the middle one discontinuous.

The original roof of Hugh Herland contained no iron in any shape, oak pins were used throughout for fastenings.

The problem of the Office of Works was to preserve the roof and not to reconstruct it. They would have loved to have had the privilege of reconstructing this mediæval roof, but what would have been the good? They could only have provided something which was a copy of the real thing. Therefore, they desired to keep as far as possible, for the benefit of our own time and for posterity, as much of the original roof in its original form as was possible. The decay was not a new thing; it had been taking place at least for the past three or four hundred years. Even a comparatively few years after the original building we hear that repairs had to be made.

The cause of all the trouble was not dry rot, but a grub called the *Xestobium tessellatum*. But for the action of this insect it might have been expected that the roof would have been as perfect to-day as when originally constructed. This led one to conclude that pedunculate oak was probably one of, if not the most permanent of constructive materials that were known. It was difficult to imagine that steel or masonry would have been so perfect after so long a period. One might say that English pedunculate boring oak was one of the finest building materials in the world.

The attack of the beetle had occurred at all junctions. There were huge cavities in the principals; in the main collar there was actually a cavity of almost 22 in. *In the past some wise person had filled one of these large cavities with concrete;* this had been taken out. Had they dealt with the matter as a timber reconstruction work they would have had to take out most of the roof. This would have been sacrilegious. On each end of the hammer-beam, for instance, there was a remarkably fine carving of an angel issuing from a cloud and holding a shield with the Royal Arms. This was priceless mediæval work. Had they had to renew all these principals and to do some new carving the whole would have been without any interest at all.

The beetle had attacked along the whole length of the hammer-beam and all the principals; that the rafters themselves had largely escaped the reason was obvious: the rafters were steeply pitched, and the female beetle would not lay her eggs on them for they would roll off. The main beam, however, was horizontal, and a good egg-laying ground. Had reconstruction then been resorted to, it would have been a case of "what was left" of the original roof.

With the present-day knowledge of construction he must admit, with entire humbleness, that they could find very little fault with the timber construction of this roof, and could hardly improve it. The upper purlins were, however, a failure. In every case they had failed; in many cases they had cracked right across. Another failure was interesting, and would not immediately strike one. The purlins were carried across the top of the hammer-post, their upper surfaces being in contact with the underside of the collar-beam. One small portion of the hammer-post, a projecting nib, was also carried up to the underside of the collar-beam.

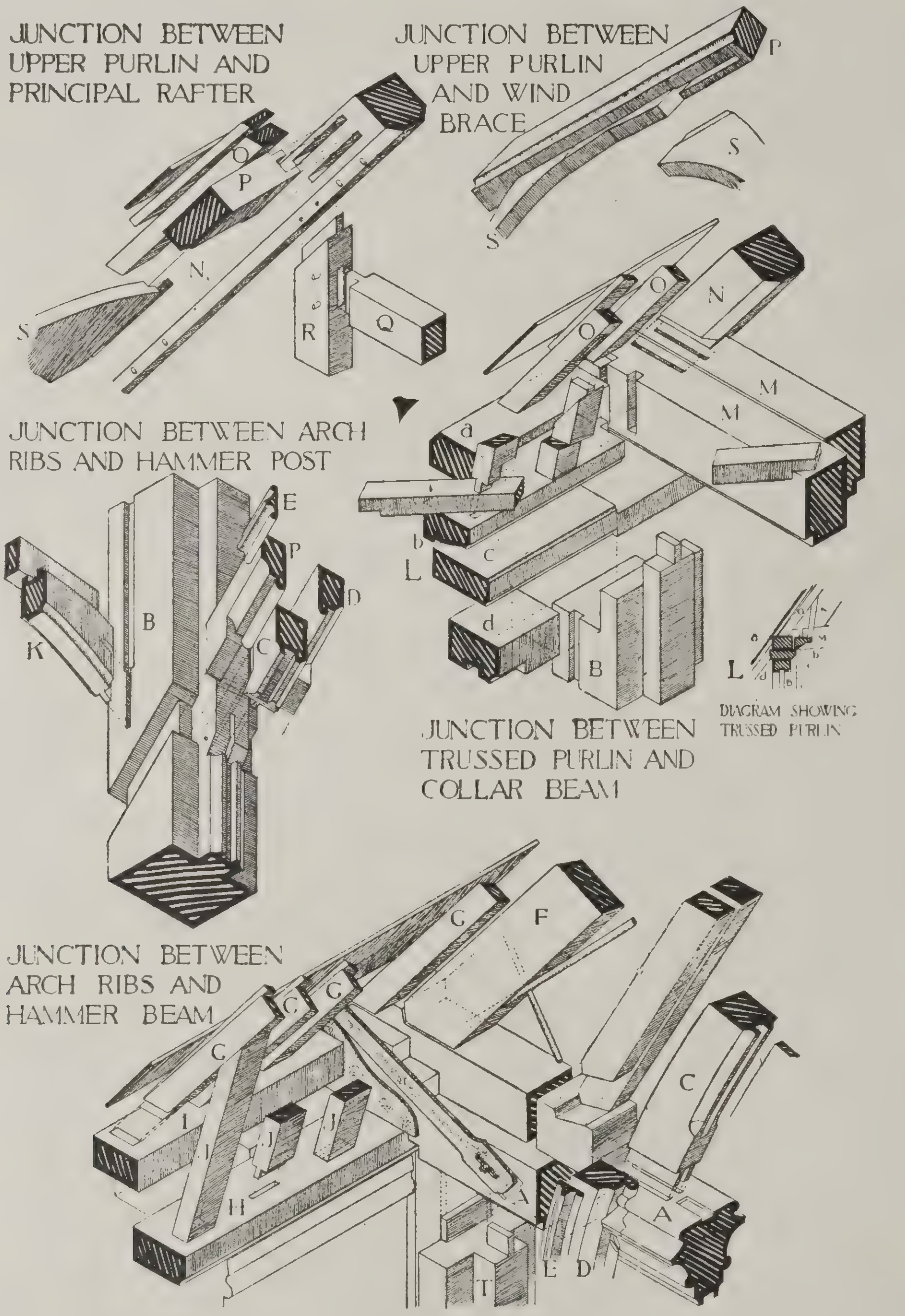
Hugh Herland did not realize that the shrinkage in the purlin would be more serious than in the hammer-post, consequently when the shrinkage occurred the total weight from the upper collar came on to the projecting nib, and caused it to shear from the larger portion of the hammer-post to which it was attached.

It must seem that there would be weakness in the fact that the two principal members of the great curved brace were apparently housed weakly at the apex. This was not so, however, for they were housed on a projecting portion of the face of the great collar. The oak, of which this roof was constructed, was grown in Sussex, where there was still growing pedunculate oak of the boring structure. Of this oak they had used much in the restoration work.

There had apparently been no seasoning of the original oak whatever; it was practically impossible that it could be seasoned as the oak was cut between the years 1393 and 1396. Certainly, therefore, the oak was used green. A sample had been taken of some of the timbers. They were put in a humid atmosphere for a time and they *warped;* though it had been cut in the thirteenth century. Oak could only be seasoned satisfactorily in the ultimate form

No 3

WESTMINSTER HALL ROOF
ISOMETRIC VIEWS OF JOINTS

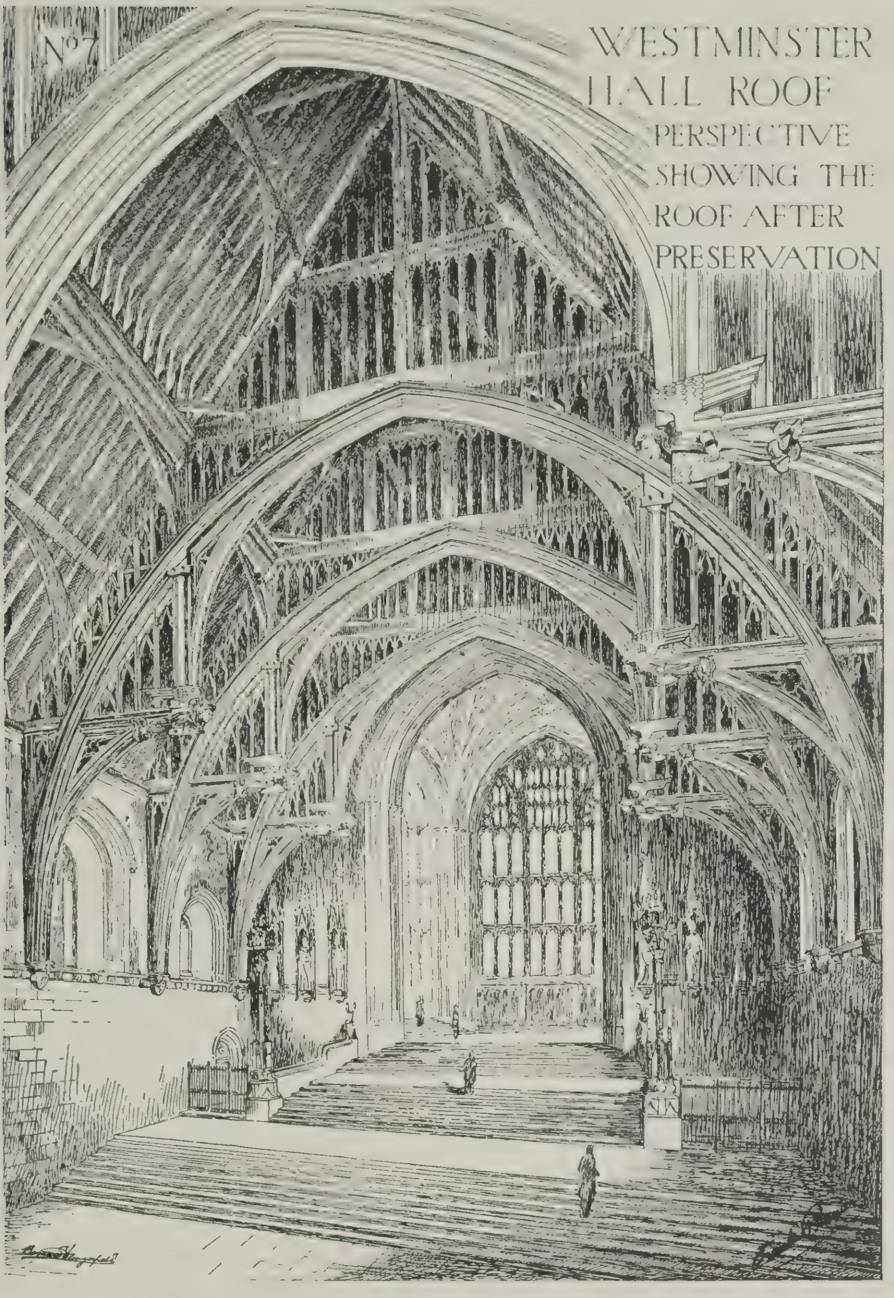

JUNCTION BETWEEN UPPER PURLIN AND PRINCIPAL RAFTER
O
P
N
S
R
Q
JUNCTION BETWEEN UPPER PURLIN AND WIND BRACE
P
S
S
O
O
N
M
M
a
b
c
L
d
B
L
DIAGRAM SHOWING TRUSSED PURLIN
JUNCTION BETWEEN TRUSSED PURLIN AND COLLAR BEAM
JUNCTION BETWEEN ARCH RIBS AND HAMMER POST
E
P
D
B
C
K
JUNCTION BETWEEN ARCH RIBS AND HAMMER BEAM
G
F
G
G
G
C
I
I
J
J
H
A
A
C
E
D
T

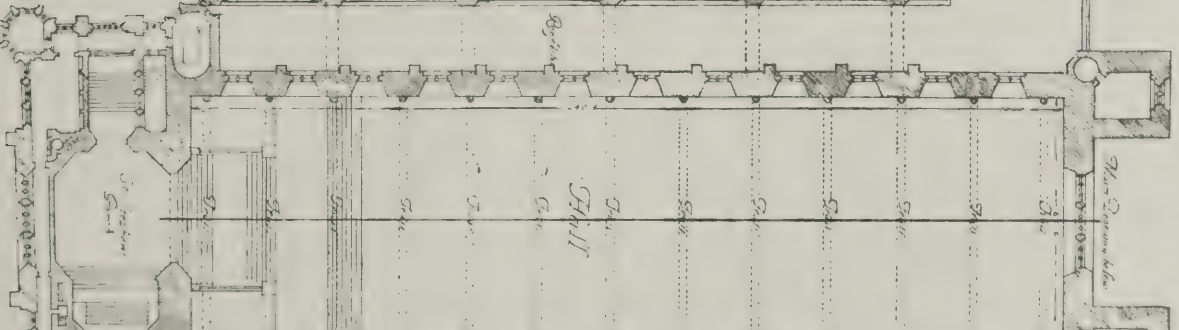
A	HAMMER BEAM	1'9"×1'10½"	I	POLE PLATE	12½"×7¾"	M	COLLAR BEAM	1'7"×12"
B	HAMMER POST	3'2½"×2'0¾"	J	ASHLARS	7½"×4"	N	UPPER PRINCIPAL	1'4¾"×1'0⅝"
C	ARCH RIB	8½"×12"	K	CURVED STRUT	6¾"×10⅛"	O	DO. COMMON RAFTERS	7"×5½"
D	DO. DO.	8"×12"	L	TRUSSED PURLIN		P	UPPER PURLIN	9"×16¾"
E	OUTER MOULDING	7¼"×4⅜"		a	VARIES	Q	DO. COLLAR	9¼"×6½"
F	LOWER PRINCIPAL	16½"×11½"		b	11⅝"×9"	R	QUEEN POST	9½"×6½"
G	COMMON RAFTERS	7½"×6"		c	1'0"×9"	S	WIND BRACE	12⅝"×4⅞"
H	WALL PLATE	15"×8"		d	1'2"×9½"	T	WALL POST	2'0"×1'4"

SCALE OF FEET 12 6 0 1 2 3 4 5 6 INCHES FEET

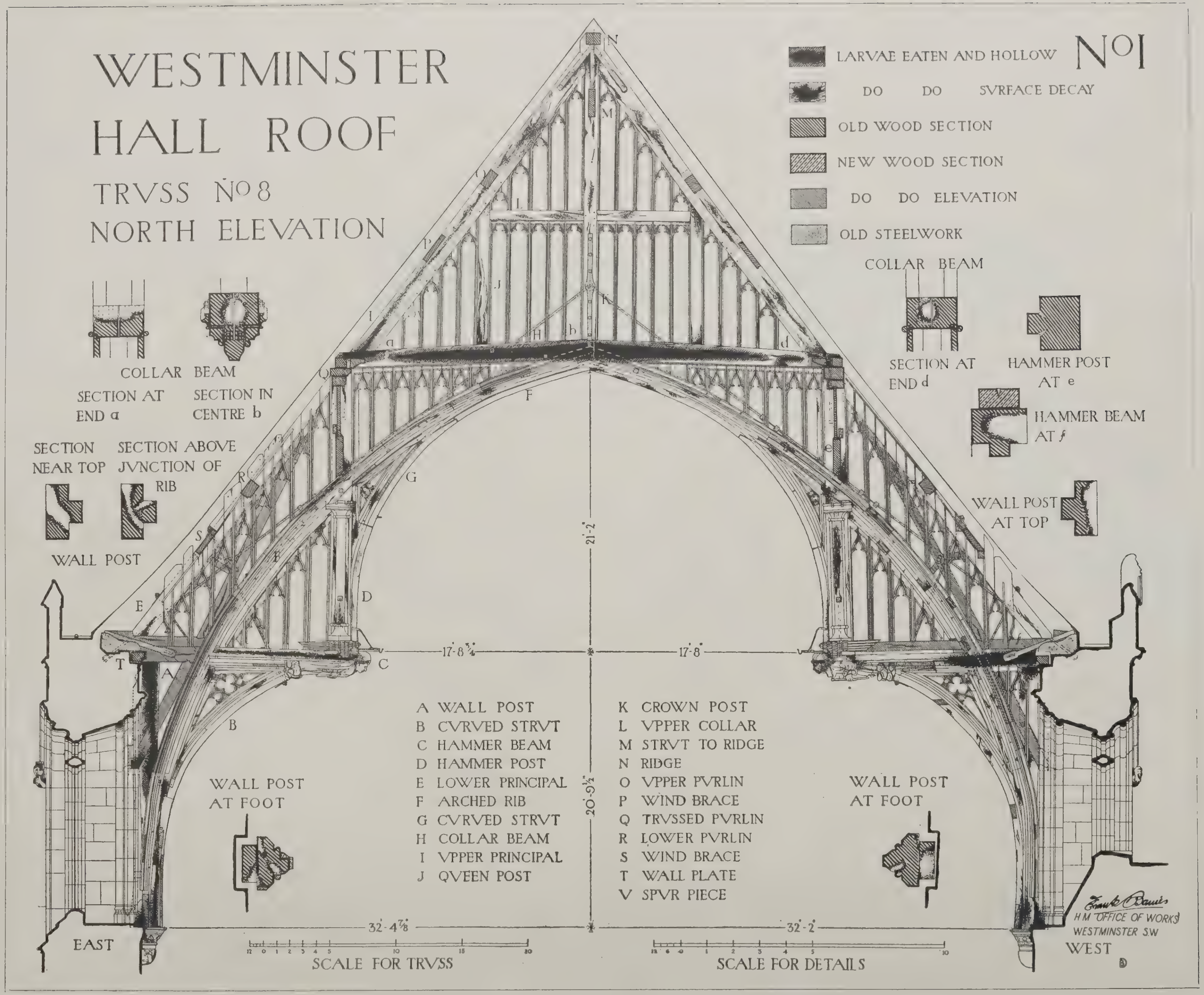
Frank Baines
H M OFFICE OF WORKS
WESTMINSTER SW

WESTMINSTER HALL ROOF: ISOMETRIC VIEW OF THE JOINTS.
SIR FRANK BAINES, C.B.E., M.V.O., ARCHITECT FOR THE RESTORATION.

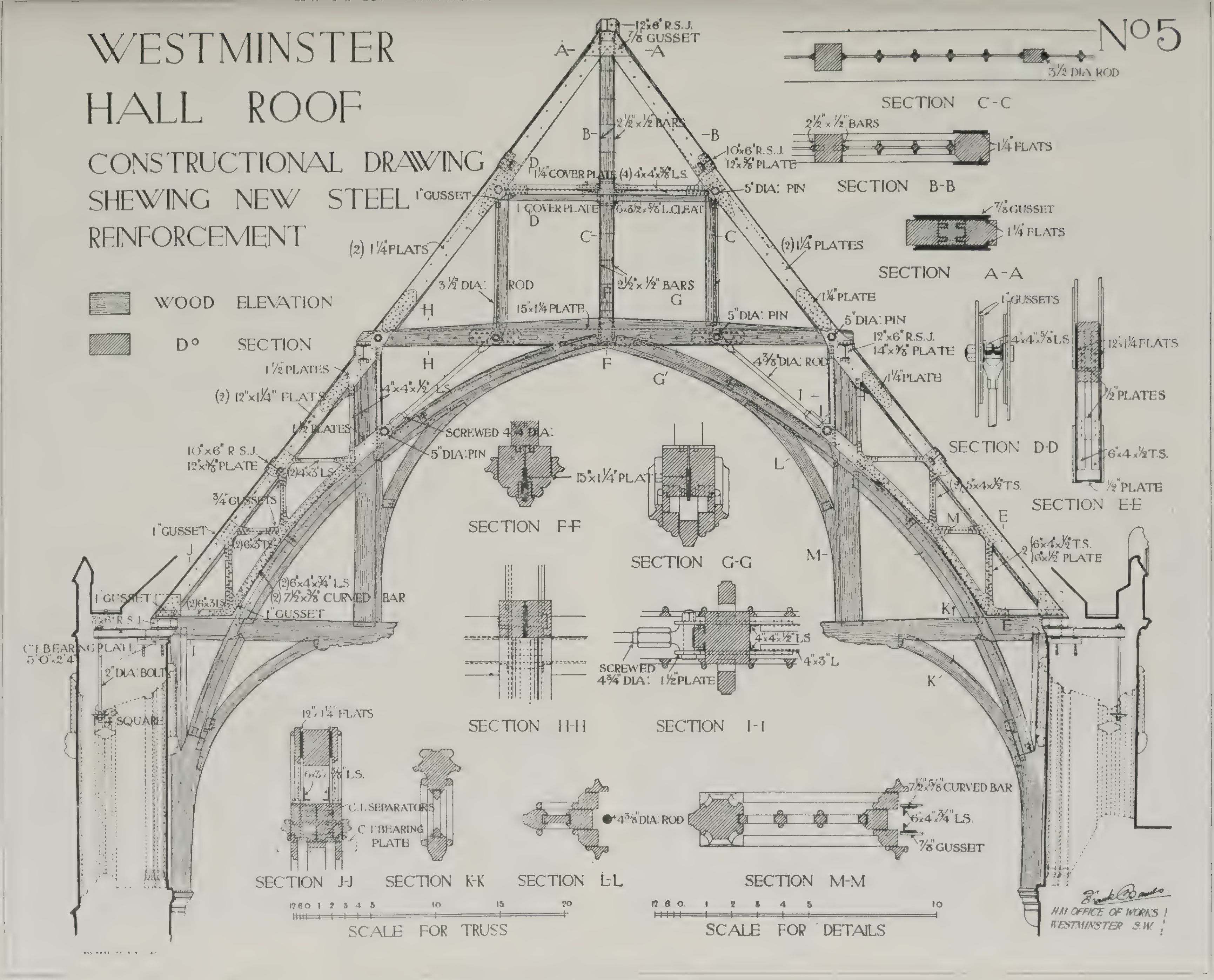




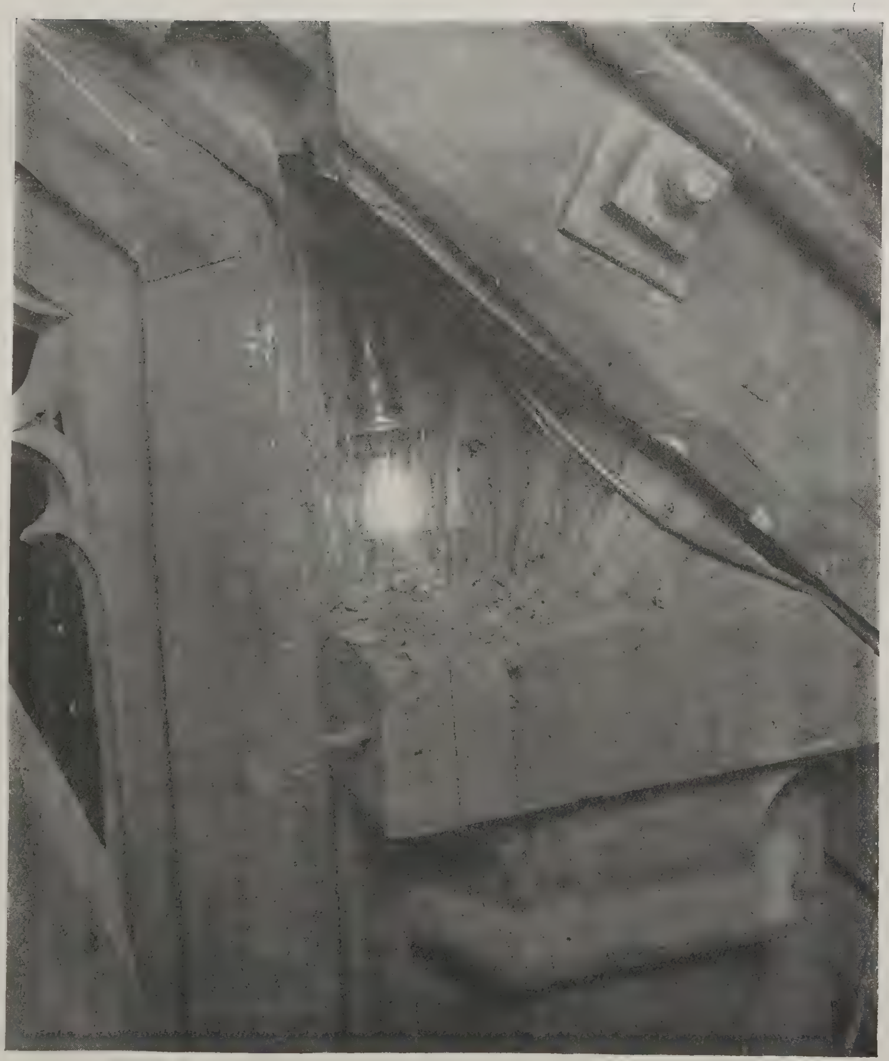
WESTMINSTER HALL: PLAN OF THE HALL AND PERSPECTIVE SHOWING ROOF AFTER PRESERVATION.
SIR FRANK BAINES, C.B.E., M.V.O., ARCHITECT FOR THE RESTORATION.



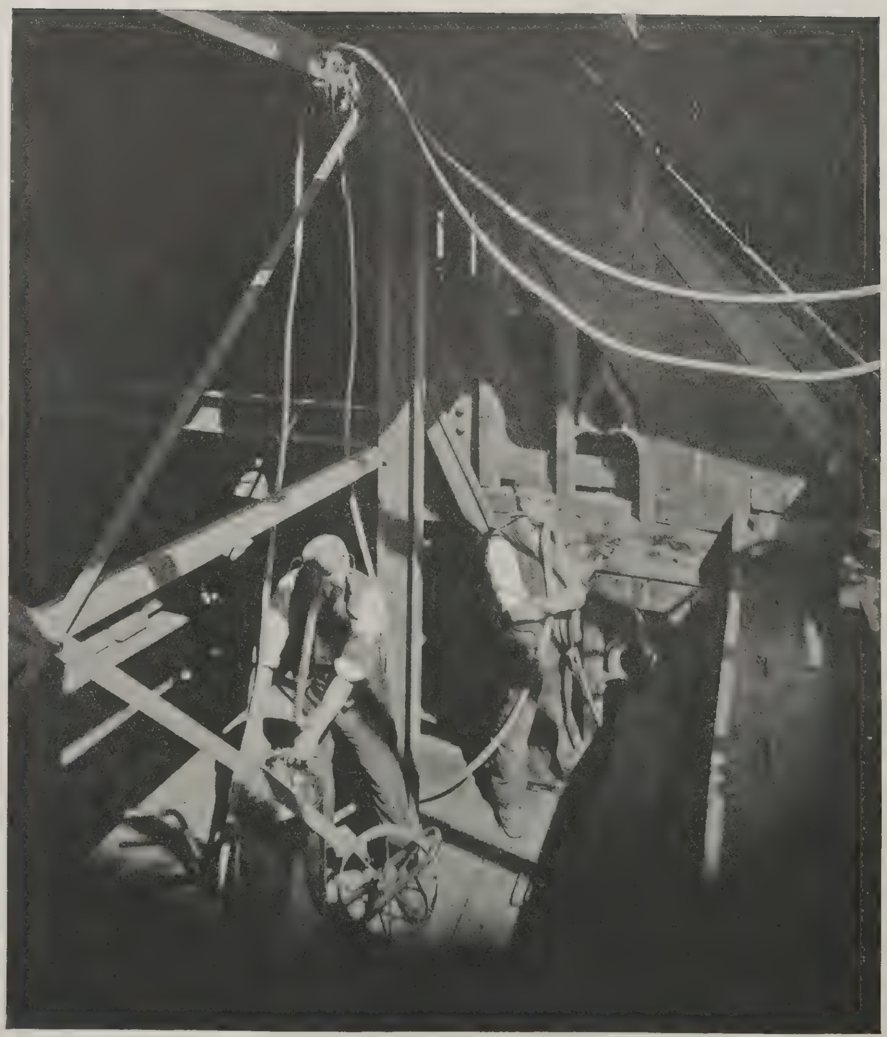
WESTMINSTER HALL ROOF. A TRUSS BEFORE PRESERVATION.
SIR FRANK BAINES, C.B.E., M.V.O., ARCHITECT FOR THE RESTORATION.



WESTMINSTER HALL ROOF: DETAILS OF NEW STEEL REINFORCEMENT.
SIR FRANK BAINES, C.B.E., M.V.O., ARCHITECT FOR THE RESTORATION.



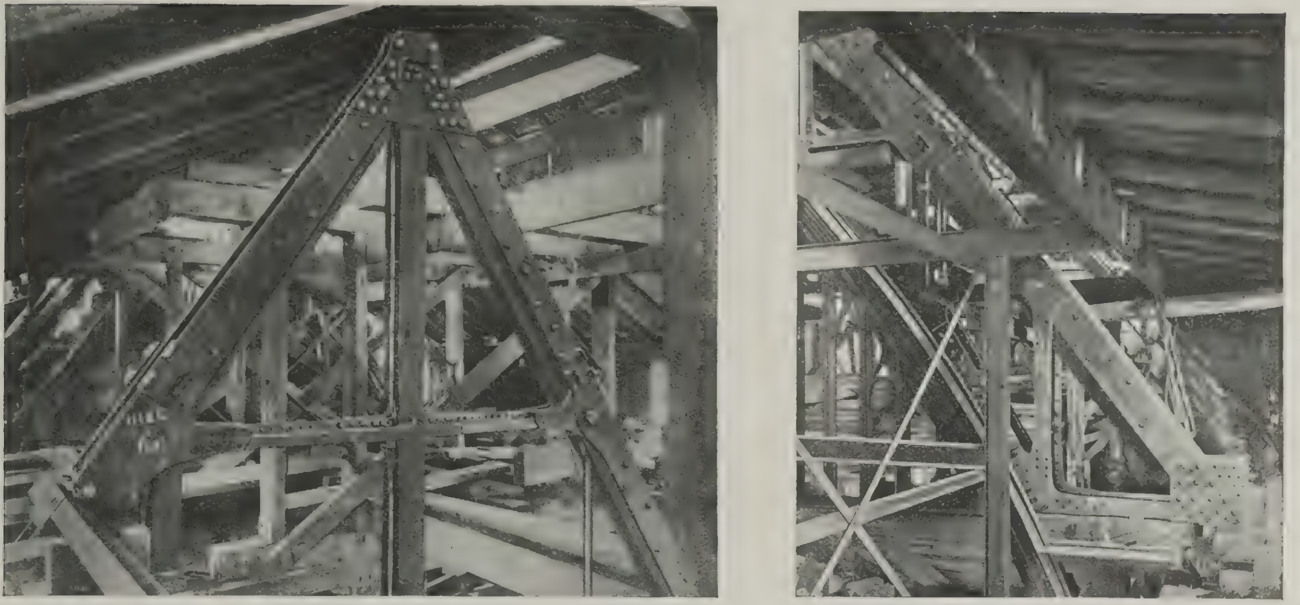
THE LAMP REVEALS THE CAVITY MADE BY THE BEETLE AT THE HEAD OF THE HAMMER POST.



MASKED MEN SPRAYING THE TIMBERS WITH PRESERVATIVE FLUID.

WESTMINSTER HALL ROOF.

SIR FRANK BAINES, C.B.E., M.V.O., ARCHITECT FOR THE RESTORATION.



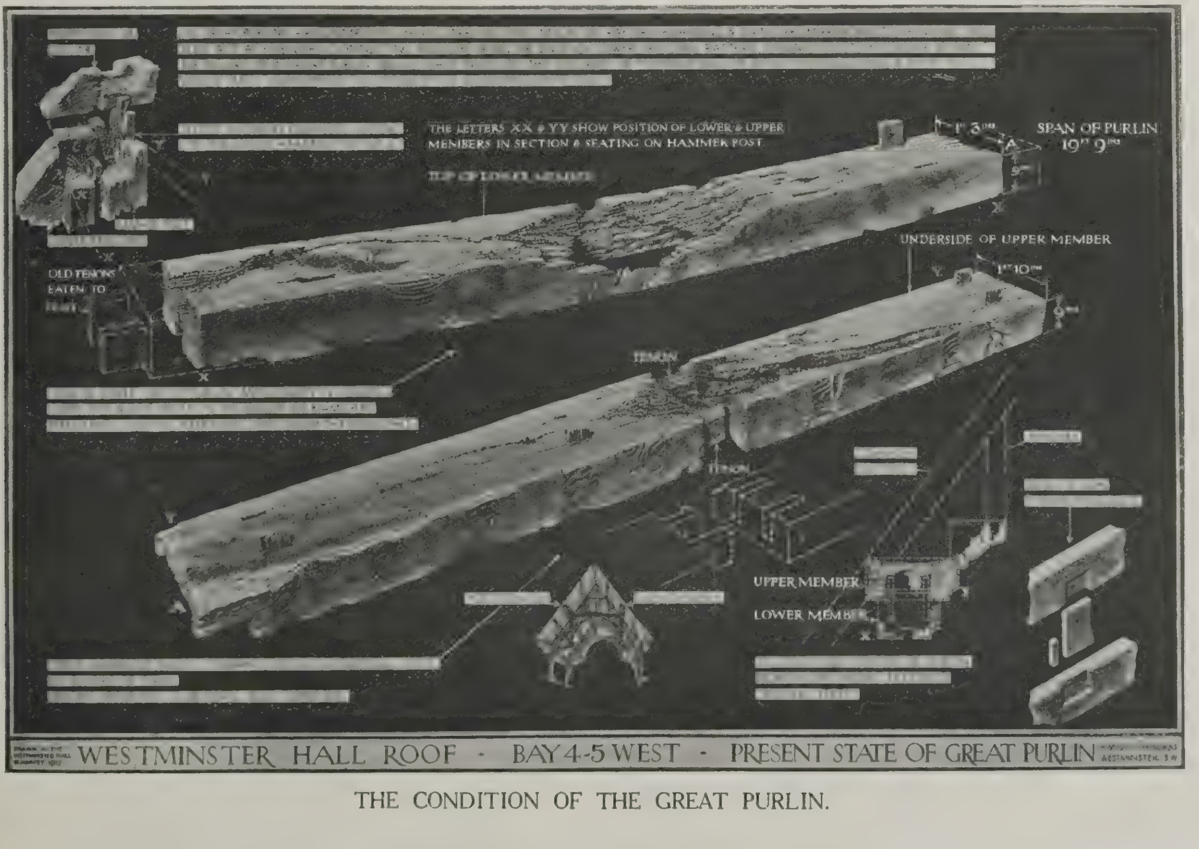
WESTMINSTER HALL ROOF: DETAILS OF STEEL REINFORCEMENT

in which it was to be put up. Therefore they had taken their courage in their hand and used the oak green, it not having been possible to cut it as desired before erection.

It is difficult to look at the works of repair which previously have been carried out without feeling that the architects and engineers responsible for them had not fully grasped the principles on which the roof was constructed. Even as late as 1850 Sir Charles Barry, a great engineer, had introduced some tie-bolts extending from the end of the hammer-beam to the crown-post above the collar, which, if tightened up excessively, would have caused the end of the hammer-beam to be raised from the wall-head and thus accentuate a defect which had appeared during the progress of decay, viz., the tilting downwards of free ends of the hammer-beams. The correct position of the wall end of the hammer-beam was to rest on the top of the wall and to be held in position by the downward thrust from the principal rafter.

Without doubt the great decorative feature of the roof, the mighty curved brace, had really saved the roof from destruction by supporting it. As to the repair of the roof, it could stand no more of the previous patching up, and it was necessary to design something which would take the weight, merely using the timber as a bracing. He would admit that the whole of the steelwork was carried out in a manner which might not appeal to engineers; it was very uneconomical and expensive in parts, but the necessity of the case demanded unorthodox treatment. Thus the steelwork was very heavy; it had to be to take the great pressure. Then, owing to inequalities in beams and so forth, separate templets had to be made for each joint and plate.

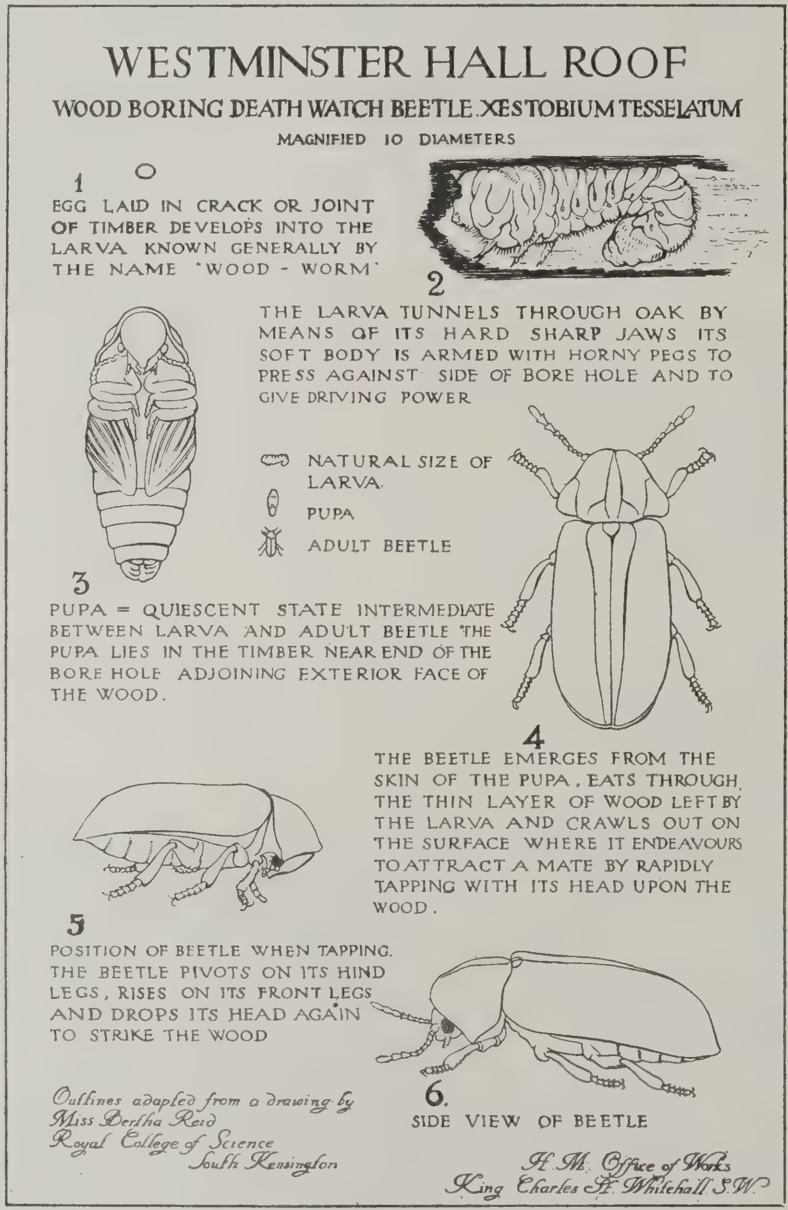
The *Xestobium tessellatum*, or wood-boring beetle, of which samples would be shown, lived three years in the timber. It did not want for food or water; these it got from the timber, which passed through its body, and emerged in the form of


THE LETTERS XX & YY SHOW POSITION OF LOWER & UPPER MEMBERS IN SECTION & SEATING ON HAMMER POST
SPAN OF PURLIN 19' 9"
1' 3"
A
9"
X
Y
UNDERSIDE OF UPPER MEMBER
1' 10"
OLD TENONS EATEN TO
TENON
UPPER MEMBER
LOWER MEMBER
WESTMINSTER HALL ROOF · BAY 4-5 WEST · PRESENT STATE OF GREAT PURLIN

THE CONDITION OF THE GREAT PURLIN.

the well-known dust. The eggs were laid by the female on the timber, and the grub hatched out by natural temperature. It immediately started boring. When about to take chrysalis form it bored laterally to the nearest timber surface. On emerging from the chrysalis, it broke the timber skin and flew away. The tapping known as the death watch was the beetles' sex call. Sir Frank Baines said he had a live specimen in his office in Westminster Hall. With the beetle twelve feet away he had imitated this tapping. At first the beetle took no notice, but when, with a little practice, he got the perfect rhythm of the call, it instantly answered.

An insecticide had been evolved, consisting of a mixture of ortho-paradichlor-benzine and cedar-wood oil, and with this it was hoped to prevent or delay the action of this grub for at least one year, which would result in freeing the wood for a very long time. To prevent the action completely would necessitate a scientific method of spraying, which would probably be too expensive for the Office of Works.



WESTMINSTER HALL ROOF

WOOD BORING DEATH WATCH BEETLE. XESTOBIUM TESSELATUM

MAGNIFIED 10 DIAMETERS

1 EGG LAID IN CRACK OR JOINT OF TIMBER DEVELOPS INTO THE LARVA KNOWN GENERALLY BY THE NAME "WOOD - WORM"

2 THE LARVA TUNNELS THROUGH OAK BY MEANS OF ITS HARD SHARP JAWS ITS SOFT BODY IS ARMED WITH HORNY PEGS TO PRESS AGAINST SIDE OF BORE HOLE AND TO GIVE DRIVING POWER

NATURAL SIZE OF LARVA.

PUPA

ADULT BEETLE

3 PUPA = QUIESCENT STATE INTERMEDIATE BETWEEN LARVA AND ADULT BEETLE THE PUPA LIES IN THE TIMBER NEAR END OF THE BORE HOLE ADJOINING EXTERIOR FACE OF THE WOOD.

4 THE BEETLE EMERGES FROM THE SKIN OF THE PUPA, EATS THROUGH THE THIN LAYER OF WOOD LEFT BY THE LARVA AND CRAWLS OUT ON THE SURFACE WHERE IT ENDEAVOURS TO ATTRACT A MATE BY RAPIDLY TAPPING WITH ITS HEAD UPON THE WOOD.

5 POSITION OF BEETLE WHEN TAPPING. THE BEETLE PIVOTS ON ITS HIND LEGS, RISES ON ITS FRONT LEGS AND DROPS ITS HEAD AGAIN TO STRIKE THE WOOD

6. SIDE VIEW OF BEETLE

Outlines adapted from a drawing by
Miss Bertha Reid
Royal College of Science
South Kensington

H. M. Office of Works
King Charles St. Whitehall S.W.

The lecturer then showed, by lantern slides, what was the nature of the destruction which had been found, and of the steel construction work which had been carried out. He mentioned how the plan had been to lift the principals, this being effected by the erection of a complicated steel staging. A steel bracing was carried up by a lattice at the back of the great arch, and continued by steel plates to the apex of the roof. A heavy girder collar supports the queen posts on which in turn rests the upper collar. The steel work follows exactly the tracery of the original mediæval timber, though it is so carried out as to be absolutely concealed when viewed from the floor.

One feature of the work was the fact that it was necessary to make compensation for the thrusts on the walls. The displacement diagrams were prepared, and it was calculated that the truss would open horizontally $1\frac{3}{4}$ in. under dead load with freely supported ends. It was necessary to reduce this outward thrust in order that the walls should have maximum stability.

This was done by lifting the truss with hydraulic rams, and permitting it to spread, the horizontal movements being recorded in units of 1/64 in. When this lifting takes place the roof, of course, is not covered with the loads from the purlins, roof boarding, slates, etc., and the spread of a truss under the final load has to be calculated. The figure obtained by calculation is compensated for temperature, and finally the feet of the truss are forced out horizontally by means of hydraulic rams, and then secured and bolted down into their correct positions.

In reply to the chairman (Dr. H. S. Hele-Shaw), Sir Frank said they hoped to get away the scaffolding next March or early in April, and he felt sure the Government would then allow inspection of the roof by the public.

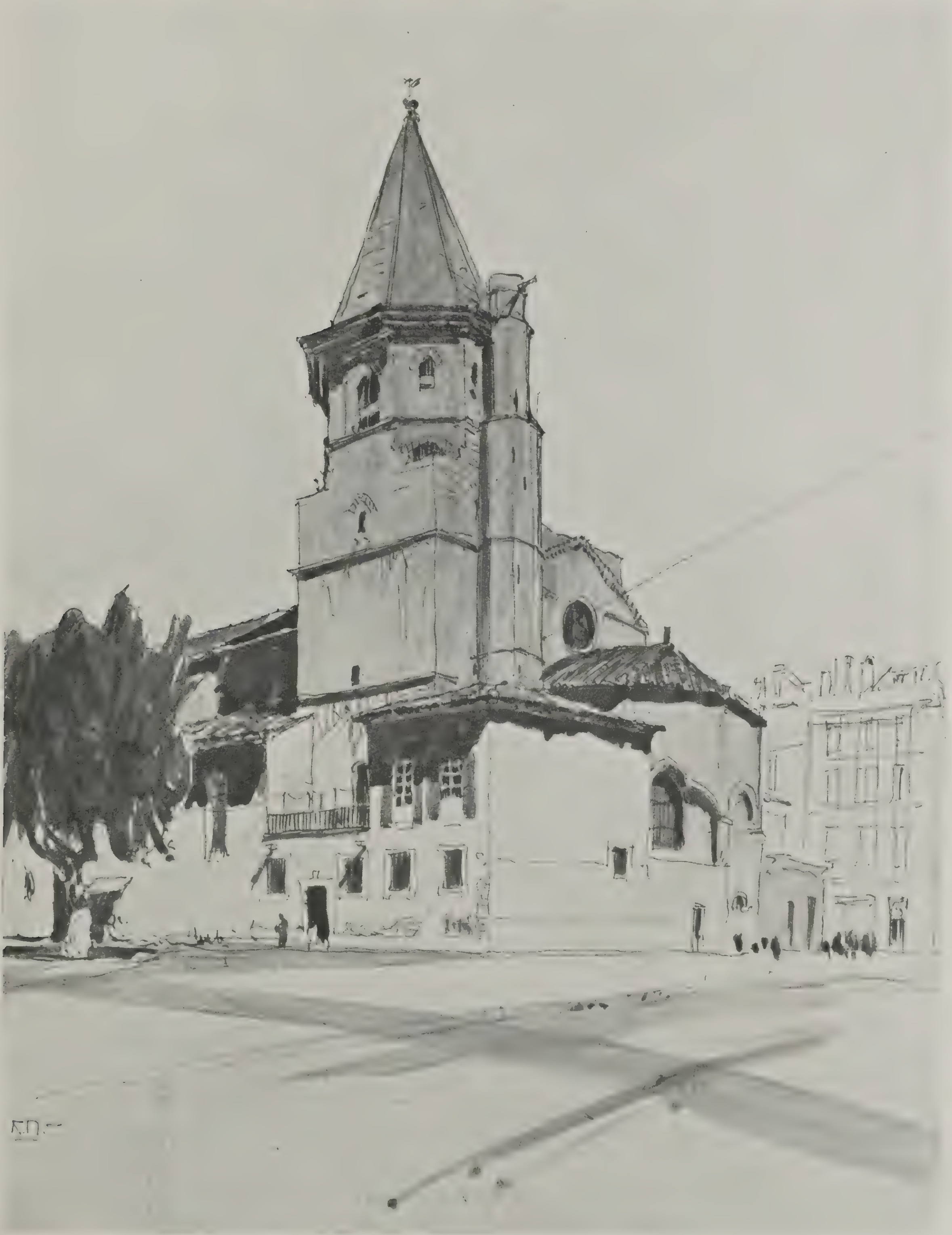
An Exhibition of Holiday Sketches at the A.A.

THE exhibition of holiday sketches opened last week at the Architectural Association shows that architects have as nice a sense of colour as they have of form and composition. Many, it would seem, might have won as much distinction on canvas as they have in brick and stone.

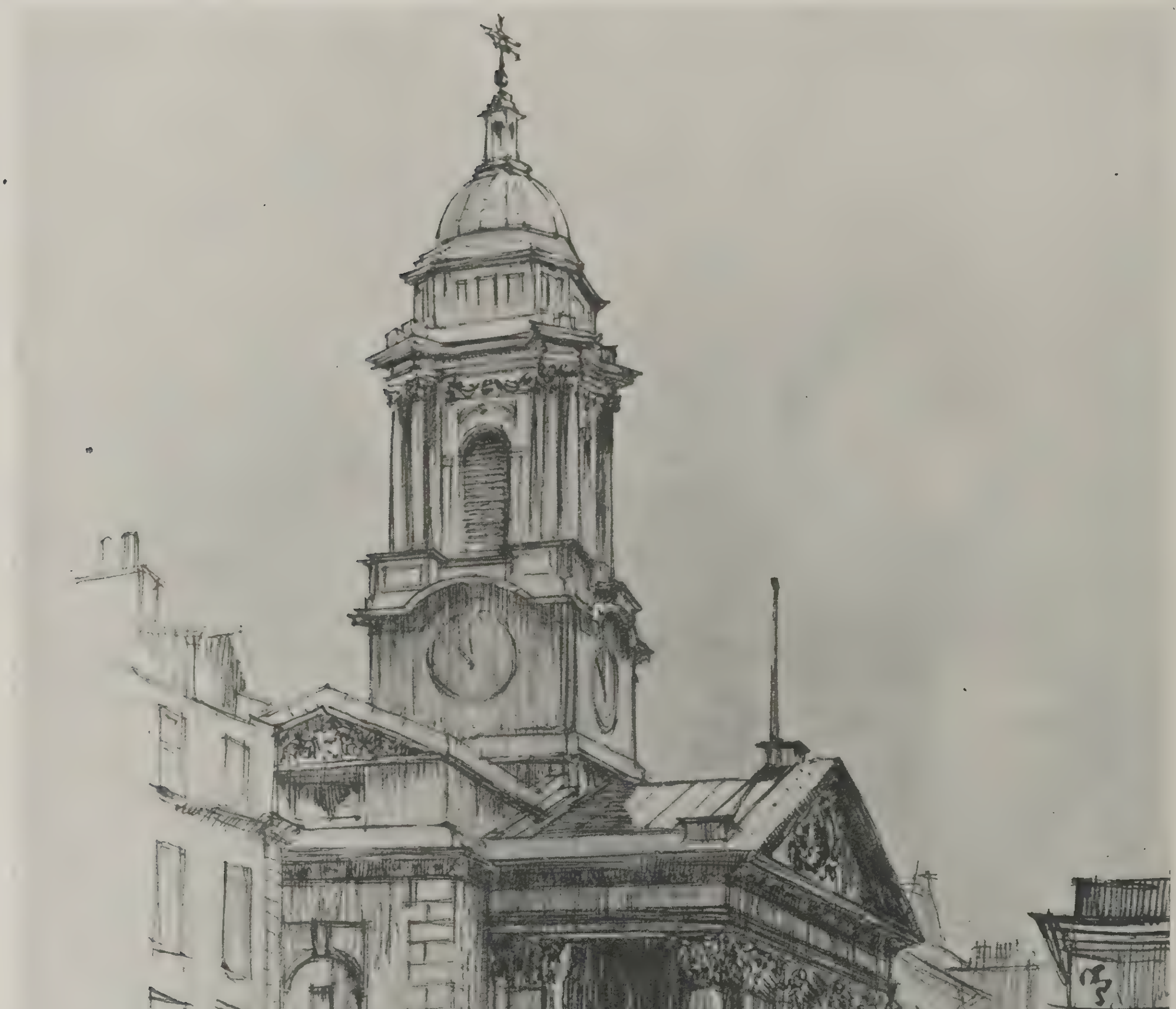
Mr. Curtis Green, Mr. Austin Blomfield, and Mr. Knapp-Fisher, all indicate a delicacy and taste in the handling of landscape and architectural subjects which would sell their pictures at least as readily as many by painters of the various present-day groups.

The exhibition is perhaps limited, and does not sustain the interest as do some of the other shows by their breadth and originality; nor have the architect-artists roamed far in imagination to look for a subject, but if those chosen are somewhat hackneyed, at least they are usually well and conscientiously done.

Mr. L. H. Bucknell exhibits one or two landscapes, warm and homely, and suffused with sunset. Mr. Knapp-Fisher gives, besides others, Brookland Church, Romney Marsh, with its picturesque, misplaced steeple. Professor H. M. Berrington has some charming views of Southern



BÉZIERS. FROM A SEPIA DRAWING BY KEITH MURRAY.
(A.A. Exhibition of Holiday Sketches.)



"ST. GEORGE'S," HANOVER SQUARE, LONDON. FROM A PEN-AND-INK SKETCH BY A. BLOMFIELD.
(*A.A. Exhibition of Holiday Sketches.*)

France, and Mr. Maurice Chesterton brightens the room with the poetical colouring of his "Michaelmas Daisies at Kew."

Mr. Winton Newman's Cornish and Dorset cliff-scenes are well painted, though a trifle heavy and overworked at; the pictures by Mr. Stanley Hamp and Mr. Curtis-Green show careful composition, and the latter's "Southwold Harbour" shows an eye for delicate colouring. Mr. Austin Blomfield's distant "Santa Maria de la Salute, Venice," is to be preferred to the close-up of the same subject by Mr. J. E. Lutyens, which is rather topsy-turvey and does not hold together. The former's "St. George's, Hanover Square," is also praiseworthy.

Mr. J. E. Shephard shows some Italian water-colours, and Mr. Cyril Farey contributes two architectural subjects in his well-known style.

Of particular interest is the sepia pen-and-ink work of Mr. Keith Murray. This has in it a fineness of line and handling of architectural form which amount to positive distinction. H. JOHNSON.

CHAUVIGNY. FROM A PASTEL BY STANLEY HAMP.

SUSSEX DOWNS, AMBERLEY. FROM A WATER-COLOUR DRAWING BY L. H. BUCKNELL.
(A.A. Exhibition of Holiday Sketches.)

Contemporary Art Exhibitions

The London Group.

SELDOM have the deep-seated urges and convictions of artists been so crisply brought home to the general public as in the short foreword which Mr. John Middleton Murray contributes to the catalogue of the autumn exhibition of the London Group, where, again and again, as one goes from picture to picture, his words yield up their full significance.

The artist is the man who, amid this riot of unmeaning events, strives to pause and possess himself, and by so doing to give us the chance of possessing ourselves also. When you stand before a picture in this exhibition and ask yourself: *Is that now any good?* you are at least half-way towards a condition of mind which nowadays has to be snatched from the very teeth of angers and distractions and despairs. If you can say with deep assurance: *Yes, that is good*, you have reached it wholly.

That moment of recognition, that consciousness of revelation, is the evidence that still there is a way by which the spirit of man can conquer the world of appearance, even though at other moments the signs are legion that the world of appearance has won a final victory over the spirit of man. The artist, whose aim is to awaken this half-forgotten faith, deserves his reward. For remember that the rareness of your moments of belief is a true measure of his difficulty in grasping his. The popular professional artist, the one securely fixed in his niche, as the cliché now goes, seldom meets such difficulties, for he seldom has the capacity to create them. But here, with many of these young and keen artists, they do exist, and it is pleasant and rather thrilling to observe them.

Mr. Edward Wolfe, a South African artist of great promise, had his meed of difficulties in "Diana del la Torre" (3), which he has surmounted exceedingly well. Also Mr. Adrian Allinson, whose very lively still-life "Sunflowers" (25) is lovable for its graceful and peccant deportment. A grand and sensuous nude is Mr. Gertler's "Queen of Sheba." Miss Savo Popovitch, brings, beside her usual skill, a lot of slav cunning in the arrangement of her "Unemployed" (49). Mr. Walter Sickert, that undisputed leader of the "atmospheric school," has a large and Flaubert-like canvas called "The Bachelor Hotel" (60), an intimist scene in the French manner. Somewhat unfinished, it nevertheless possesses all the qualifications of success. The modest price quoted, £300, did not deter it from being sold. Are American agents so very cute and active? Perhaps one of the most charming oils shown is Therese Lessore's "Kensington Gardens," where discreet and alluring play is made upon effects of chiaroscuro, a painting also notable for the wide gamut of its greens. The drawings and water-colours are up to the usual standard, "In the Morning" (114), by Lydia Pearson, being especially good.

The Leicester Galleries.

Here three artists stand up for friendly trials. There is Mr. Walter Tittle, whose dry-points of "Eminent Statesmen who attended the Washington Conference," make one wonder why he so signally failed to reach the excellent standard shown in his drawings of "Authors." Was it perchance nervousness in face of so many gorgeous uniforms, and so many awe-inspiring countenances? However, we all know the delightful story of Jumbo and little Lawson . . . Of far greater interest and intrinsic values are the landscapes of Lucien Pissaro. Son of Camille Pissaro, the famous French impressionist, he struck out on his own early in life, and soon evolved that most taking way of painting, which is his and his only. No one mirrors so beautifully the sunlit aspects of our English countryside. The son works in a somewhat higher pitch of colour, but though potent, it never seems aggressive. Charm and skill epitomize his appeal and achievement.

The paintings of Simon Bussy in the third room are essentially decorative. Mr. Bussy believes in the motif. Have a motif, and play simple colours and shapes about it. So each one of his 26 oils, pivots on the decorative treatment of animals, chiefly birds. A gorgeous amount of colour is flung out; but it is done so well that at first one hardly notices how deep and insistent is the colour scheme. Light blue and dark blue are allied together on a background of cool grey, or flaming yellows stand up bravely enough against the heavy appeal of Venetian reds: it is all a trifle thin and bizarre, but as simple, bold, decorative panels these oils are an undoubted success.

G. HOLT.

List of Competitions Open

Date of Delivery.	COMPETITION.
Dec. 1	Pavilion to be erected in the Eastern Esplanade Gardens, Ryde, for the Town Council. Cost to be from £8,000 to £10,000. Premiums £50 to the successful competitor if the scheme is not carried out, otherwise he will be appointed at an inclusive sum of £300 to carry out the work; and £30 and £20 to competitors placed second and third respectively. Apply for site plans, together with conditions and instructions to Mr. B. F. Holness, M.Inst.M.&Cy.E., Borough Surveyor, Ryde.
Jan. 15	Hospital for a typical small community in America. Competition open to all Architects. Premiums $500, $300, and $200. Apply The Modern Hospital Publishing Company, Inc., 22 E. Ontario Street, Chicago, Ill. Closing date for applications, November 15.
March 31	War Memorial for Port Said, Egypt, to the memory of the soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during 1916, 1917, and 1918. Premiums: 250 guineas, 100 guineas, and 50 guineas. Apply High Commissioner for Australia, Australia House, Strand, W.C.

Competition News

Ryde Pavilion Competition.

The Society of Architects have issued a notice requesting their members not to take part in the Ryde (Isle of Wight) Pavilion Competition without first ascertaining that the conditions have been approved by the Council.

New Building Contract for South Africa

An approved form of agreement and schedule of conditions for building contracts has been approved by the following South African Associations:—Association of Transvaal Architects, Natal Institute of Architects, Cape Institute of Architects, Transvaal Institute of Architects, Society of Architects (London) South African Branch, Port Elizabeth Society of Architects, Orange Free State Institute of Architects, South African Institute of Quantity Surveyors, and The National Federation of Building Trade Employers in South Africa. This form of agreement is the outcome of very careful consultation between the said associations. Copies may be obtained on application to the Registrar of the Association of Transvaal Architects, P.O. Box 2266, Exploration Buildings, Johannesburg, at 6d. per copy. A copy is in the possession of the Department of Overseas Trade, and may be seen on application to Room 42, 35, Old Queen Street, London, S.W.1. (Reference 9692/ED/MP.)

Publications Received

University of London. University College Calendar. Session MCMXXII–MCMXXIII. Taylor and Francis, Red Lion Court, Fleet Street, London.

"Modern Cabinet Work: Furniture and Fitments." By Messrs. Wells and Hooper. Third edition. Price 25s. net. B. T. Batsford, Ltd., 94 High Holborn, W.C.1.

"The Construction of a House." By Professor Charles Gourlay. Second edition. Price 7s. 6d. net. B. T. Batsford, Ltd., 94 High Holborn, W.C.1.

Catalogue of Chalices and other Communion Vessels in the Department of Metalwork, Victoria and Albert Museum. Price 3s. net; 3s. 4d. post free. Victoria and Albert Museum, South Kensington, S.W.7, or H.M. Stationery Office.

"Water Supply Installations for Farmsteads and Country Estates." By William Paul Gerhard, C.E., Dr.Eng. Price 40 cents net. W. P. Gerhard, 17 West 42nd Street, New York City.

Mr. Somerville a Parliamentary Candidate

Mr. D. G. Somerville, managing director of D. G. Somerville & Co., Ltd., the Somerville-Barnard Construction Company and the Entreprises Somerville, Paris, has been adopted as Conservative Candidate for Barrow-in-Furness. It was only some fourteen years ago when he started business as an engineering contractor in one small room in Victoria Street. By sheer hard work and concentration he now controls one of the largest engineering, contracting, and building businesses in this country, has his own constructional steelworks, and in France is carrying out, through his French company, huge reconstruction contracts for the French Government in the devastated regions, in addition to constructing the whole of the British Military Cemeteries in France for the Imperial War Graves Commission.

Correspondence

Counteracting the Weaknesses of Collar Roofs

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I appreciate very much Mr. Gunn's admirable notes on "Little Things that Matter." Evidently he is a craftsman of great enthusiasm. It is a delight to read what he says, and to realize with how great an affection he regards the materials and methods whereby we carry out our work.

I should like to comment upon, and, I hope, add to the usefulness of his notes with regard to the weakness of collar roofs at the point where the collar meets the rafter.

My suggestion is that the really sound way of building these roofs is to insert a purlin or beam under the collar at that point (see Fig. 1). This method has a number of advantages. It removes the tendency of the rafter to bend at that point and it gives a very necessary help in the way of a return plate, possibly a dragon tie, to the roof when it is hipped from the collar level upwards, as is often done in Kent and Surrey. Another (see Fig. 2) advantage is that the end of such a purlin or beam projecting over the gable wall serves as a good stout support for the upper end of any verge rafter of the part of roof below the purlin. This method also provides good supports at that point on both sides of the roof, and the appearance if good from the inside.

Another "dodge" which may be useful to those who may happen not to have evolved it for themselves, or seen it, is shown in Figs. 1 and 3. It is useful where it is necessary in a collar roof to support directly upon the wall a crossbeam which has to support in its centre an over-long purlin. One does not want to truss such a purlin, and there is a limit to the length of an untrussed one, hence the necessity of one or more intermediate supports. How, then, is it possible to get the best result where the top of side wall is, say, 2 ft. or 3 ft. below the purlin level? I wanted to avoid an expensive truss, a thrust on the outer wall, and a tie at the wall-plate level, which would have spoilt the bedroom.

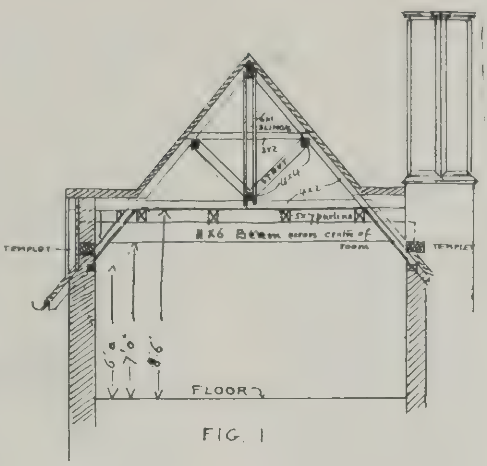


FIG. 1

TO MAKE A COLLAR ROOF STRONG

My solution was to run the crossbeam through the roof till it reached a point over the side wall, and there support it on a gablet built up for the purpose.

The great charm of many of our old farmhouses and cottages lies in their low roof-plates and their collar-roofs. By means of these roofs the greatest economy of habitable space may be secured with the minimum of waste roof space. It is therefore very useful to be able to construct these roofs in the soundest possible manner.

W. B. HOPKINS,
A.R.I.B.A.

Sanitary Engineering on Liners

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read with interest the notes on sanitary arrangements on page 551 of your Special Ship Number. While in general agreement with these remarks, may I add that the drainage system of the boat appears to be generally left in the hands of the foreman plumber attached to whichever shipbuilding yard the vessel is being erected in? The specialist sanitary engineers have frequently no voice in the arrangement of sanitary pipes on the vessel. One would certainly not expect a superior workman of the class named above to be in charge of the installation of the whole of the plumbing, etc., of a large hotel on land, and there appears to be very definite scope for trained supervision in the installation of the sanitary schemes for large liners.

The above explains the penultimate paragraph of your notes on sanitary arrangements, that "in some boats the pipes are very carefully concealed, whilst in others the pipes sprawl all over the place." This certainly is the case.

With regard to the last paragraph, I would certainly say that the English is in advance of the American sanitary engineer when it is a question of things that matter. In other words, whilst the American bathroom and its fittings may superficially appear a better one than that designed by the English craftsman, yet in the actual design of the fittings themselves there is no doubt whatever that the Englishman is very much in advance of the American. May the improved appearance of the bathroom not be due to the fact that the American employs his architect to arrange and plan the rooms?

That the English fittings are superior to the American appears to be proved by the fact that shipping companies trading with America, and having to equip ships which are mainly concerned with the transport of American citizens, almost invariably have their ships fitted in England, and with English fittings.

One would like to take the opportunity of saying that sanitary engineers rarely appear to have a voice in the selection of fittings for a boat. The matter is placed out to tender in general terms, and in exceptional cases patterns may be seen by the owners, but generally the matter is decided upon prices, and the detail arrangement of bathroom and lavatories is then in the hands of the shipbuilder.

There would appear to be no doubt that a very large field is open to architects if their services would be utilized by ship-builders in the selection of appropriate fittings and the proper arrangement of bathrooms and lavatories on liners.

SANITAS.

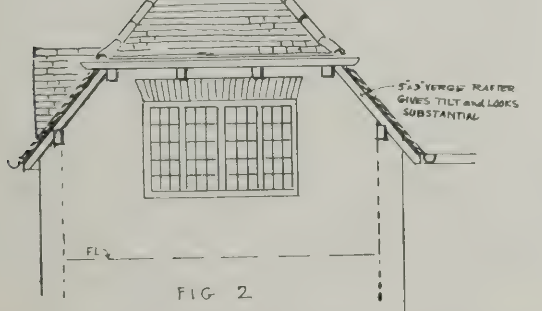


FIG 2

W. B. HOPKINS. ARIBA– OCT. 1922.

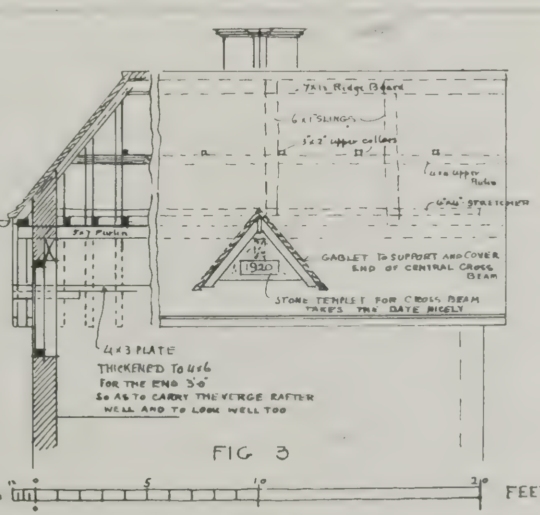
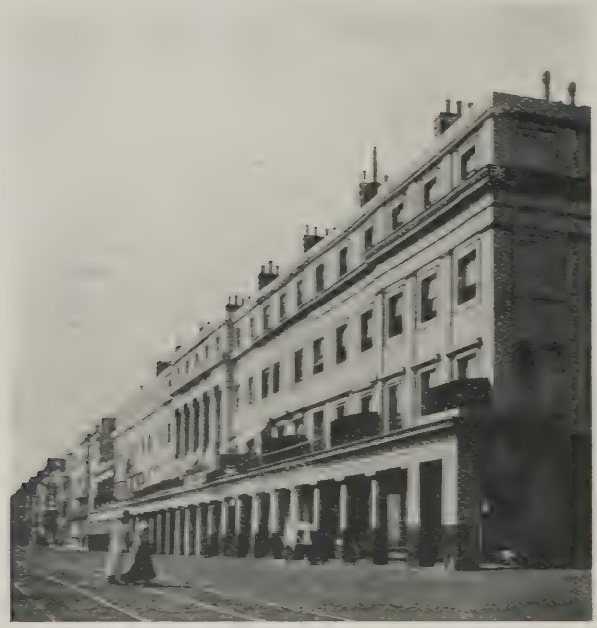

7x1½ Ridge Board
6x1 SLINGS
3"x2" upper collars
4x4 upper Purlin
6"x4" STRETCHER
5x7 Purlin
1920
GABLET TO SUPPORT AND COVER END OF CENTRAL CROSS BEAM
STONE TEMPLET FOR CROSS BEAM TAKES THE DATE NICELY
4x3 PLATE THICKENED TO 4x6 FOR THE END 3'0" SO AS TO CARRY THE VERGE RAFTER WELL AND TO LOOK WELL TOO
INCHES
FEET
0
5
10
20

FIG 3

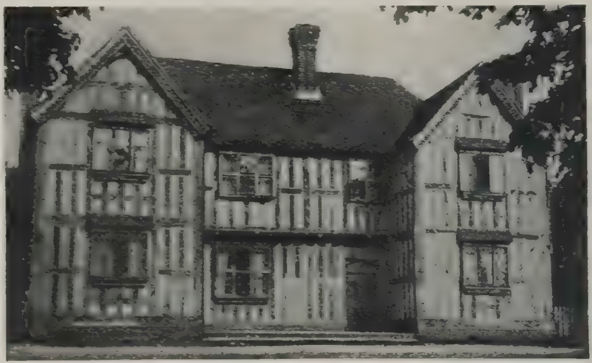
A Pictorial Review

Illustrations of Topical, Practical, or Curious Interest

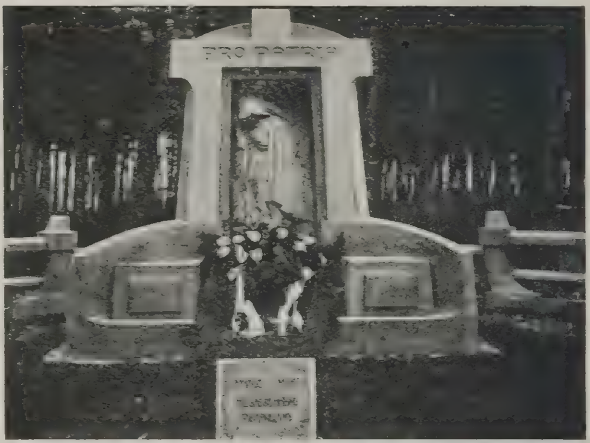
Readers are invited to send in sketches and photographs for publication in these pages. A fee of 2s. 6d. will be paid for each illustration accepted. Contributions should be accompanied by short explanatory notes.



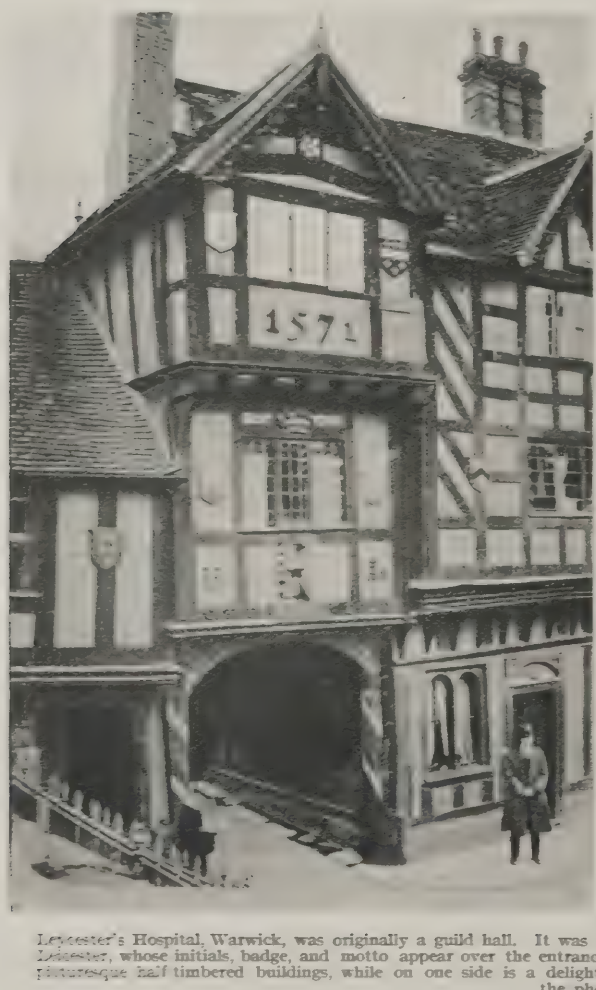
Decimus Burton made St. Leonards, and in converting waste lands into a more or less decorous seaside town he naturally resorted to the somewhat heavy classicism which in his day was so much admired in his London work. His two rows of colonnaded shops, of which one row is shown in the photograph, give a very distinctive character to the sea front at St. Leonards.—J. F.

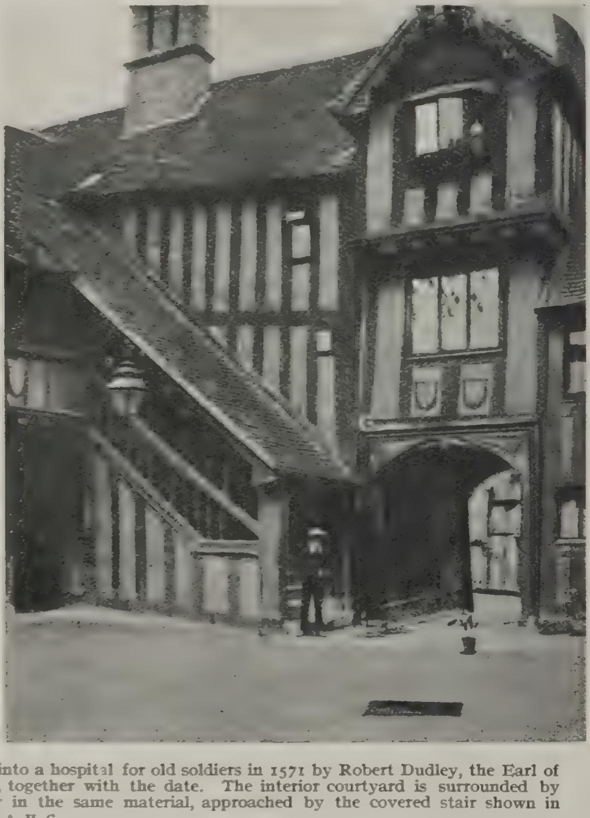


The old manor house at Bramley in north Hampshire, near Silchester. Although now divided into tenements it is in an excellent state of preservation—J. B. T.

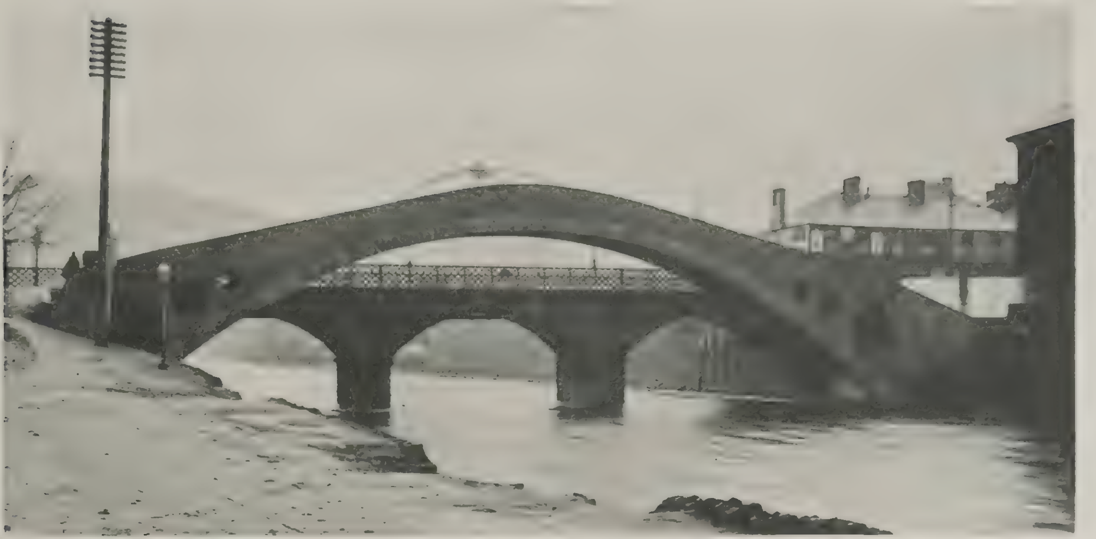


This memorial was erected by subscription in memory of British French, and Russians who died in captivity at Müncheberg Camp, Germany, during the years 1914-1918. It was executed by Monsieur Auxenfans.—S. C. C.

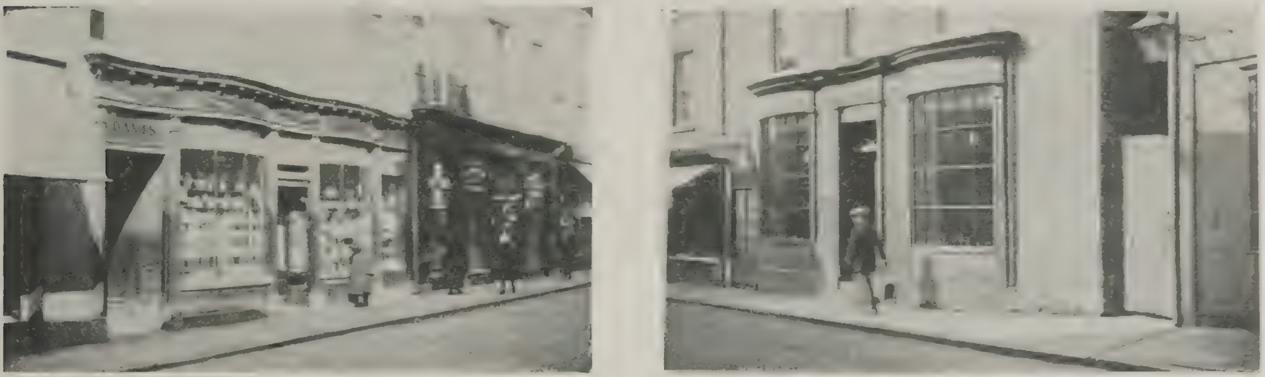




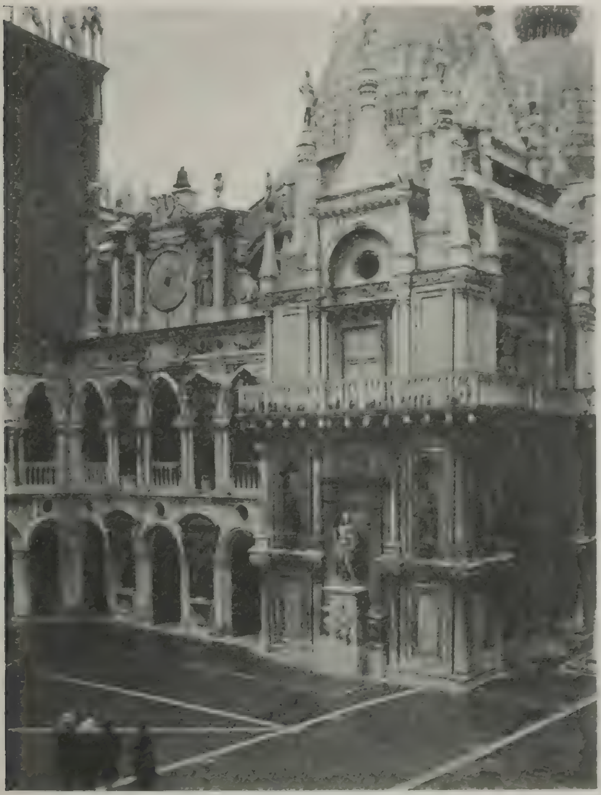
Leycester's Hospital, Warwick, was originally a guild hall. It was converted into a hospital for old soldiers in 1571 by Robert Dudley, the Earl of Leicester, whose initials, badge, and motto appear over the entrance gateway, together with the date. The interior courtyard is surrounded by picturesque half timbered buildings, while on one side is a delightful gallery in the same material, approached by the covered stair shown in the photograph.—A. H. G.



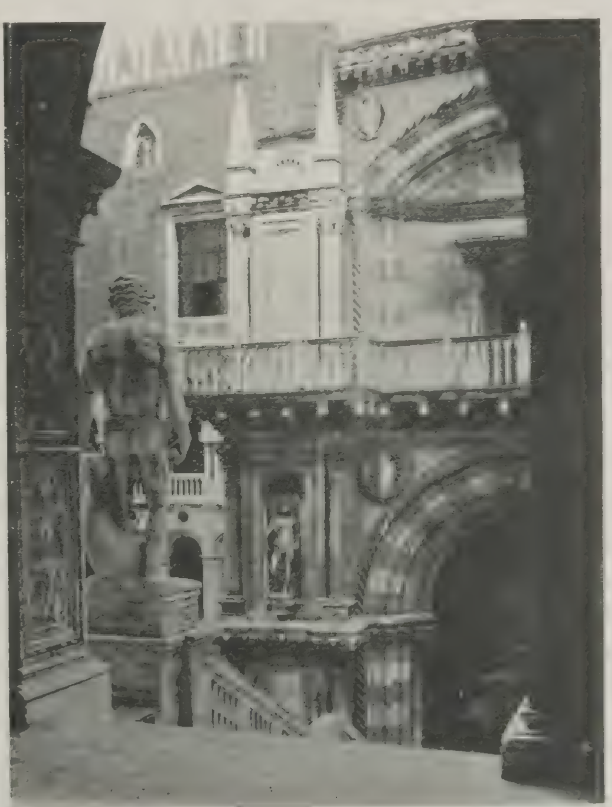
The Rainbow Bridge, built at Pontypridd in 1750 by William Edwards, a working mason, was the first bridge in Great Britain t be erected with so wide a span as 140 ft. Edwards made two unsuccessful attempts before he could secure a firm crown and eventually he adopted the three circular openings in each of the abutments. This device reduced the weight and prevented the springing of the crown.—J. B. T.



These two shop-fronts at Stamford were evidently constructed by the same hand as those at Falmouth illustrated in your issue for October 4. The concave curve over the entrances is very successful, and seems to add to their grace. The smaller front is the better design, for there seems no reason why the larger one should not curve in and out for ever, and it has been spoiled by the insertion of plate glass.—[illegible]. N.



A corner of the Cortile of the Doges' Palace, Venice. The domes in the background are those of St. Mark's Cathedral, and in front is the dell' Orologio façade, which is mainly seventeenth-century work. On the right is the Arco Foscari leading to the Giants' Staircase.—J. V. D.



A view from the top of the Giants' Staircase in the courtyard of the Doges' Palace, looking towards the Arco Foscari and the Porta della Carta. The statue on the left, representing Neptune, is the work of Sansovino, and is one of the two colossal figures from which the staircase derives its name.—J. V. D.

The South Canterbury Hospital, Timaru, New Zealand

HERBERT HALL, Architect

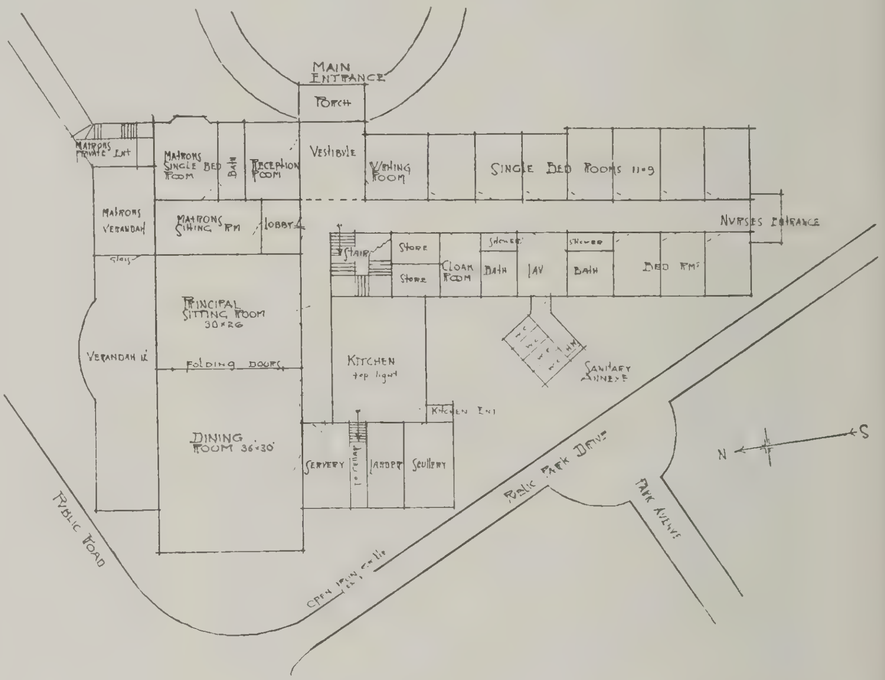
FOR the general guidance of hospital boards the State Health Department of New Zealand lay down rules for standard requirements with regard to the lay-out of the buildings and the principles of design. To adapt these set rules to the climatic conditions of different districts and the peculiarities of each site is the business of the hospital architect. In the case of accommodation for the nursing staff, the stipulations are that each member of the staff must be provided with a separate bedroom with at least 100 ft. of floor area; also that these quarters must constitute an independent building, as isolated as circumstances permit from the main hospital buildings.

The nurses' hostel at the South Canterbury Hospital provides accommodation for forty sisters and nurses, with special rooms for the matron or sister-in-charge of the hostel, while provision for building additional floors on top has been made.

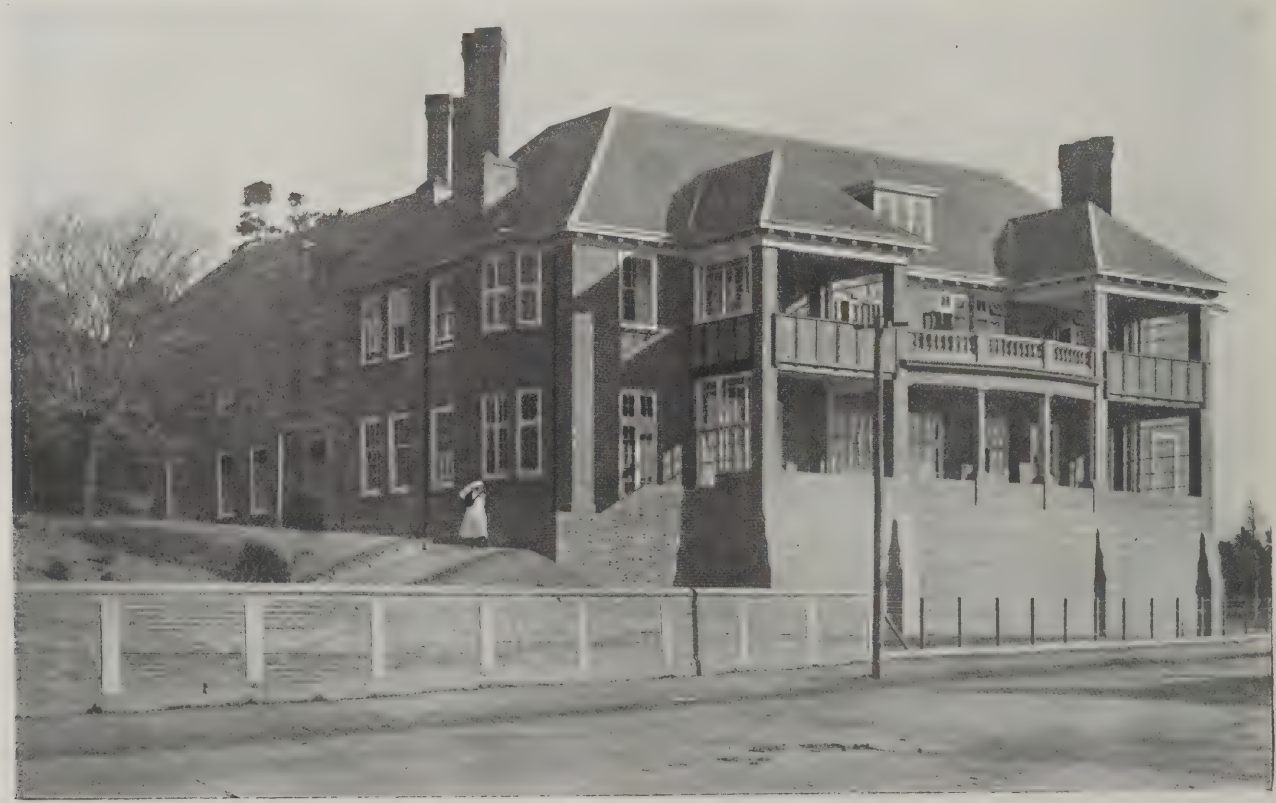
On the ground floor are placed the reception and writing-rooms, matron's quarters with bed and sitting-rooms, vestibule, bathroom, and private veranda with garden entrance. The principal common sitting-room and dining-room occupy the sunny aspect facing north. These rooms are divided by folding doors of full width, to combine them when required for dancing and entertainment. To the rear of the dining-room is the kitchen, kitchenette, servery, and other offices, only one story in height with a flat roof.

Most of the bedrooms are on the first floor, arranged regularly on either side of a main arterial corridor, and also four smaller sitting-rooms.

All the sanitary fixings are situated in a special annexe, with the bathrooms adjacent, opening off a lavatory vestibule



PLAN.



A GENERAL VIEW.

THE NURSES' HOSTEL.

containing a series of wash-basins, showers, etc. As an important public-park avenue approached the building on this side, the annexe was designed as a tower and placed opposite the end of this avenue.

Reinforced concrete construction has been used for the walls and structural members, but the building has an external lining of brickwork to provide cavity walls. For internal finish the principal rooms and vestibules are panelled with Australian bean-wood, while the trimmings are of New Zealand rimu, selected for grain and colour.

The case-isolation and infectious diseases building was erected to provide accommodation for the strict isolation of certain cases and for special classes of infection which are capable of suitable treatment in a general hospital. To get the maximum amount of open-air bed-space the verandas and balconies were arranged with a westerly aspect overlooking the public park; they were designed of sufficient size to allow all patients to be in the open air at one time.

Both floors are identical in arrangement; the external stairs are not used as communications between the two floors, but for separate access to the upper floor. They are two separate units operated independently of each other. Patients are received at the main entrance of these buildings and, after being under observation in the single-bed wards, are placed in the "acute" division and finally discharged from the "convalescent" end. Two sanitary annexes were required to give complete isolation during the progressive stages of the cases.

Each of the single-bed wards has a private veranda with glass partitions, and the wards are opened to the air by full width folding doors. The larger wards have similar isolated verandas and wide doors opening on to them between each of the beds. Every bed has a call bell and a separate movable electric light fitting.

To give the greatest open-air effect, and for thoroughness of supervision, the partitions are made of clear plate glass.

Keene's cement was used for the wall surfaces and "Fama" composition for the floors. The ventilation is entirely natural, being provided by large windows and doors, while the building is heated by hot-water radiators on the overhead system, all piping being exposed.

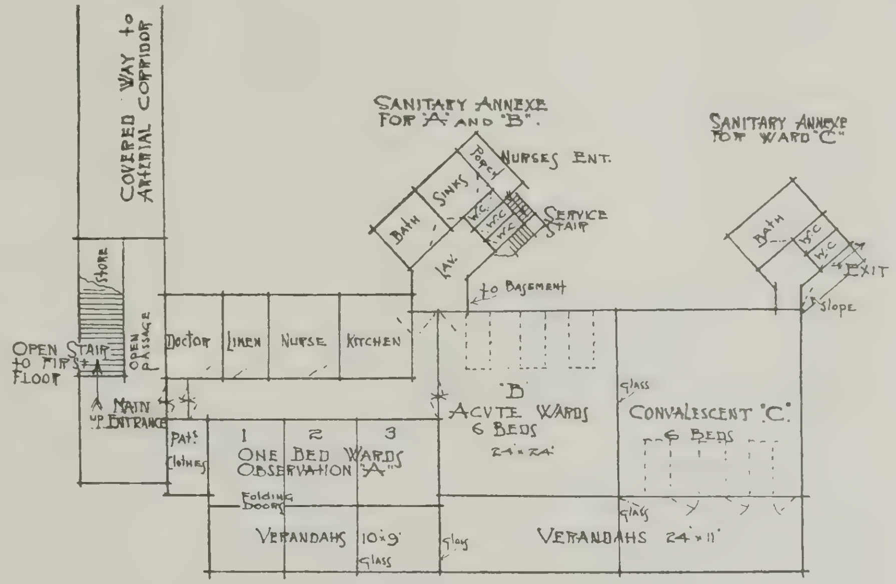
Ferro-concrete was adopted for the construction of floor members and walls, while to provide an external cavity for temperature purposes the walls were lined with a shell of brickwork.

Both the buildings above described were built by contract by John T. Hunt, of South Canterbury.

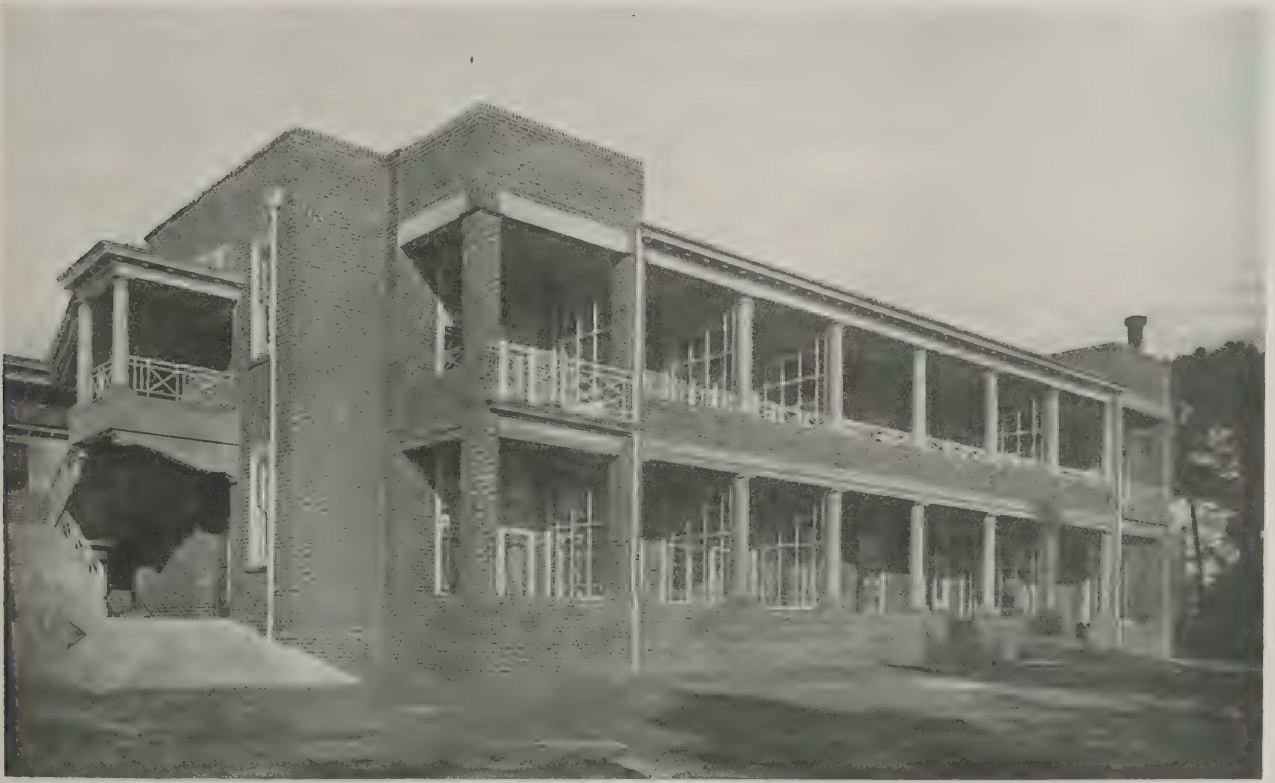
The Wannati Hospital is a smaller institution under the control of the same hospital board, and it forms part of the South Canterbury public health system. As the site is an extensive one, the buildings were designed for one story only.

For case-isolation purposes a small building capable of extension, with four single-bed wards, has been erected; 100 sq. ft. of floor space is provided in each of these wards, and a private veranda 10 ft. by 7 ft. connected to the ward by folding doors of full width. From actual experience it has been found that these doors are seldom closed, the patient preferring to be on the veranda or in the ward with the whole end open.

The patients are received at the respective veranda gates, but the nursing staff only enter and leave the pavilion through



GROUND AND FIRST-FLOOR PLANS.



MAIN ELEVATION.

THE SOUTH CANTERBURY HOSPITAL, TIMARU, NEW ZEALAND: THE CASE-ISOLATION AND INFECTIOUS DISEASES PAVILION. HERBERT HALL, ARCHITECT the special disinfecting porch at the back. Here provision is made for changing uniforms, bathing, and disinfecting before they mix with the ordinary patients or staff. To allow the freest movement of cross air-currents in the wards they were designed 2 ft. 6 in. higher than the verandas in front and sanitary annexe and passage at the back. This does not place the patient in a draught.

Glass partitions allow the nurse on duty to supervise all the wards and verandas from the duty-room, and communication by telephone to the main hospital is provided. The walls are finished with washable white Keene's cement, and the floors are of polished hardwood. Messrs. Shillito Bros., of Timaru, were the builders.

Mr. Haywood on Town Planning

Mr. William Haywood, F.R.I.B.A., has delivered the second of the series of lectures which he is giving at the Birmingham University on civic design and town planning. The course of lectures has been arranged at the instance of the Bournville Village Trust.

Mr. Haywood said the first evidences of town planning in Italy were to be found in certain lake settlements of the Bronze Age, known as Terramara, of which about one hundred existed in the north between Piacenza and Bologna, and dated from 1400–800 B.C. They next had some slight knowledge of Etruscan cities, and then the beginnings of Pompeii in the sixth century. Roman colonial town planning was first apparent in the period of the late republic, approximately 200 B.C., at which time compact bodies of emigrants were established in colonies favourably situated for the spread of Roman dominion.

The Roman policy differed from the Greek, in that their cities remained integral factors of the commonwealth, and were subject to the central power, whereas Greek settlements became politically independent. Roman colonies were arranged after the pattern of the Roman military camp. A typical example was Timgad, Algeria, founded by Trajan A.D. 100, for time-expired soldiers of the Third Legion.

Timgad proper was a very complete city, although built upon the small area of 30 acres. Its main street was colonnaded for protection from the weather. The streets were paved with stone slabs. The drainage was excellent, and public lavatories were provided on a scale to which we moderns had only attained in recent years.

The Roman settlement of Silchester in England differed from the normal. Its irregularities were probably due to its existence as a tribal centre before the Roman era. The plan was neither compact nor typical. Many houses were detached, and gardens appeared to have been common. It seemed, indeed, that even so early as A.D. 70–85 the people of these islands showed that love for gardens and individuality in housing which was characteristic of our nation.

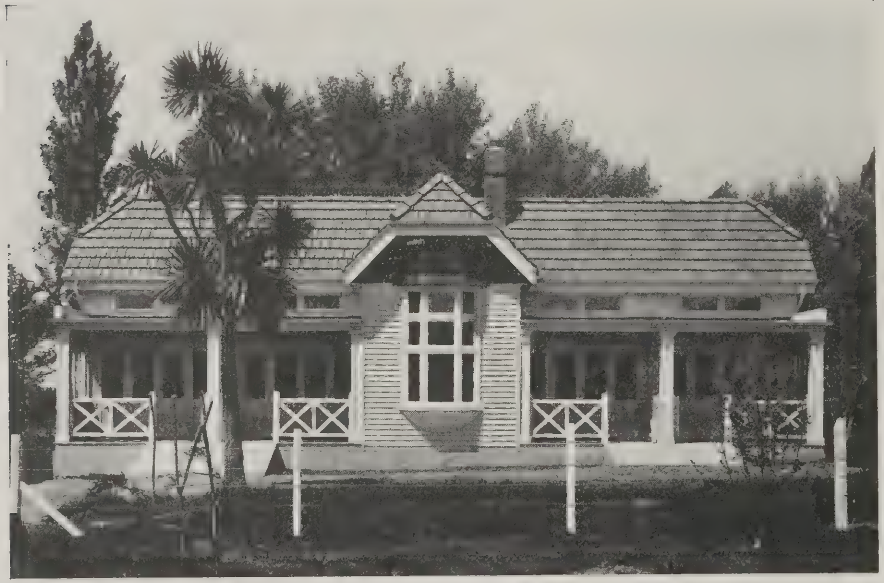
In another lecture of the series Mr. William Haywood said : No definite town forms were produced between A.D. 500 and 1000. In the eleventh century, however, strong rulers began to re-establish here and there conditions favourable to a collective form of life, and the fortress towns of the Teutonic conquests in Poland and Prussia, with those of England after the Norman Conquest, are the first indications of a new progress which culminated in the thirteenth century—the golden age of mediæval town planning.

From A.D. 1209 onwards the Papal crusade against the Albigensians led to the founding of many towns in the south of France. These towns, or bastides, were built by the invaders, not only for military security, but also as economic rivals to the older and still wealthy cities of the heretics, and settlers were attracted to them by liberal concessions of land, with the object of diverting vitality and commerce from a still hostile people.

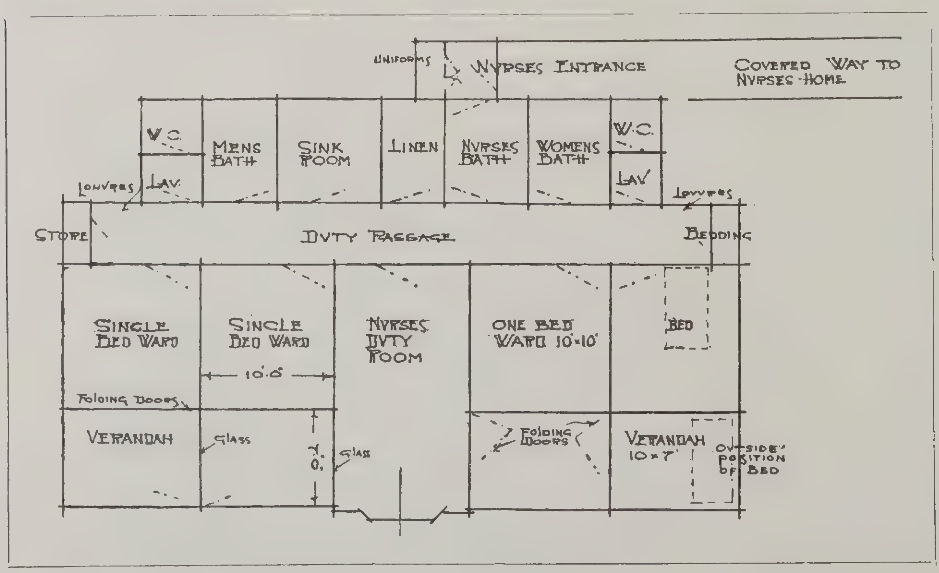
As the political situation changed many of these cities disappeared, but some still remain, usually where natural advantages in situation have satisfied more permanent needs. Thus Libourne, founded by Edward I at the confluence of two navigable rivers, is now a *chef lieu d'arrondissement* with 10,000 inhabitants, and Aigues Mortes, designed by Louis IX to become a great Mediterranean port, remains a walled city of 4,000 people.

In England Liverpool and Hull were founded by Edward I on sites so well chosen that both cities have become great. Conway, Carnarvon, and Flint, bastide in origin, have been kept alive because their situation favoured peaceful pursuits when their political function lapsed.

The chief and constant factor in the arrangement of towns founded for political purposes by military powers, whether in the Macedonian and Roman colonies, or after the conquests of the eleventh and twelfth centuries in Europe, is the chessboard type of street plan. This arrangement is evidently the first to present itself to an orderly mind when about to plan a town *ab initio*, but it is important to remember that planning of this type, while in some respects an improvement on natural evolution, is merely the readiest way of solving an immediate problem, whereas the mediæval town of natural growth, to the arrangement of which less thought may appear to have been given, was often adapted to local topographical conditions and to certain essentials of comfort and amenity which experience had shown to be desirable.



EXTERIOR VIEW OF CASE ISOLATION WARDS.



PLAN.

THE SOUTH CANTERBURY HOSPITAL, TIMARU, NEW ZEALAND: THE CASE-ISOLATION PAVILION. HERBERT HALL, ARCHITECT.

The Week's News

New Town Hall for Walthamstow.

Walthamstow Council are considering the erection of a new Town Hall.

Ramsgate Pier.

Ramsgate promenade pier, practically destroyed by fire during the war, is to be lengthened and widened.

Croydon "New Building"!

An opening in a party wall has been approved by Croydon Council as a "new building."

New Council School for Hayes.

A new County Council School is to be erected on the Hayes Urban Council housing site.

St. Paul's Bridge.

It was stated at a meeting of the L.C.C. that there was no likelihood of St. Paul's Bridge being constructed for many years.

Swimming Bath for Harrow.

Approval has been given by the Ministry of Health to a loan of £9,500 for an open-air swimming bath at Harrow.

New Science Building for Wales.

With reference to the proposed science department of the University College of North Wales, it is reported that the new buildings would cost £65,000. Building will begin next spring.

City Quantity Surveyor for Dublin.

Dublin Corporation have approved of the temporary appointment of a Quantity Surveyor on the staff of the City Architect's department at a salary of £500 a year.

House Prices Halved in Two Years.

The latest tenders of private builders for the erection of Corporation houses at West Hartlepool are within the range of £400 each. Two years ago the builders wanted £800 each for a similar class of house.

Newcastle Town Planning.

Newcastle City Council have decided to prepare a town planning scheme for the North-Eastern area of the city, and a map showing the exact area included in the scheme has been deposited for inspection at the Town Clerk's office.

New Café for Letchworth.

Plans have been approved by the Letchworth Welfare Committee for a new café and social centre. The option of a plot of land at the junction of Leys Avenue and Norton Way has been secured by the committee.

Historic Hall Destroyed.

Yaxley Hall, near Eye, Suffolk, has been burnt out. The hall, a Tudor mansion, contained some famous heraldic stained-glass windows and other historic fixtures, all of which were destroyed. A quantity of valuable furniture, however, was saved.

Aldwych Island Site.

It is reported by the Improvements Committee of the London County Council that the Bush Company (Limited) has undertaken to commence building on one wing of the island site in the Strand within a year, and on the other within two years.

Stained Glass Window in Auckland Castle.

It has been decided to complete the unfinished stained glass window in Auckland Castle as a memorial to the late Bishop Moule, of Durham, and to erect a brass tablet commemorating his life and work, the balance of the memorial fund going to St. Monica's Home, which was founded by Bishop and Mrs. Moule.

New Pavilion for Deal.

Deal Town Council have decided to erect a pavilion subject to a suitable scheme being approved. The alternate sites proposed are at the shore end of the pier, at the top of King Street, and opposite the present bandstand. Another scheme is for the construction of glass shelters round the present bandstand.

Halifax Building Society's New Leeds Premises.

The Halifax Equitable Building Society have purchased a block of buildings in Albion Street, Leeds, and early in the new year the Society's directors are hoping to reconstruct the premises and make them the branch offices of the Society. Hitherto the Halifax Equitable Society have not attempted business on an extensive scale in Leeds.

New Concert Hall for Broadstairs.

Broadstairs is to have a new and up-to-date Pavilion, Concert Hall, and Winter Palais de Danse. It is to be erected on the sea front, where, in pre-war days, the old Grand Pavilion used to stand. The plans have been prepared by Mr. Geo. Graham Tucker, and the buildings will accommodate over 1,200 people. It is anticipated that the new buildings will be ready for business next June.

An Architect Drowned.

The body of Mr. Percy Walker, 42 years of age, architect, has been recovered from the canal, Droylsden. Mr. Walker, who resided at Fairfield, was subject to epileptic fits for many years. The coroner, Mr. Bennett, at the inquiry gave a verdict of accidental death, due to drowning from falling into the canal whilst subject to a fit. Mr. Walker was the architect of St. Andrew's Church, Droylsden.

Cottages £310 Each.

Tenders for the building of twenty-six semi-detached cottages, containing parlour, living-room, scullery, three bedrooms, bath-room, etc., at the cost of £310 each, have been accepted, states the Ministry of Health, by the Bentley-with-Arksey (West Riding of Yorkshire) local authority. The cottages will be of brick with tiled roof, and the price covers the provision of drains, paths, fences, and the installation of electric light.

Deceased Architect's Will.

Mr. Arthur Harrison, F.R.I.B.A., of The Croft, Yardley Wood Road, Moseley, Birmingham, a member of Messrs. Harrison and Cox, Colmore Row, Birmingham, architects, and a former president of the Birmingham Architectural Association, who died on August 22, has left £31,441, with net personalty £17,818. He gives any one of his drawings or paintings by J. W. Wainwright to the Birmingham Corporation for the Art Gallery.

Leeds School of Art.

The following awards have been made in connection with the Architectural Section of the Leeds School of Art Sketching Exhibition :—

Architectural Design : G. W. Alderson, for drawings of an Italian villa.

Measured Drawings : F. Chippendale, for drawings of Bolton Abbey and Adel Church, Yorkshire.

An exhibition of R.I.B.A. Prize Drawings, for 1922, and specimen Testimonies of Study have also been held in the City Art Gallery.

Exemption from R.I.B.A. Final Examination.

The following candidates, who have taken approved courses at their respective schools of architecture, have satisfied the vice-presidents of the Royal Institute in the examination in professional practice : E. R. Arthur, School of Architecture, University of Liverpool; W. A. Devereux, School of Architecture, The Architectural Association; P. B. Haswell, School of Architecture, University of Liverpool; I. A. Moodie, School of Architecture, Robert Gordon's Technical College, Aberdeen; G. B. Scotland, The Glasgow School of Architecture.

R.I.B.A. Special War Examination.

The R.I.B.A. special war examination will be held from December 11 to 14 inclusive. Candidates may sit in London, Liverpool, or Leeds. The method of conducting the examination has been revised. There will be *no* oral examination on the day following that on which the work on the design subject is completed. At the close of the examination on December 14 the designs of all the candidates will be forwarded to London for consideration by a special jury of the Board of Architectural Education. The jury will have discretionary power to call any particular candidates to an oral examination which will be held in London *only* at a later date. These candidates will be required to bring their approved testimonies with them to the oral examination.

The New County Hall.

At the last meeting of the London County Council, Mr. J. D. Gilbert asked the chairman of the Establishment Committee whether the committee had come to any decision as regards the completion of the new County Hall by erecting Block D, and whether any report had been presented to the committee by the architect urging that the final block should be erected forthwith. Mr. Greenwood said the committee had not come to any decision. The architects had reported on certain factors requiring consideration in view of the present foundations of the building being incomplete. This aspect of the position, as well as the question of Section D generally, was being carefully examined by the committee, and a report would be submitted, he hoped, this side of Christmas.

Two Grates in One

A valuable contribution to the solution of present-day difficulties has been made by Mr. Allan Ure, the inventor of the dual grate illustrated on this page. We recently had the pleasure of examining the Back-to-back Living-room Grate and Scullery Cooker, which may be seen in action in one of the L.C.C. Housing Schemes near London, where it has been installed, and were greatly impressed by the domestic advantages of the invention. By the use of this grate, which is built into the wall between living-room and scullery, an open fire in the one room and a cooking range in the other are obtained with a single fire, and where a high-pressure boiler is installed an abundant supply of hot water is available soon after the fire is lit.

The accompanying illustrations show the construction of the grate, built into an 18 in. wall. On the living-room side nothing is to be seen but an inviting-looking open fire with two swinging side trivets, one of which can be taken off and used over the centre of the fire. By the use of these, and of the extra boiling ring at the bottom of the oven, ample space is available for saucepans, while baking can be done in the oven itself, in which an excellent heat is maintained with an extraordinarily small consumption of coal. A hot bath can be enjoyed in one and a half hours (and a kettle can be boiled in fifteen minutes) after lighting the stove. After the stove is heated water can be boiled in half that time. The oven heat is regulated by a damper, and it should be noted that there are no flues to build at the sides or back, the thickness of one brick forming the bottom of a 3 in. flue under the oven. Glasgow, Manchester, and other public bodies have already shown their appreciation of the Back-to-back Grate by installing it in their various schemes, and its obvious economy and undoubted efficiency should recommend it to promoters of house building all over the country.

Coming Events

Wednesday, November 8

Chadwick Public Lecture.—"Ventilation in Mills and Factories." By Professor Leonard Hill, M.D., F.R.S. Textile Institute, Manchester. 4 p.m.

Thursday, November 9.

Society of Architects.—Presidential Address. By Mr. E. J. Partridge, F.S.Arc., F.S.I. 8 p.m.

Sheffield, South Yorkshire, and District Society of Architects and Surveyors.—"The Architecture of Two London Streets." By Professor C. H. Reilly.

Birmingham University, Edmund Street.—"Mediæval Town Plans." By Mr. Wm. Haywood, F.R.I.B.A. 5.30 p.m.

Friday, November 10.

Town Planning Institute.—Presidential Address. By Mr. H. V. Lanchester, F.R.I.B.A. 6 p.m.

Institution of Heating and Ventilating Engineers.—"Instruments for Heating and Ventilating Engineers." By Mr. M. Kinoshita, M.Sc. 7 p.m.

Saturday, November 11.

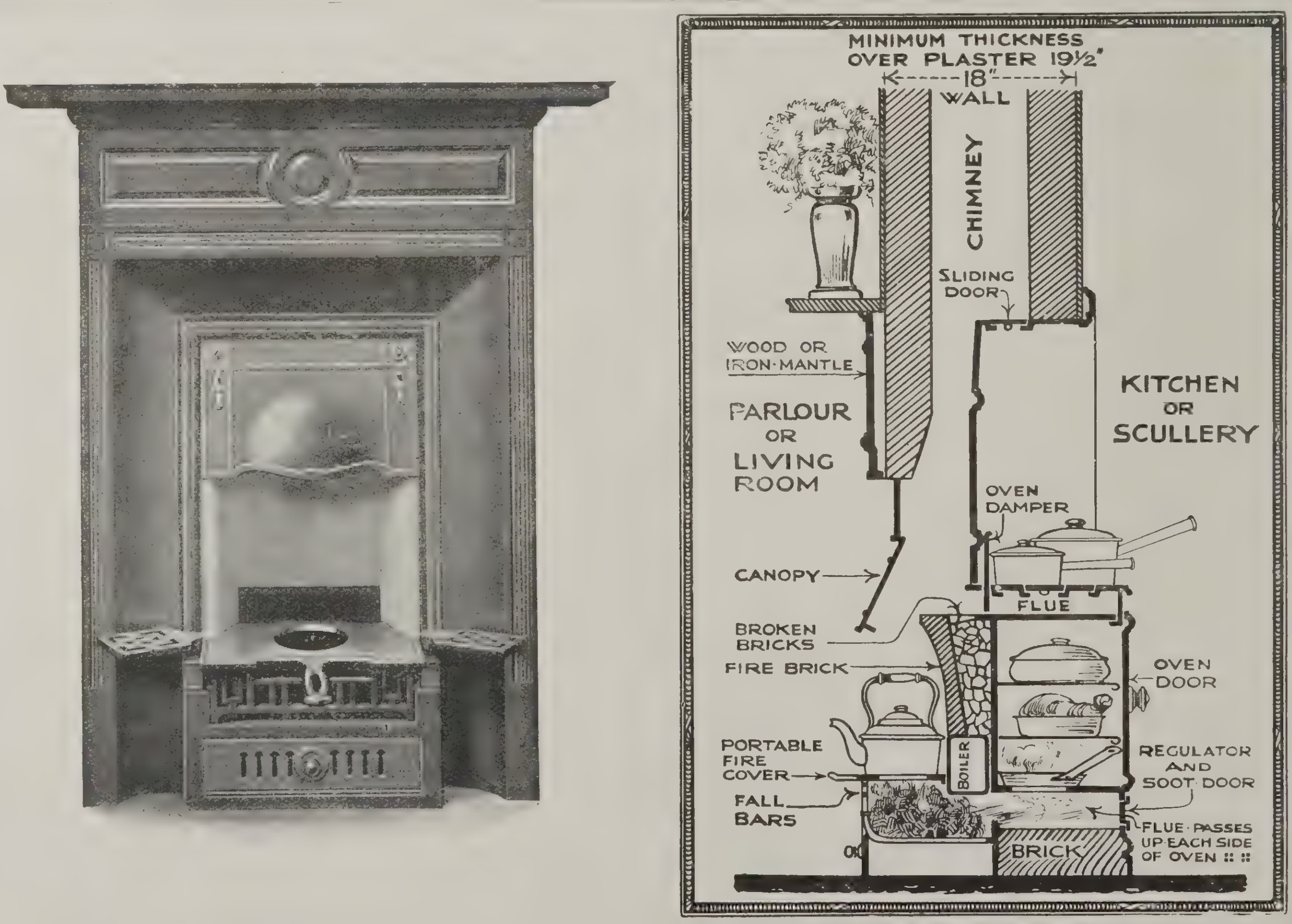
Building Surveyors' and Inspectors' Association.—"Triangulation in Roof Construction." By Mr. Walter Percival, Grissell Prizeman, Liverpool Technical School. 3 p.m.

Metal Industry Research Work

A new pamphlet, "Research Work in Progress," has just been issued by the British Non-Ferrous Metals Research Association, of 71 Temple Row, Birmingham. The investigations in hand cover many important problems of the copper, brass, aluminium, nickel, and lead industries, as well as subjects of importance to all users of such metals. The support given to this association by the leading firms seems to be most encouraging, but the field covered is very wide, and many of these researches, such as those on the improvement of brass, on metal polishing, and on soldering, should attract the attention and support of many other sections of industry. The user is apt at first sight to overlook the fact that he is even more interested in the improvement of quality of his raw material than the manufacturer of the metal. In the case of failure, however, it is the user who always bears the greater loss, since he sacrifices all the time and workmanship which has been expended on the article being manufactured.

The Bureau of Information of the Association also seems to be doing excellent service in distributing to members reports of the results of the experimental researches and acting as a live intelligence service collecting and distributing information likely to be of service.

Finally, some indication is given of the further work which the council hope to take up when additional financial support is forthcoming, which includes problems of importance to the electrical industries, to die casters, and to the tin-plate trade.



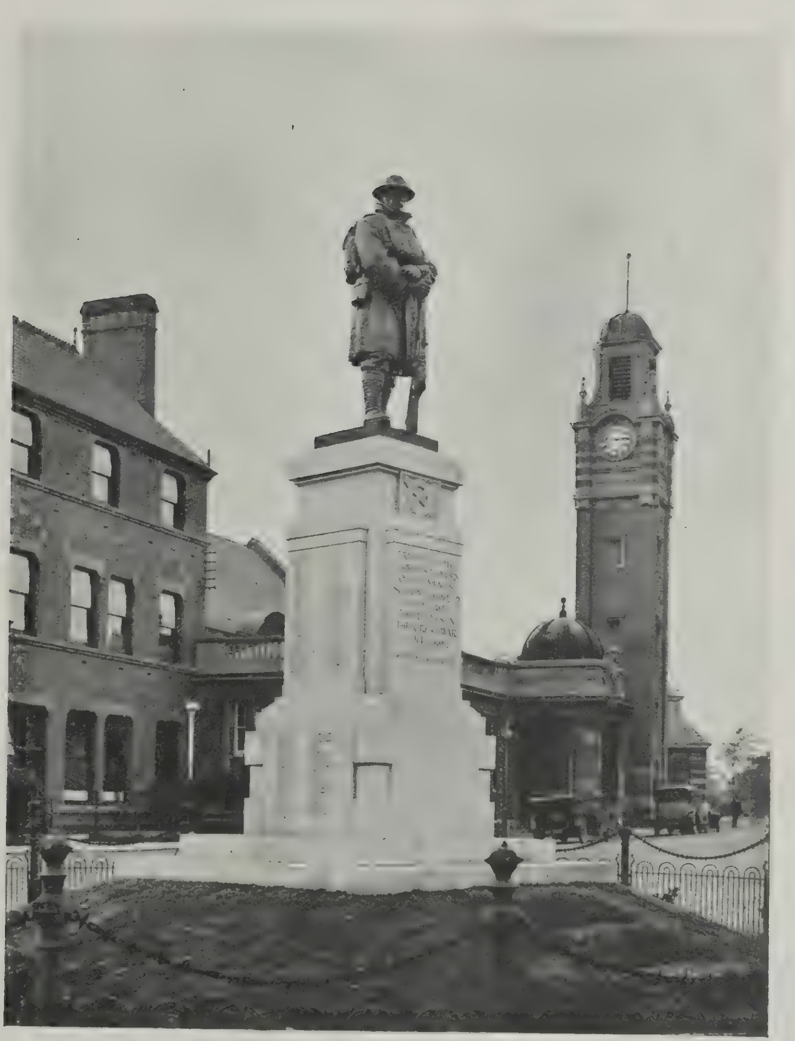
THE BACK-TO-BACK SITTING-ROOM GRATE AND SCULLERY COOKER: VIEW FROM SITTING-ROOM AND SECTION.

Wednesday, November 15, 1922

Vol. LVI. No. 1454

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."



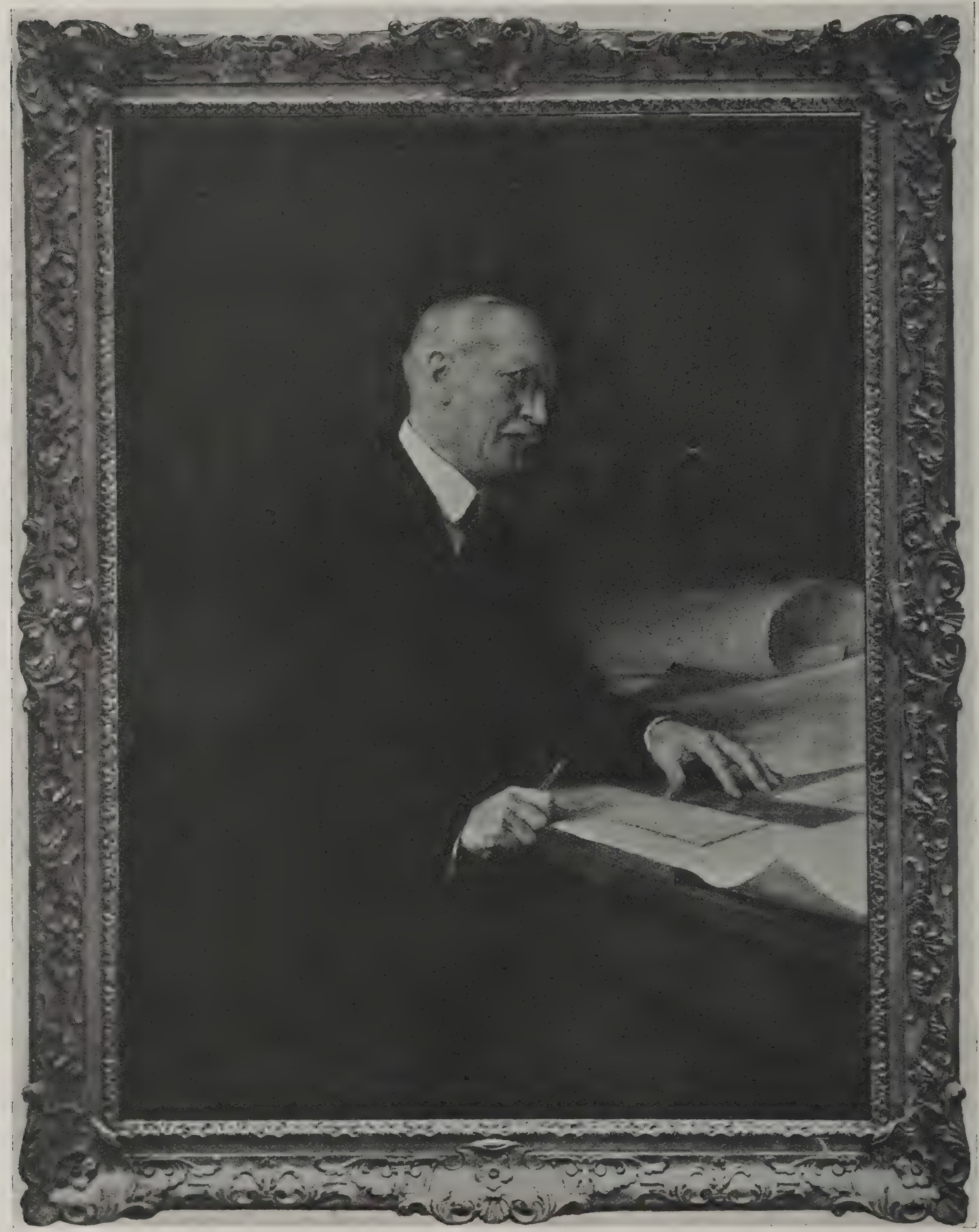
SUTTON COLDFIELD WAR MEMORIAL.
F. W. DOYLE-JONES, R.B.S., DESIGNER AND SCULPTOR.

27-29 Tothill Street, Westminster, S.W.1.

c

Portrait of Mr. John W. Simpson, PP.R.I.B.A.

By Sir Arthur Cope, R.A.



The above illustration shows the painting hung in the R.I.B.A., and unveiled by the President, Mr. Paul Waterhouse, at the last meeting of the Royal Institute. The President's address is given on page 687.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

Wednesday, November 15, 1922 Volume LVI. No. 1454

The Elections and the Housing Movement

TO-DAY no one doubts the presence of a strong tincture of political virus in the State housing movement. In plain words, the movement was engineered, the needs of the people were exploited, for party purposes, and those who engineered it are being called to account at election meetings. Its Nemesis will haunt them, and occasionally secure their defeat.

It is not to be lightly assumed, however, that all their accusers are *ipso facto* angels of light. Many a perfervid denouncer of "the housing muddle," or "betrayal," or "fiasco," or whatever other fancy description may be applied to it, by impassioned orators with their tongues in their cheeks while waiting for the applause to subside, has no real interest in the matter beyond that of vote-catching with an effective bait.

Some few earnest souls there are, no doubt, whose denunciation is perfectly genuine and from the heart. In their case it is prompted by a sincere desire for the physical and moral welfare of the people, and by consequent indignation that State interference in such a vital matter has proved to be injurious rather than beneficial, because that interference was to so great an extent merely political.

Equally in earnest, no doubt, are some few members of the Labour Party who so vigorously denounce the housing muddle of the late Government; but the bulk of the railing accusers, no matter to what party they belong, are simply exploiting the subject with political intent. 'Twas ever thus, and it would be futile to deplore or deprecate so inveterate, so deep-seated a habit.

Nor is the housing propagandist entirely exempt from suspicion of placing self-interest before the interests of the commonweal. In most instances, housing reformers are unquestionably altruistic—self-sacrifice rather than self-interest is the badge of all their guileless tribe. Some other types of propagandists have only too evidently some sort of axe to grind, and they are not always at pains to conceal the fact, feeling well aware that their axe-grinding is of a perfectly legitimate kind; for though the whetstone is manifestly self-interest, nevertheless the grinding process s of some benefit to the community at large. At all events, the operator always likes to think so, whether or not the assumption is quite firmly based on the facts.

We are not at all sure whether "philanthropy and five per cent." (or whatever the current rate may happen to be) s not a fairly sound policy after all. To build on a basis of doles and subsidies is to build on a rotten foundation, and he system has wrought untold havoc all round, the very people (but not the profiteers) whom it was ostensibly ntended to benefit being almost the worst sufferers from t. At all events, it is they who are sending up the most xceeding bitter cry, and who, indeed, have the most subtantial reasons for feeling acute disappointment and istress. They are direct sufferers from the State interference from which no single member of the community always excepting the profiteer) can have escaped absolutely cathless. Of course, the true remedy is to make reasonbly sure that this State interference with housing, or with ny other legitimate phase of building or other kind of usiness activity, shall not happen again.

It is to make reasonably sure on this head that the National Federation of House Builders are endeavouring to influence votes in the General Election. The first item in the programme they have put forward is that all restrictive legislation with respect to housing should be withdrawn. Electors who question their candidates on this point must be prepared to counter an obvious retort. Of course, to withdraw all legislative restrictions on housing, or to encourage local authorities to laxity in the administration of their by-laws, would be unsafe in the extreme. Unhygienic hovels would spring up like poisonous fungi after a shower if there were weak by-laws, but clearly the Federation are not advocating anything that would lead to so barbarously unwholesome an effect. What they mean is that there should be no State interference with economic conditions; yet it would seem that if such a question were clumsily put to an alert candidate, especially if he were an "old Parliamentary hand," an evasive reply might result. Some candidates are evasive on principle, for the sake of discouraging the gentle art of heckling, or of scoring a smart point at his expense.

Another point in the programme of the Federation seems rather to play into the hands of the wily question-dodger. The programme suggests that local authorities should be compelled to charge economic rents. This would rather seem to provoke the retort that the Federation has here gone back on its deprecation of the principle of restrictive State interference, repudiating it when it is against them, but advocating it when it tells in their favour. This is exactly the sort of quibble in which the astute election agent would coach his candidate with the object of gaining a paltry triumph at a meeting. Open to a similar cross-counter is the advice that if there is to be any State assistance at all, it should be equally distributed to all agencies. If the principle of State assistance is vicious, the incidence of its distribution does not render it entirely immune from that reproach.

The Federation is on safe ground, however, in its pious opinion that the people should be encouraged to invest their savings in house property. Two rather awkward questions arise here. In these hard times, have the people any savings to invest; and, having the savings, would they care to purchase house property at the present inflated prices? An inducement to build and to buy house property is proposed by the propagandists, who suggest the exemption of new properties from local rates for a more or less extended period. It might be a good plan for the encouragement of building; but it is not free from the taint of preferential treatment.

Nor do we at all like the proposal that local authorities should be empowered to lend money on mortgage. Are there no building societies? Thus to encroach on their domain is an insidious form of municipal trading or quasi-State monopoly; and a local authority engaging in such business would soon incur considerable public odium through getting itself mixed up in money-lending transactions of dubious legitimacy.

More practical is the suggestion that the local authorities should revise their by-laws with the object of cheapening building and road-making. In the by-laws of most local authorities there are no doubt requirements that are not only costly but superfluous. They were, in many instances, formulated under conditions that have long been obsolete, and were often founded less upon local requirements than upon general principles that were coloured and distorted by the outburst of an almost passionate and fanatic zeal for admittedly much-needed hygienic, sanitary, engineering, and structural reforms; the disciples of such red-hot gospellers of hygiene as Simon, Playfair, and Benjamin Ward Richardson, exaggerating, as usual, and showing a disposition to go far beyond the reasonable precepts of their masters.

Whether the extreme relaxation of these antiquated by-laws would not swing the pendulum too far in the opposite direction, reviving through unhygienic building the dreadful epidemics which were the real *causa causans* to such drastic regulations, is a grave question that certainly ought not to be regarded as subsidiary to merely economical considerations; more especially since the small dwellings for which the by-laws were more expressly devised are only in comparatively rare instances built under architectural supervision.

That is a state of things that ought not to occur or to be tolerated in a civilized country; nor should the conditions that foster and promote a small-pox epidemic, such as that with which we are now threatened, be at all possible. Bad housing is at the bottom of most ill-health, bad morals, and the bad temper that, cumulatively and in bulk, leads to disastrous strikes and the frequent threat of revolution.

It is well that Parliamentary candidates should be heckled about housing; but the heckling should be done judiciously, and be free from all suspicion of self-interest. We regret exceedingly to be unable to accord that high praise to the programme of the National Federation of House Builders.

The President's Speech and Some Press Comments

Comparisons are not always odious. As a case in point, Mr. Paul Waterhouse, in comparing Paris with London, in the course of his presidential address, pleased the one without offending the other. Londoners, in fact, are as likely to be as pleased as Parisians by the casual but astute saying that "Paris is a large, a very large, country town, while London, however much its size were reduced, could never be a country town." It is a truth that could hardly have been expressed with more crisp felicity. Mr. Waterhouse would have been very much amused, by the way, by the cognate expression used in a recent advertisement of a residence for sale. The auctioneer described it as "a country house in town," and somehow it is easy to realize at once, in both instances, what is intended to be conveyed. In France, town and country merge without a perceptible break in character. In England, they are so sharply divided that the "town house" and the "country house" are as different in species as were, presumably, the town mouse and country mouse immortalized by the poet. But the great virtue of Mr. Waterhouse's comparison—an even greater merit than its aptness—is that it mightily took the attention of the lay Press. Some of the great London daily newspapers wrote leaders on that and on cognate themes, and very many newspapers in London and in the country thought it worth while to quote copiously from the president's speech; which, indeed, was as admirable in theme as in treatment. The leader in "The Daily Telegraph" took up, with approval, the president's parable concerning the hideousness of the suburbs of London, and more particularly the approaches to it. "And," our contemporary observes, "it is much the same with most of our big cities. One draws into them through approaches ragged and untidy at the best, and at the worst sordid and squalid." "The Morning Post" does not greatly encourage the idea of a grander London. "We are delighted," it says, "that o architects are so zealous in the great cause of maki London a comely city, and at the attention their words a receiving from our municipal governors and the great fir who have building ambitions. But how can archite construct if economists are out for destruction?" "T Morning Post" has for many years helped on the moveme for the popularization of architecture and town-plannin and richly deserves the same tribute which it now accor to Sir Aston Webb, Sir Reginald Blomfield, and Mr. Pa Waterhouse—that "they are undoubtedly compelling t citizens of London to interest themselves in the beautifyi of their city." May they all—newspapers included—s the fruits of their travail and be satisfied!

Planning "Licensed Premises"

The enquiry by the Ministry of Health into the Bourn mouth pavilion scheme has disclosed a point of which arc tects will duly take note. When, some years ago, t Bournemouth Corporation sought sanction for a loan £60,000 for the erection of a pier pavilion, the since defun Local Government Board imposed the condition that p sons should not be able to get intoxicants at the pavili bar without first paying an admission fee, and there see to be a disposition to revive this modified form of prohi tion. In the course of the present enquiry, the town cle suggested that the Ministry of Health need not deal wi this licensing question, but should leave it at the discreti of those familiar with local conditions, while the May thought that the building should be arranged simila to the London "corner public-houses," by which his worsh meant, presumably, to recommend the provision of separa entrances to be used respectively by those who go in simp for drink, and *ces autres* who enter with other objects view. Architects accustomed to plan "licensed premise need not be reminded that the designs must be in str accordance with the special requirements of the licensi justices, as well as of the local authorities; but "gene practitioners" having little or no experience of such wo as, say, the youthful winner of a competition for some s of refreshment pavilion, may not take it amiss to be advis of the desirability of taking counsel with all the authorit as to possible pitfalls and complications besetting t adventure. That otherwise he might have to alter his wo when he had thought it finished is rather less serious th the postponement of the date of opening, which would costly and vexatious to all concerned.

Society of Architects' New President

This may be said to be the season for presiden and this week we have to offer our best wishes a congratulations to the gentleman who has taken office at the head of the Society of Architects. T new president, Mr. E. J. Partridge, comes from Devonshire family, and served his pupilage in Mr. Merv E. MacCartney's office. Then for twelve months was busy acquiring a practical insight into building the office of a building firm, and after ten years as gene assistant took up practice on his own account. He pass the examinations of the Surveyors' Institute, and w admitted as an Associate of the R.I.B.A. in 1889. In 18 he became a Fellow of the same Institute. He won t Driver Prize, Crawter Prize, and Penfold Gold Med For fourteen years he was on the Council of the Soci of Architects, serving in all the honorary offices, and practice he occupied the position of architect and survey to the Richmond Board of Guardians, and a similar po tion to the Ham Estate of Lord Dysart. Among the wo designed and carried out by him are the Richmond Un Infirmary, dining hall, laundry, and stores, new board-ro offices, several branch banks, private residences, busin premises, shops, village halls, printing works, etc. He a undertook the survey of Morden Cemetery for the Batter authorities and the Chalkwell Hall Estate, Westcliff-on-S

Architects and Housing

By MAURICE E. WEBB, F.R.I.B.A.

“ As a profession we have missed a great opportunity and allowed the State Official to interfere in a matter which should ave been settled by the Architect and Builder. There is time yet to do something, but it is late in the day.”

Mr. Stanley Hamp.

THIS sentence occurred in Mr. Hamp's recent address at the A.A., during which he emphasized the need of recognition of architects by the public, and the necessity for architects to show some more practical way their interest in the needs of e community at large, before such recognition will be ly granted.

I ventured afterwards to mention the great effort which nerican architects have made in the matter of housing ce the war, by the formation of the Architects' Small use Service Bureau—an effort which has passed almost noticed in England. The editor of THE JOURNAL has asked to give further particulars, which I do, knowing full ll that there are many difficulties, and also that the nerican scheme may not be, and almost certainly is not, table without modification over here.

But the need, and this is Mr. Hamp's point, is so great, d the failure of the Government's scheme so complete, t it behoves architects to see whether they can now step and take a part in some constructive scheme for building re and better houses, and also by a co-operative effort enable the services of the architect to be secured by ry one who is building, even the smallest house.

As far as I can see this American scheme does two things. associates architects directly in the public mind with lding, and teaches them in a practical way the value of architect's knowledge to every one engaged in building, hout, in the case of the really small home or cottage, ping so deeply into their pockets for fees as to make the hitects' services for these a luxury instead of a necessity.

The result in America of the Architects' Service Bureau l, it is hoped, prove in the future to lead to an extension the architects' useful service to the community.

f a similar result could be achieved in England, archi- ts would benefit ultimately no less than the public, and builders would no doubt be prepared to co-operate, they have done in America for the same reasons. As a eral rule they wish to build well, and to build to good igns and well-thought-out plans, but for economy these st to some extent be standardized. They always have n in the days of the speculative builder, and in more ent times by the Ministry of Health. They always will Therefore America says, Let them be standardized by hitects, and let the public have every benefit of the t of our concerted knowledge and skill by the provision complete plans, specifications, quantities and details, ked out by us in co-operation and supplied at reason- e prices to those who cannot afford to employ us ividually for the cottage in the usual way. The doctors rate at the hospitals for nominal remuneration, and ain their livings by private practice outside amongst ir more fortunate patients.

The American architects' housing scheme seems to be ed on this underlying idea, and is at least worthy of ly over here, if not of exact imitation, with a view to sting the vitally pressing problem of adequate housing ur great cities.

t is impossible to explain the details of the American rt in a short article, but full particulars are given in the ceedings of the Fifty-fourth Convention of the American titute of Architects in the R.I.B.A. library, published in 1921. Very briefly they have mapped America out into thirteen divisions. Groups of architects in these divisions design various types of small houses, complete to the last detail, and sufficient to obtain tenders from. These groups are called Bureaux working under a central Bureau, which, in its turn, works under the auspices of the American Institute.

The Bureau has a small capital divided into $10 shares upon which 8 per cent. interest, and no more, may be paid to the members of the Bureau who are the shareholders. A book has been published containing 100 complete designs, with quantities, specifications, etc., for cottages, each design being sold separately for from $17 to $32. The names of the members of the Bureau are published as joint authors of the designs, but there is no individual advertising of any sort or description in the book other than the fact that it has been published for the Architects' Small House Service Bureau by the Southern Pine Association. The latter company have agreed to pay the cost of publication, to advertise it, and to put it into the hands of their seven or eight thousand dealers throughout the United States.

The contract with this company includes a clause to the effect that nothing whatsoever shall be done in the use of the book which is contrary to the professional practice and to the rules of the American Institute of Architects.

There is little doubt that immense trouble has been taken in the preparation of the plans and designs, and that real co-operation existed all through between the architects who supervised their making. Months were spent in collecting data of requirements, settling the types, and making and criticising the designs while in course of preparation. In England much of this spade work has, of course, been done, but it is doubtful if the public realize how much of it has been done by architects. In America, if this book receives the publicity it seems to deserve, the public can have no doubt in its mind to whom it owes a debt of gratitude.

If the book is successful it may even find its way over here; it would, at any rate, be interesting to see some of the plans published in this journal.

* * * * *

Apropos of Mr. Webb's foregoing article the following summary of a discussion which took place at the American Institute of Architects upon the report of the committee on Small Houses will be of interest.

The chairman of the committee, Mr. Edwin H. Brown, at the conclusion of the report moved the resolution :—

“ That the American Institute of Architects, in Convention assembled, hereby endorses and approves the formation and proposed operation of The Architects' Small House Service Bureau of the United States, Incorporated, and encourages it to carry on its programme with all dispatch and energy.

“ It further directs the Board of Directors of the American Institute of Architects to follow the work of the Bureau in detail, and, at its discretion, to take such active part in the management and control of the Bureau as it may deem advisable.

“ It further suggests to its Chapters that they take an active part in the formation of Regional and Branch Bureaux and do all in their power to make the work of the Bureau a complete success.”

The President: The resolution is before you. May I be permitted a comment upon the report to which you have just listened?

I told you yesterday morning that the Institute had honoured some of its committees charged with what it thought were forlorn hopes. We said to them, "Go ahead; we cannot finance you; we cannot help you, but we hope you will do something."

This committee goes ahead, and this is the result. I said they had gone to victory. I believe they have. The chairman in his report suggested that he would like to have every one of you buy a copy of the plans, or some of the plans. His thought was that you should test the completeness of their preparation to meet the demand that is made. I would like to amend that suggestion by saying that every one of you could well afford to have in your office a set of these plans, perhaps not to instruct you who are competent and accredited architects in how to make plans for a small house, but as a useful object lesson to the younger draughtsmen in your employ, to show how this sort of thing ought to be done. The plans, the specifications, the entire preparation of it is an admirable piece of work. I had the pleasure of inspecting some of them in Minnesota last winter, and of seeing a number of them since, and I think it is a splendid achievement. The Institute may well be proud of what has been done.

Mr. Holsman: I have had some experience in the matter of small house designing, where it has to do with individual ownership, and I think this is an admirable thing for the American Institute of Architects to do, to give proper attention to the design of small houses, and I heartily concur with the first paragraph, which reads as follows:—

"The architect, if he is to maintain his position as the designer and supervisor of buildings, must pay attention to the problem of a small house, the home of the family of small income and simple tastes."

Gentlemen, with all this admirable work that has been done magnificently, when it came to my attention a month ago I was a little surprised to find that the name of no architect appeared on any of the designs which were promulgated by the Small House Bureau, under the auspices of the American Institute of Architects. The writer of this report evidently feels that the architect still ought to maintain his position as the designer and supervisor of buildings.

This is the point I want to emphasize here. Is there not some way the American Institute of Architects can recognize the fact that every building is designed by some person, that architecture is not rendered by a corporation, that at least the fine art of architecture is not practised by a corporation?

Moreover, while we are doing a public service, do we not want to do a service to the profession, or to the professional architects as individuals? It is recognized in the first part of this report that when the name of an architect appears on the drawings, when the small house is built, or when the man builds a small home for the first time, probably, and comes in contact with a smart young architect, he makes a contact with a professional man, and when he comes to build a larger building, a factory, or another residence of a larger size, he remembers that personal contact, and he goes to that man, who has probably advanced considerably since the first time he came in contact with him, to get him to do the balance of his work.

Mr. Pfeiffer: Objection has been raised that by this service you may remove the possibility of practice from those who now make a speciality of rendering service for small house builders. There is absolutely nothing in the plan which prevents such a specialist from organizing a new district. He is invited to do so, and I am sure he will receive all assistance, all kindness, all the collective experience of the Minnesota district to aid him. I do not see why there is objection to the plan suggested by Mr. Brown. Instead of individual responsibility, there is responsibility of a combination of professional men, under the auspices of the American Institute of Architects, and what better can the country want?

Mr. Litchfield. A great many of us for years have wondered what could be done to improve the small house architecture of the country. We have only to take an extended journey in any direction to be overcome with the poor character of the small house. This organization, which is proposed, offers a practical solution of a problem which ought to be very much at the hearts of all of us.

But there is one question which, it seems to me, has not been answered, and I hope Mr. Brown will have the answer. It seems to me that this corporation is going to be a great success. They will do a very large business. I should like to know whether it is a benevolent or a semi-benevolent corporation, and if it is not, whether the Institute is to profit by it, and if not, who?

Is it an organization proposed for the purpose of practically enabling the architects of the country to do this class of work at a reasonable return, or is it an organization which is primarily instituted to do a great work in the uplift of taste and living conditions? Perhaps it is both.

If it is the first, that is to say, if it is an organization so arranged as to permit the architect to give his service at a reasonable return, is it something which ought to be financially fathered by the Institute? If it is a semi-benevolent organization, should there not be some understanding that the charges are to be only sufficient to pay the expenses?

Mr. Brown: I did not want to go into too much detail before, because the whole matter has been carried out along the lines presented to the Convention last year.

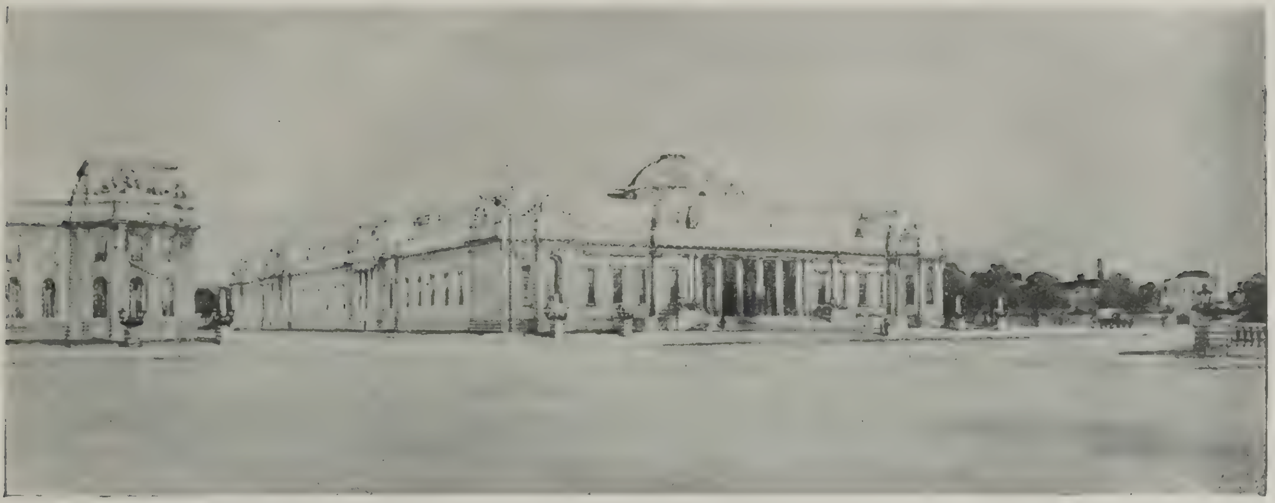
However, in the certificate of incorporation, dividends upon the stock are limited to 8 per cent. The regional bureau stock is to cost $100 a share, which a man must pay to join the Bureau. The United States bureau stock, the central bureau stock, is to cost $10 a share, and a man must pay $10 for one share to join the bureau.

Each man joining is supposed to join both a regional bureau and the central bureau, and his investment is $110. He can make 8 per cent. on $110. You can figure that, probably, as quickly as I can, as to how much he will make out of that.

The price for the sale of the plans has been set at a point where it is thought it will pay the necessary expenses of the operation of the whole proposition.

The certificates of incorporation of both the regional bureaux and the national bureau state that if the returns from this go beyond this dividend of 8 per cent. upon the small capitalization, all the surplus shall be turned into, first, improving the service, to give as complete service as possible, all the things we cannot do now because we have not any money; then, after we have reached the point of perfection there, as nearly as possible, we shall keep pulling down the cost of that service to the small home owner.

It is a benevolent proposition. It is a very benevolent proposition on the part of the Institute, and at the same time it is not a bad business proposition for any architect who goes into it, because it provides a means of paying him enough for the work he does, so that it will be of interest to him to devote his best talents to it. If he does not do the work, he does not get any pay. If he works a lot, he will get paid for the work he does on a perfectly fair basis, and the Board of Directors of the American Institute of Architects, without being involved financially, without having any legal responsibility therefor, can say, "You are paying these men too much," or "You are doing it this way or that way," and they can stop it, or make it go any way they please. They can see that it is benevolent, and it has the unusual advantage of a benevolent association which will pay the people who are doing the work enough to make it worth their while to devote some time to it.



THE ORIGINAL DESIGN SUBMITTED IN OPEN COMPETITION BY THE ARCHITECTS.

The Welsh National Museum

By W. S. PURCHON, M.A., A.R.I.B.A.

DURING the last few weeks considerable interest has been aroused in Cardiff by the removal of the hoarding round the Welsh National Museum and the consequent revealing of the whole of its southern façade. The effect of this on the general appearance of the Cathays Park group is so striking as to have caused considerable local comment from both architects and non-professional critics.

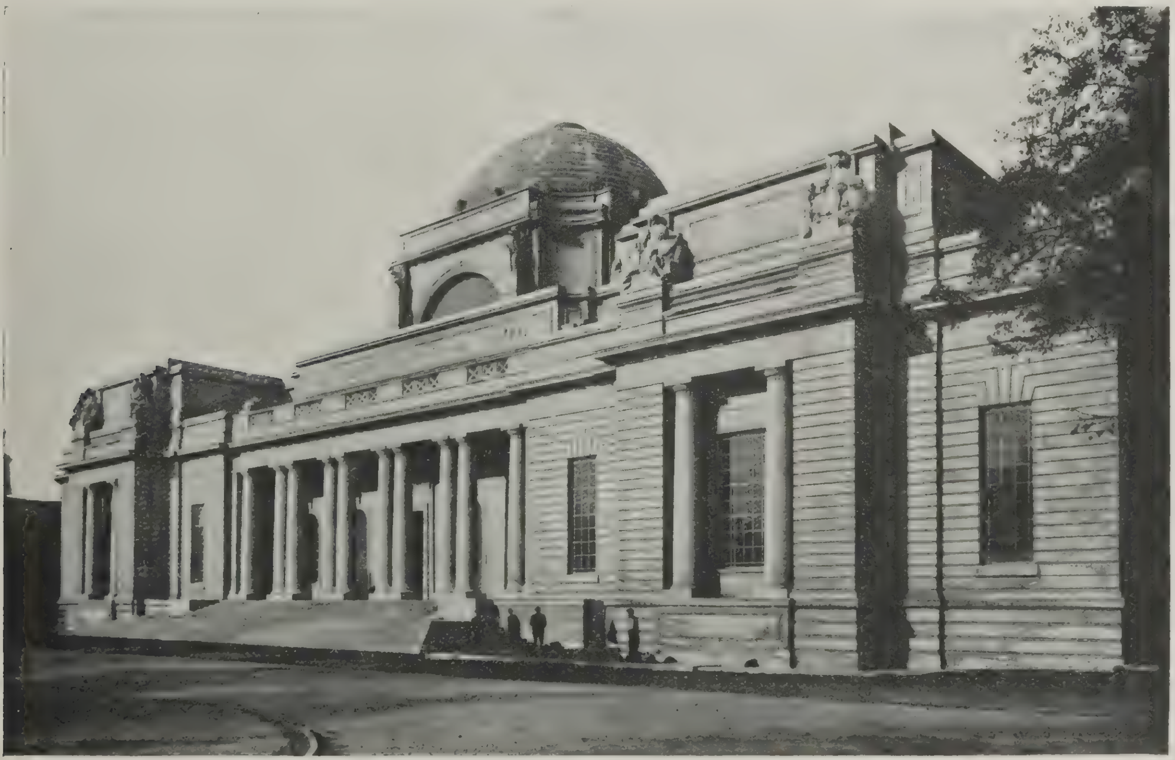
On Friday, October 27, the Right Hon. Lord Treowen, C.B., C.M.G., presided at the fifteenth annual meeting of the Council of the Court of Governors of the Welsh National Museum, and was supported by the Right Hon. Lord Pontypridd, D.L. (the first president), Mr. Illtyd Thomas (treasurer), the Right Hon. the Lord Mayor of Cardiff (Councillor F. H. Turnbull), Sir Goscombe John, R.A., and about thirty members of the Court hailing from all parts of Wales.

The members of the Court of Governors were afterwards entertained to lunch by the Lord Mayor of Cardiff, and in a subsequent speech Lord Treowen congratulated the surviving architect, Mr. A. Dunbar Smith, on having endowed Wales with such a monument of his genius.

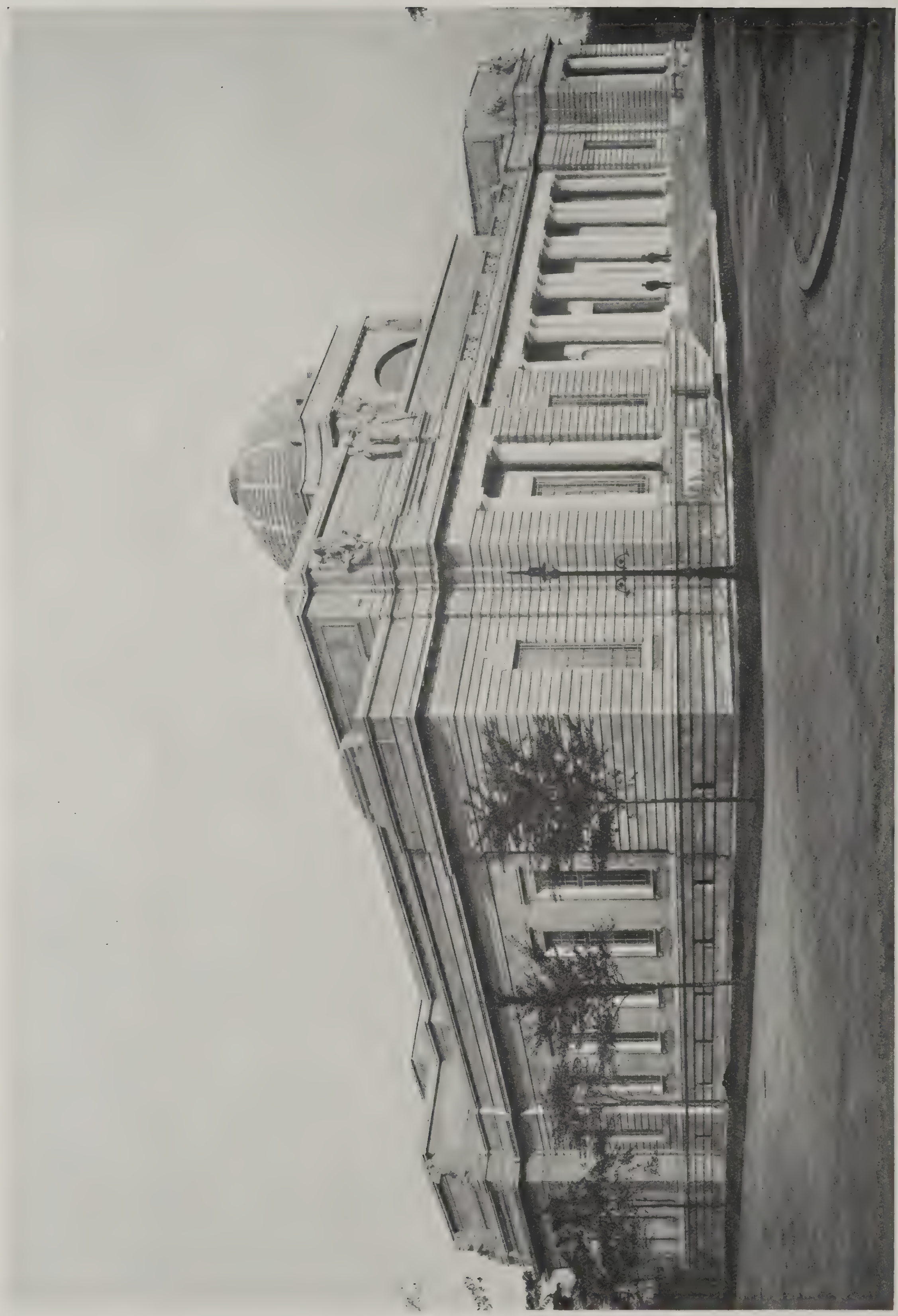
Following the lunch the members of the Court proceeded to an informal inspection of the building and of the valuable collections of Welsh antiquities, pottery, geological, biological, and natural history exhibits and art treasures which have already accumulated.

On Saturday morning, October 28, at 10 a.m., without any flourish of trumpets, the doors of this great building were opened to the public for the first time, and during that day some three thousand persons visited the Museum, while in the two-and-a-half hours during which it was open on the Sunday afternoon the building and its contents were examined by 1,700 visitors.

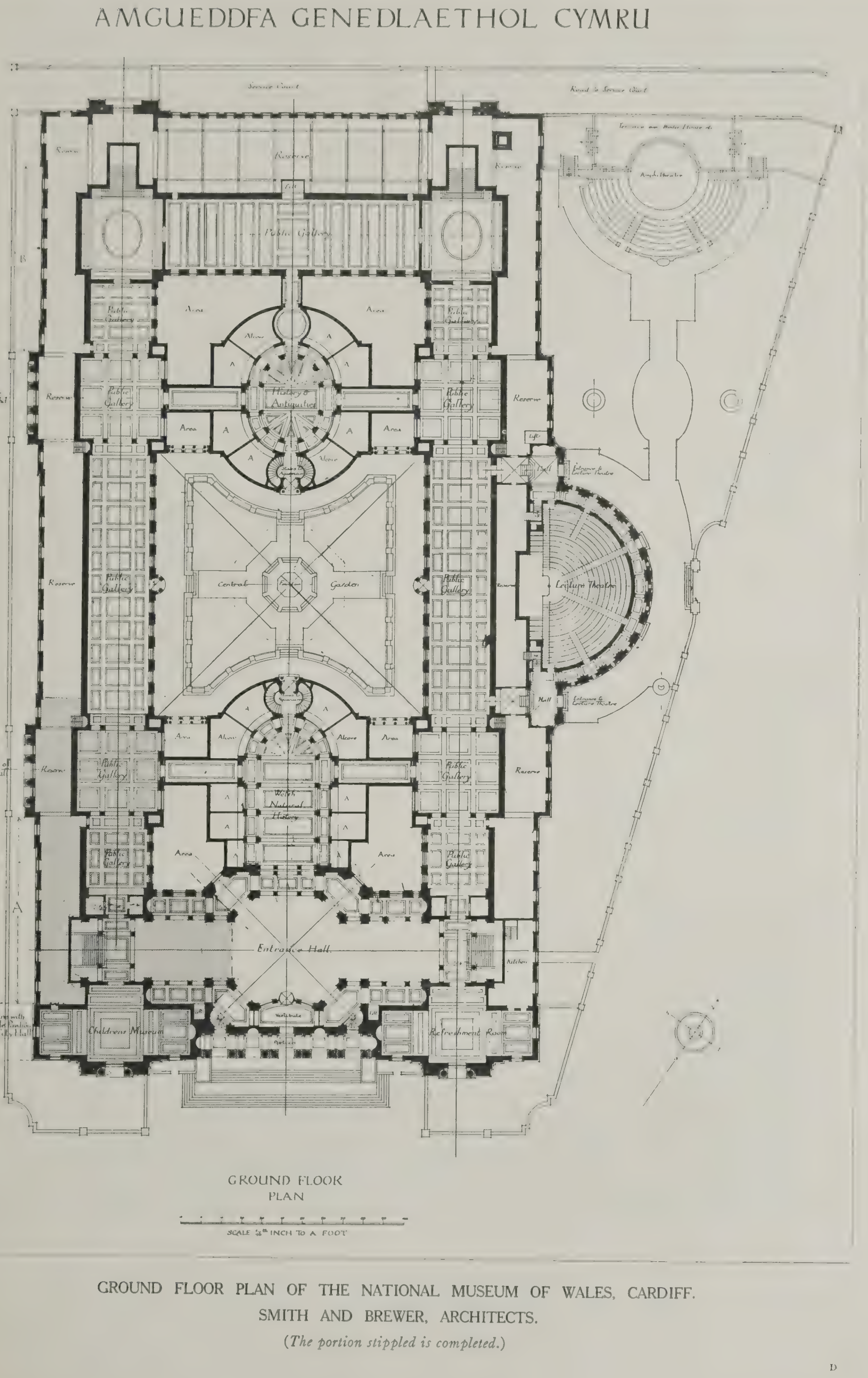
In view of the opening of the Museum a brief note on its history may not be without interest. Some twenty-seven years ago a few enthusiasts raised, in the House of Commons, the question of the provision of a Welsh National



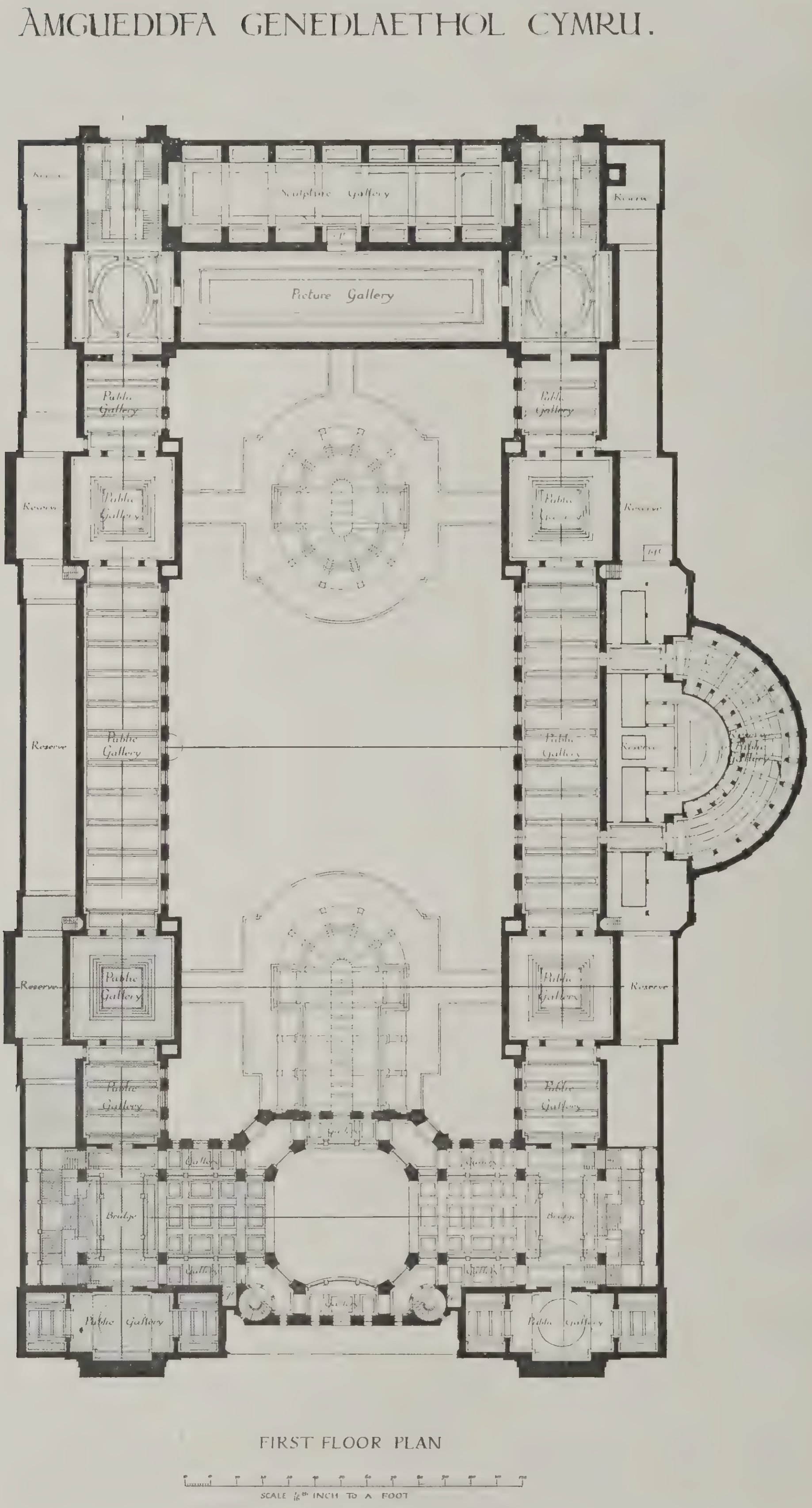
VIEW FROM SOUTH-EAST. SMITH AND BREWER ARCHITECTS



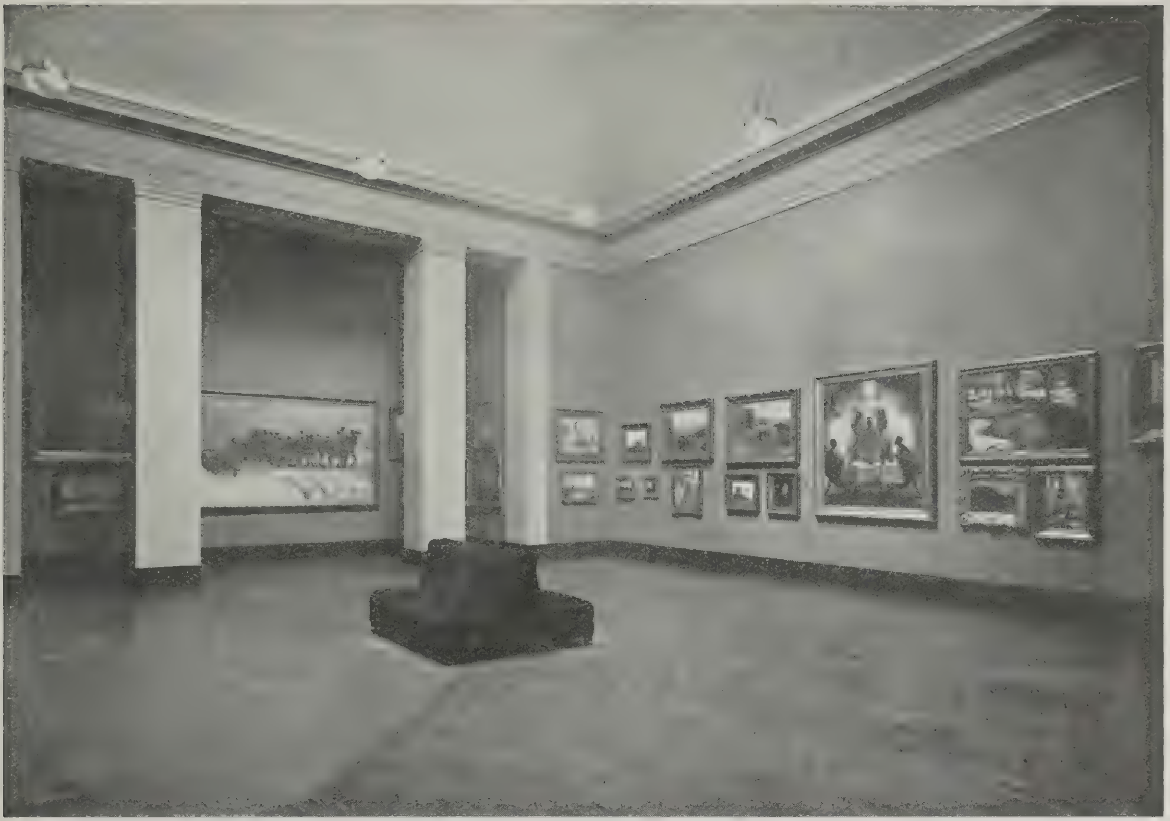
THE NATIONAL MUSEUM OF WALES, CARDIFF: VIEW FROM SOUTH-WEST.
SMITH AND BREWER, ARCHITECTS.



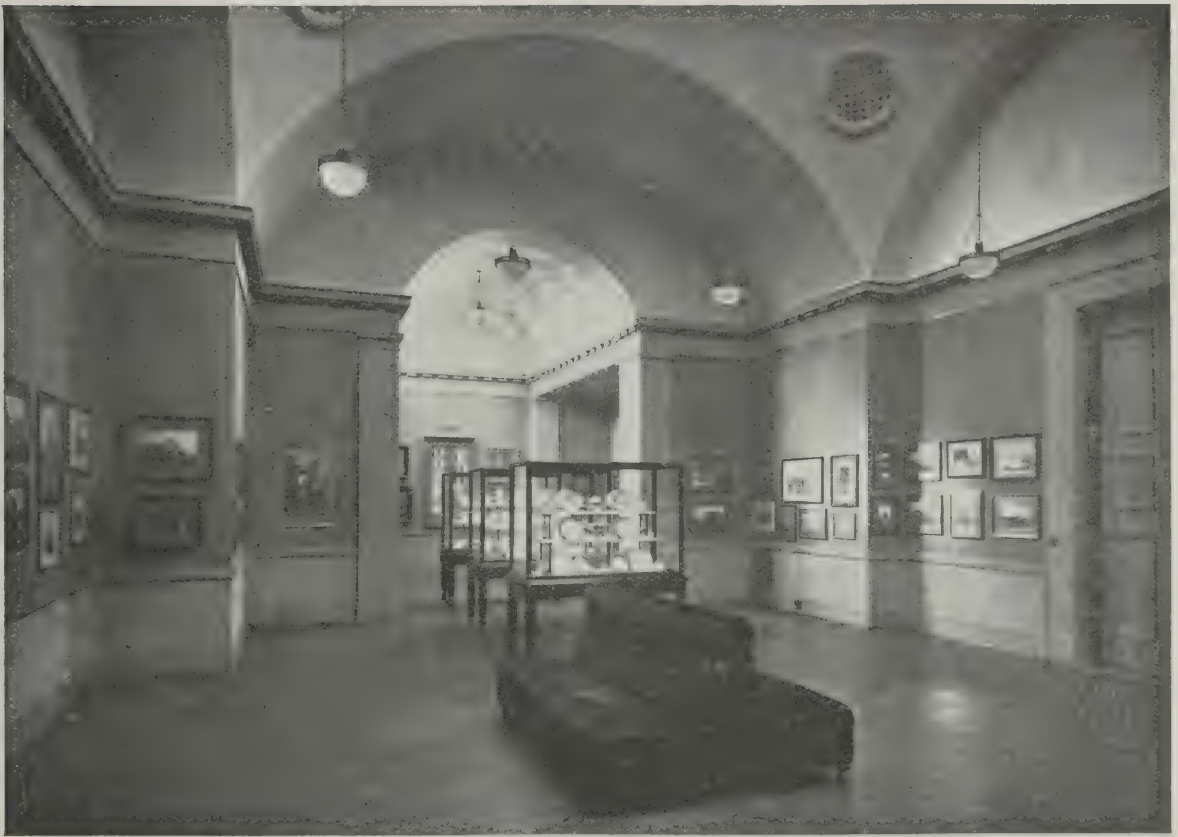
GROUND FLOOR PLAN OF THE NATIONAL MUSEUM OF WALES, CARDIFF.
SMITH AND BREWER, ARCHITECTS.
(The portion stippled is completed.)



FIRST FLOOR PLAN OF THE NATIONAL MUSEUM OF WALES, CARDIFF
SMITH AND BREWER, ARCHITECTS.
(The portion stippled is completed.)



COLLECTION OF OIL PAINTINGS.



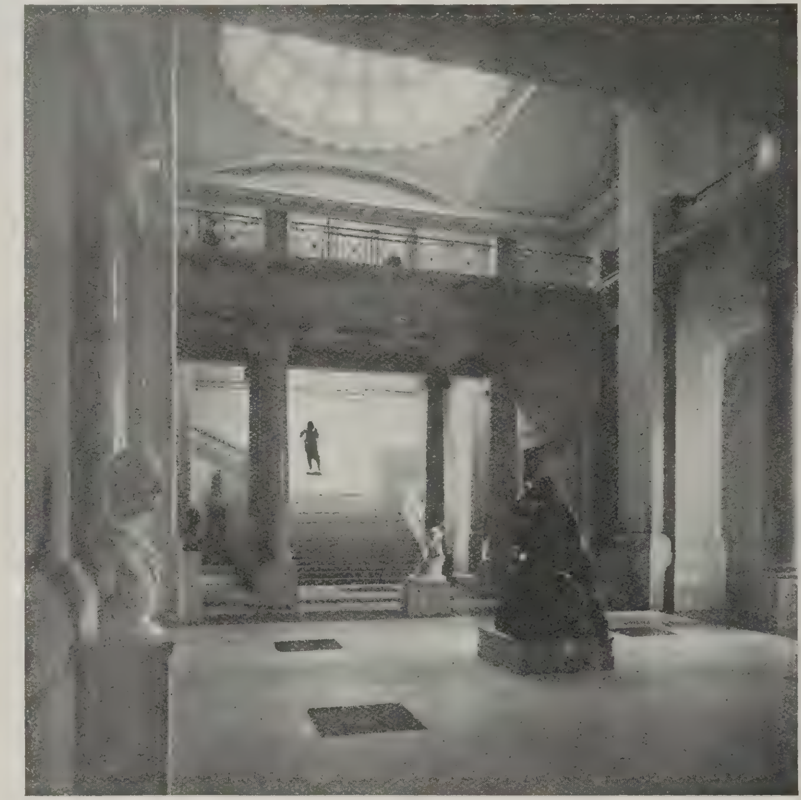
COLLECTION OF WATER-COLOUR PAINTINGS, AND SWANSEA AND NANTGARW CHINA.

TWO ROOMS IN THE ART SECTION, THE NATIONAL MUSEUM OF WALES, CARDIFF
SMITH AND BREWER, ARCHITECTS.

Museum, and after long discussion the matter was brought to a head on March 10, 1903, when a resolution approving the scheme was moved by the late Mr. William Jones, seconded by Mr. J. Herbert Lewis, and supported by Sir Alfred Thomas (now Lord Pontypridd) and others.

On March 19, 1907, the Royal Charter defining the objects of the Institution and its mode of government was granted by His Majesty King Edward VII.

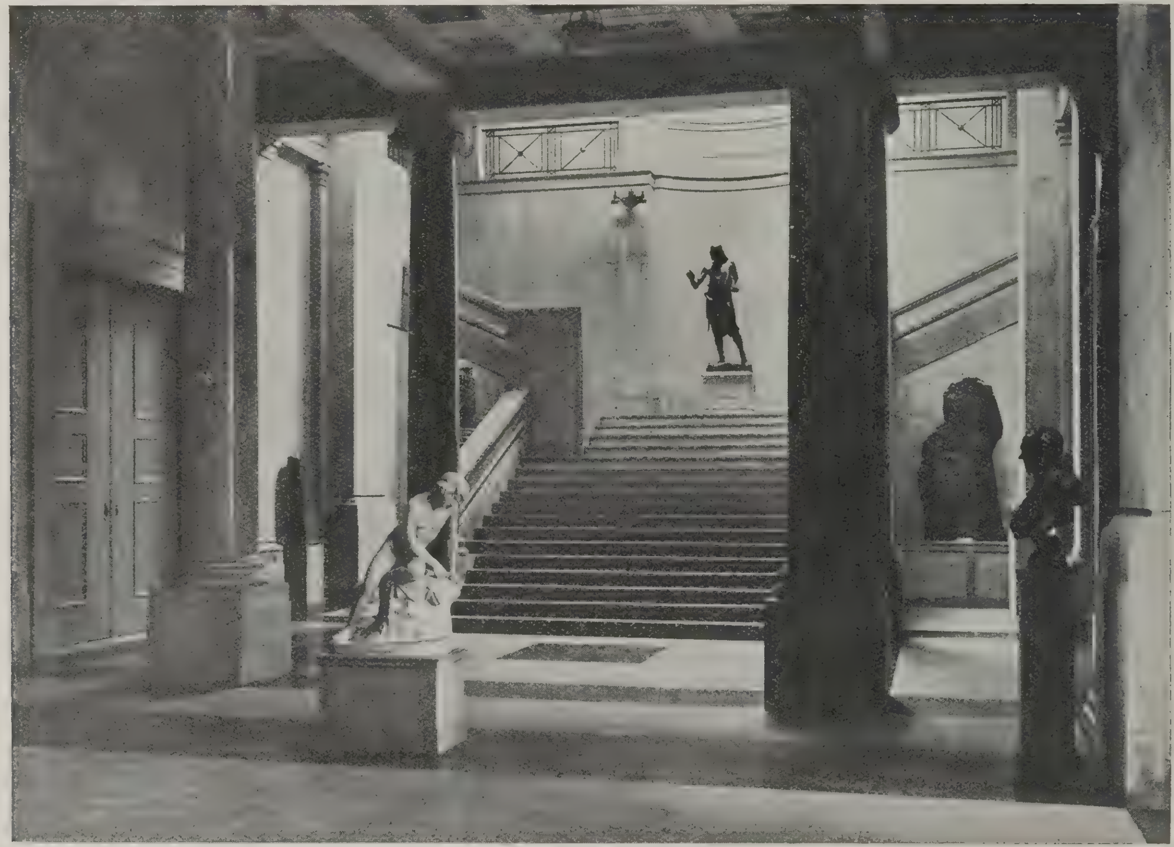
An open competition for the building resulted in the submission of one hundred and thirty designs, the first place being awarded to Messrs. Smith and Brewer by the assessors, Sir Aston Webb, Sir J. J. Burnet, and Mr. E. T. Hall. Building operations commenced in 1910, and on November 6, 1911, His Majesty King George V granted a supplemental charter extending the powers previously sanctioned, and was graciously pleased to signify his special interest in the Museum by laying the foundation stone on June 26, 1912. Work continued steadily until 1915, but then, owing to the war, building operations ceased, and were not resumed again until 1920.



THE WEST END OF THE ENTRANCE HALL.

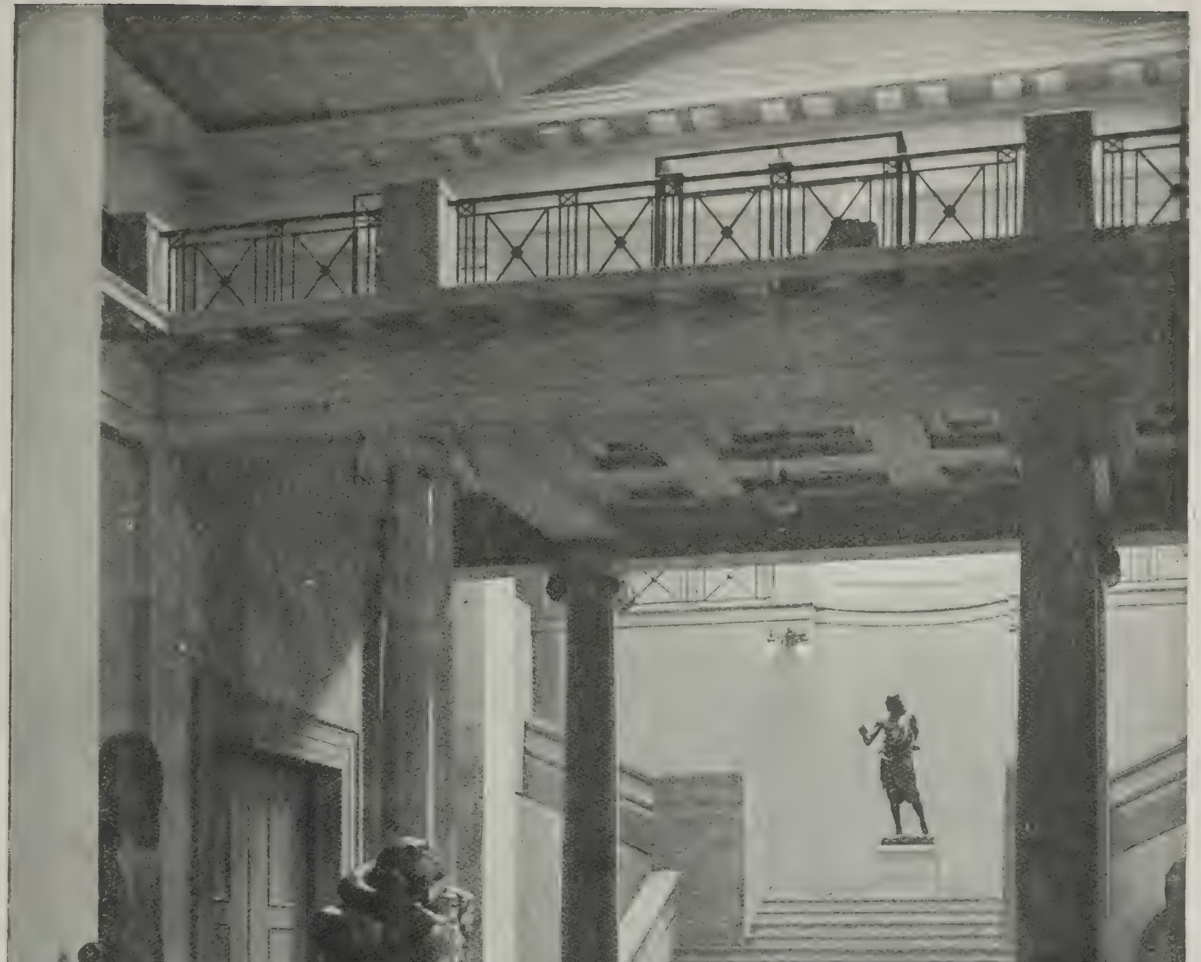
In the City Hall there is an extremely interesting model of the complete design for the Museum, and a comparison of this with the actual building shows that the foundations for about half the building have been put in, that nearly a quarter of the superstructure, in an incomplete state, including the whole of the southern front, has been erected, while [the portion now completed and opened to the public is about one-tenth of the complete scheme, and is situated in the south-west corner of the block.

The building will ultimately use very completely a site about 4¼ acres in extent. In the early stages of the preparation of the design an attempt was made to set back the west front in line with the façade of the University College of South Wales and Monmouthshire, so that the space between the Museum and the City Hall would more nearly balance that between the latter and the Law Courts. This had, however, to be abandoned as impracticable, as it reduced excessively the space available for the Museum, and it seems clear that any possible objection which may be raised to this advance in front of the general building line set by the college façade in



THE WEST STAIRCASE.

THE NATIONAL MUSEUM OF WALES, CARDIFF. SMITH AND BREWER, ARCHITECTS.



THE NATIONAL MUSEUM OF WALES, CARDIFF: THE WEST STAIRCASE AND BRIDGE.
SMITH AND BREWER, ARCHITECTS.

Museum Avenue may be overcome by a balancing projection in future buildings at the northern end. The southern front is in line with the City Hall and Law Courts, and the heights of the plinth, cornice, and parapet of those buildings have been followed, but no attempt was made in the final design, and wisely so, to approximate more closely to their design.

The leading motive of the plan is a large interior court 307 ft. long by 134 ft. wide, surrounded by the public galleries on two floors, while outside the public galleries is the space for the reserve collections with a mezzanine floor between the ground and first floors. This arrangement of the public galleries allows of the freest possible circulation on the ground floor, enables the maximum use to be made of the central garden, and permits of two floors of ample height without carrying up the external walls higher than those of the adjoining building.

The magnificent entrance hall under the dome and two fine rooms to the west and east, intended for a children's museum and refreshment-room respectively, occupy the south front, while immediately opposite the entrance is to be the Welsh Natural History Pavilion, designed for the display of the habitat groups in specially lighted alcoves. At the north end of the central court there is to be a similar pavilion for history and antiquities, while between them, in the centre of the basement, will be the aquarium. The lecture theatre, with its separate entrances, exits, and cloakrooms, is arranged on the east side, while in the north-east corner of the site it is proposed to erect an open-air theatre, constructed entirely of stone, and intended primarily for Welsh national folk-songs and dances. In the completed scheme the total superficial area in the public galleries and in the reserve galleries will be 81,000 ft. and 50,000 ft. respectively.

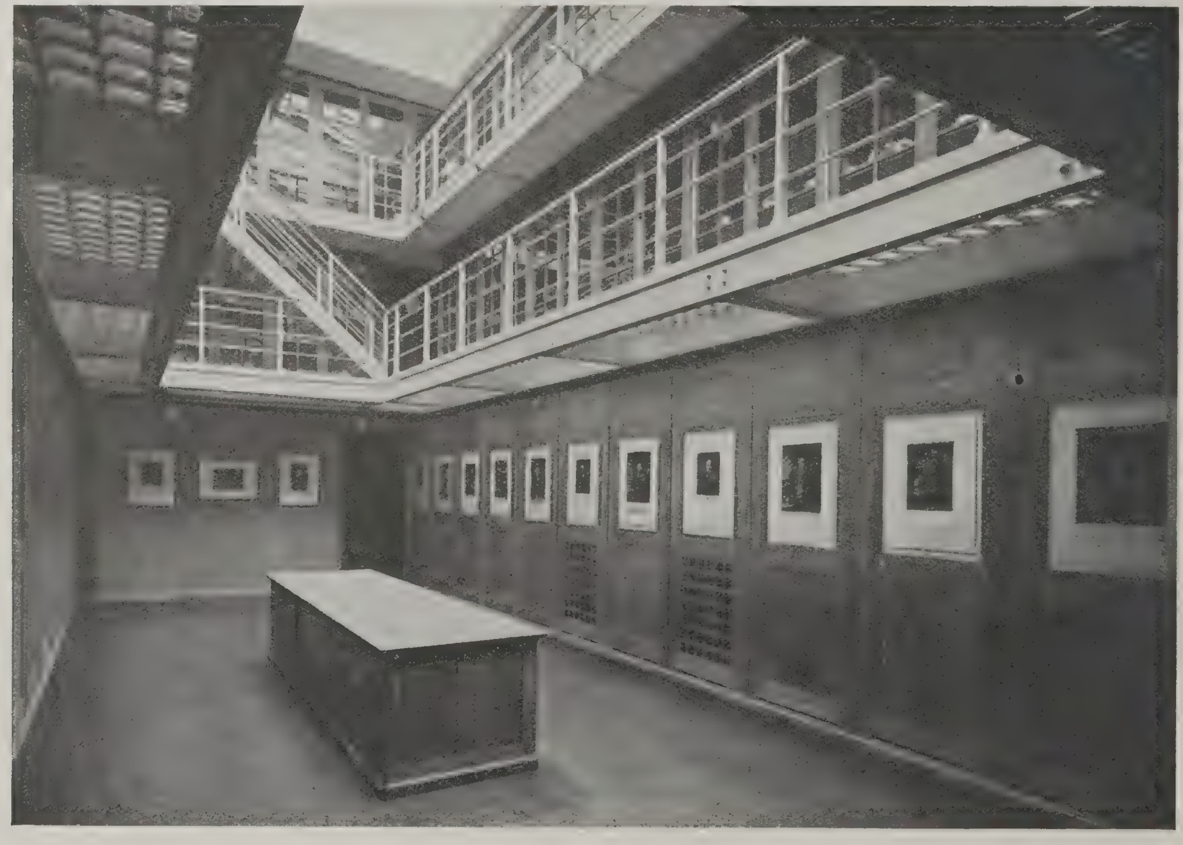
The administrative block, with library, committee-rooms, and offices, is arranged round the dome on the second floor; the basement is occupied by workshops, stores, and cloakrooms; and the sub-basement is used only for engineering plant, pipes, and the great ventilating trunks which carry the air to and from the vertical ducts in the walls.

A combined system of inlet and extract ventilation has been adopted, the fresh air being admitted through water-screens in the basement, and then forced by electric fans through ducts leading to the various rooms. The vitiated air is similarly drawn through ducts to the extract fans and thence discharged through main extract shafts leading to the top of the building. In cold weather the fresh air is warmed by passing over steam-heated batteries. The only chimney is the shaft from the boiler-house.

It is interesting to note that in the original perspective projecting bays, somewhat similar in outline to those of the City Hall, were used at the ends of the southern façade; that these were abandoned at a later stage, as shown by the model; while the windows shown in the latter in the end bays of the side elevation have been omitted with great gain to the strength of those façades.

In the early perspective the dome was less lofty and single columns were used in the entrance portico in the centre of the south front. This is now ably treated with a coupled Doric order, and is flanked by pavilions crowned by four groups of sculpture, the western pair, representing the Prehistoric and Classic periods respectively, being by Gilbert Bayes, while the eastern groups, executed by Richard Garbe, represent the mediæval and modern periods. The two groups on the western façade (facing the City Hall), representing mining and shipping, are the work of Thomas J. Clapperton, and are remarkable for their extraordinarily high architectural quality. The lions and dragons buttressing the dome are by A. Bertram Pegram.

In conclusion, it may be said that not only is the National Museum of Wales one of the noblest buildings in the country, but it will also rank as one of the most important educational influences of the Principality, for by its collections specially arranged to meet the needs of investigators, students, and school children, as well as by its loan collections and library, it will be the natural complement and helpmeet of the University of Wales, with its constituent colleges and numerous other educational institutions. It is sincerely hoped that the interest which has been aroused by the opening of the Museum will lead



THE NATIONAL MUSEUM OF WALES, CARDIFF: RESERVE COLLECTION OF PRINTS AND WATER-COLOUR DRAWINGS.
SMITH AND BREWER, ARCHITECTS.

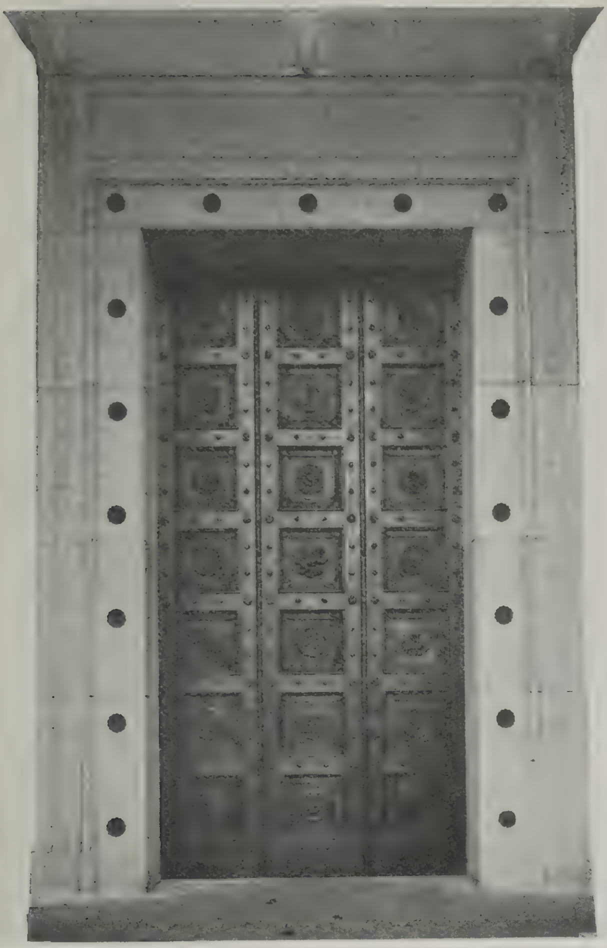
to such an accession of funds that further portions of the building may be completed.

Messrs. Joseph Armitage, George Alexander, and Harold Stabler were responsible for the general modelling work.

The contractors for the foundations up to 6 ft. above the ground level were Messrs. E. Turner and Sons, of Cardiff, while the superstructure has been erected by Messrs. H. Willcock & Co., of Wolverhampton. The consulting engineers for the steelwork were Messrs. Reade, Jackson, and Parry.

The sub-contractors were as follows : Val de Travers (asphalt) ; Portland Stone Firms (stone) ; John Freeman and Sons & Co. Ltd. (granite) ; Glengarnock Iron and Steel Co., Ltd., A. Dawnay and Sons, Ltd. (steelwork) ; H. Willcock & Co. (fireproof floors, partitions, and cast lead roofing) ; Martin Van Stratten, Art Pavements and Decorations, Ltd. (wall and floor tiles) ; Henry Hope and Sons, Ltd., Crittall Manufacturing Co., Ltd., John Williams and Sons (Cardiff), Ltd. (casements and casement fittings) ; Mellowes & Co., Ltd. (patent glazing and fittings) ; H. Willcock & Co., H. J. Cash & Co. (plumbing and sanitary work) ; A. Emanuel and Sons, Ltd. (sanitary ware) ; Bassant Bros., Ltd. (wood flooring) ; Fenning & Co., Ltd. (monolithic column piers, with carved capitals throughout the ground floor and decorative work to staircase, paving, steps, and skirtings, etc. throughout the various galleries ; Korkoid and Ruboleum Tile Co., J. Howell & Co., Ltd. (linoleum flooring) ; Fred Price & Co. (1920), Ltd. (electric wiring) ; Joseph Armitage (plaster work) ; H. Willcock & Co. (print room fittings) ; Crittall Freeman Bronze, Ltd. (bronze entrance doors) ; F. Geere Howard, Ltd., H. W. Cashmore & Co., Ltd. (electric light fixtures) ; Charles Smith, Sons & Co., Ltd. (door furniture) ; J. W. Singer and Sons, Ltd., Gardner, Sons & Co., Ltd. (handrails, balusters, etc.) ; Kingsmill Art Metal and Electrical Co. (gates) ; Arthur Sanderson and Sons, Ltd. (wall hangings) ; H. J. Cash & Co., Ltd. (heating and ventilating) ; Guynan and Son, J. Howell & Co., Ltd. (blinds) ; J. W. Gray & Co. (lightning conductors) ; Dreadnought Fireproof Door, Ltd. (fireproof doors) ; J. J. Hill and Son, John Norman, Ltd. (specimen cabinets).

Mr. R. Howard Fletcher, B.A., was consulting electrical engineer and Mr. T. J. R. Kiernan, B.Sc., consulting engineer for the heating and ventilating.



BRONZE DOORS AT THE NATIONAL MUSEUM OF WALES, CARDIFF.

The Architecture Club

THE Architecture Club held its second quarterly dinner at the Hotel Cecil on Friday evening last, Mr. J. C. Squire, Chairman of the Club (accompanied by Mrs. Squire), presiding. There was a good attendance of members and their guests, including Lord Gerald Wellesley, Sir John Burnet, Sir Frederick Radcliffe, Sir Lawrence and Lady Weaver, Sir Robert Lorimer, Sir Edmund Phipps and

Mr. Charles Aitken,
Mr. William Archer,
Mr. Maxwell Ayrton,
Mr. and Mrs. Oswald Barron,
Mr. Hilaire Belloc,
Mr. and Mrs. Gerald Bishop,
Mrs. James Bone,
Mr. Darcy Braddell,
Mr. Walter H. Brierley,
Mr. Arthur J. Davis,
Mr. C. F. W. Dening,
Mr. Rudolf Dircks,
Mr. A. Trystan Edwards,
Mr. J. H. Elder-Duncan (Secretary),
Mr. H. M. Fletcher,
Mr. G. Topham Forrest,
Mr. Geoffrey Fry,
Mr. Kruger Gray,
Mr. and Mrs. Curtis Green,
Mr. and Mrs. Austen Hall,
Mr. Howard Hannay,
Mr. W. Alexander Harvey,
Mr. Ambrose Heal,
Mr. C. Lewis Hind,
Mr. Lewis Hind,
Mr. Charles Holden,
Mr. and Mrs. Morley Horder,
Mr. G. J. Howling,
Mr. F. Ernest Jackson,
Mr. and Mrs. Ralph Knott,
Mr. John Lane,
Mr. A. G. R. Mackenzie,
Mr. H. C. Marillier,
Mr. Charles Marriott,
Mr. Edward Marsh,
Mr. and Mrs. Edward Maufe,
Mr. H. P. G. Maule,
Mr. and Mrs. Oswald P. Milne,
Dr. J. F. Muirhead,
Mr. George Murray,
Mr. W. G. Newton,
Mr. Leonard Pearson,
Mr. R. Randal Phillips,
Mr. Paul Phipps,
Mr. Nigel Playfair,
Mr. W. T. Plume,
Mr. Leonard Pomeroy,
Mr. A. R. Powys,
Mr. Geoffrey Raphael,
Professor and Mrs. Rothenstein,
Col. L. W. Sayers,
Mr. G. Gilbert Scott,
Mr. H. Hughes Stanton,
Mr. Walter Tapper,
Mr. E. R. Thompson,
Mr. Philip Tilden,
Mrs. Arthur Vigors,
Mr. Clough Williams-Ellis,
Mr. C. A. Wilkinson,
Mr. Hubert Worthington,
Mr. Percy Worthington.

After the toast of " The King " had been honoured,

Mr. Charles Aitken, proposing " The Club," expressed much pleasure in addressing " the carefully selected company that had passed through the needle's eye of the Executive Committee and ' The London Mercury.' " Mr. Aitken observed that if they could organize effectively against the perpetration of architectural horrors they would be doing a very useful public service. He suggested that the Club might act as a consultative body for the benefit of architects themselves, offering a friendly expression of opinion on designs before they were put up. He commended the course that Mr. Ralph Knott had taken in making use of the decorative painter at the County Hall.

Mr. G. Gilbert Scott, replying, said the public could not get away from architecture, so they might just as well take an interest in it, and this was no doubt the idea behind the Club. But there was a danger of too much talk. In the Middle Ages there was less thinking and talking and more doing. Perhaps if we stopped thinking and talking and felt a little more we might do better work. In the past the arts were predominant ; but the great force of science had swept over the world, and the arts were now taking second place. An important point about the Club, continued Mr. Scott, was that it was not a mutual admiration society. It was going to have a great influence on public opinion in the matter of architecture. The correspondence in " The Times " on war memorials was due in some measure to the Club. The Press was at last waking up. Mr. Scott confessed that on the question of design he valued the opinion of the man-in-the-street much more than that of the "high-brow." An ignorant committee had an uncanny knack of putting the finger on the weak spot of a design; and, although one might try to bluff them, one felt instinctively they were right.

Mr. Oswald P. Milne, proposing "The Guests," said it was a great encouragement, amid the excitement of a General Election, to see so many distinguished guests present at that dinner. If they could find time to come to a gathering of that sort, it showed that architecture was more important than politics. Many people, continued Mr. Milne, regarded architecture as an anachronism in modern life. During a recent dinner of his old school he met an old friend who told him of a mutual acquaintance who had become a chartered accountant, made a fortune, and retired when only just on the wrong side of forty. His friend's conversation clearly showed that he regarded chartered accountants as much more important members of the community than architects. But buildings would remain long after ledgers had disappeared.

THE ARCHITECTURE CLUB MENU CARD.
FROM A DRAWING BY KEITH MURRAY.

Professor W. Rothenstein, replying, put in a vigorous plea for the modern movement in painting. The English, he said, was by far the most original painting now being done in Europe; and it was a duty incumbent upon them all to see that the best men got the praise and the work. But was this being done? In his experience it was not. It was unfair that men of parts should have to stand aside and not be used. It was absurd to accuse these young men of being Bolshevists. The imperative duty was constantly to praise good work.

Mr. Hilaire Belloc, who also responded, observed that to the outsider to-day there was chaos in architecture. Anything could be built, but nearly always you would find a past style. This was due partly to the lack of a common philosophy, partly to the facility with which material things could be accomplished, and partly to the fact that the ordinary man no longer had the power of demand. In his part of the country, for instance, people wanted the old kind of cottage, but were compelled to put up with such things as head-room, cubic space, and stagnant and fetid air up against the ceiling. Mr. Wells, in his "History of the World" ("a large subject," commented Mr. Belloc, drily), had a powerful phrase which he had got, he believed, from the Chinese: "There are times of confusion in the story of the human race." That applied to architecture to-day. Nothing was stable. But confusion would not last: fatigue would inevitably result. Some sort of law would return. The trouble was that the power of demand was in too few hands. There was no part of London that could not be rebuilt at that moment, if there were a desire to do it; but people would at once begin to talk about expense. "Nonsense!" cried Mr. Belloc. "'Take it from me,' as Moses said as he came down from Sinai; you can rebuild anything you like without impoverishing the community or making it economically poorer. Begin right away by making some part of London monumental. It can be done."

Mr. J. C. Squire said he now proposed to give them a few facts, as such things had not so far been very conspicuous; and with this he coupled especially the name of Mr. Hilaire Belloc. (Laughter.) The Club, continued Mr. Squire, was indebted to Mr. Max Ayrton for the gift of the menu card with Mr. Keith Murray's drawing upon it (reproduced on this page). Mr. Ayrton had their best thanks. Dealing with the progress of the Club, Mr. Squire said it had been decided to limit it to 300 members—one-third architects, one-third writers, and the remainder persons interested in architecture and capable of supporting the cause; 150 had already been elected, another 150 would be elected at the rate of not more than ten a month. In the first 150 they had a full quota of architects and writers, but there was still room in the third category. The Club, he continued, had already done much good. They had had an outburst of notice of architecture in the Press such as had not been seen in a lifetime. The club had its scouts in almost every important newspaper office in the country. Dealing with prospective events, Mr. Squire announced that for the Spring Exhibition the Duke of Westminster had kindly promised the loan of Grosvenor House for a fortnight, free of charge. Referring to the recent sale of Stowe House, Mr. Squire reminded his hearers that the famous avenue there had been acquired by a member of the Club, Mr. Clough Williams-Ellis, who the next day had an offer for it from a timber merchant! Mr. Williams-Ellis was quite willing to pass on his honourable burden to someone else. Here was an opportunity for the great landlords of Buckinghamshire to acquire the avenue and restore it to the house. Mr. Squire mentioned that the Club had taken steps to raise a sum of £500 to put the garden temples and ornaments of Stowe into good repair.

Sir Lawrence Weaver, proposing "The Future of the Arts," said that that future, so far as they were concerned, appeared to be that they should meet and dine four times a year, while Mr. Squire appealed for a sum of £500! He disagreed with Mr. Scott that we talked too much and that little talking was done in the past. The most interesting conversation he had ever missed was that which took place when Sir Christopher Wren went with John Evelyn and Samuel Pepys to see Chelsea Hospital. Mr. Belloc, said Sir Lawrence, was an optimist if he expected to see a unified style of architecture. What they must expect to see in the future was a style made up of tradition and invention in just combination. Mr. Charles Marriott, replying, said he had no faith in any definition of art that excluded the man with the hammer and the man with the hoe.

Some London—and Other—Problems

Mr. Paul Waterhouse's Presidential Address to the R.I.B.A.

IT is customary to have a subject, but why it should be called a subject I do not know. If a subject is a thing or person in subjection, the word is inappropriate to the theme of an address. For, so far from being the obedient servant of the speaker, it is his tyrannous master, or if in any sense beneath his feet, it is as a devil-possessed carpet beyond whose borders he dare not tread, and whose pattern is a kind of maze that regulates his dance.

So if to-night I seem more of a wanderer than the keeper of a beaten track, my excuse is that, relying on the derivation of the word subject, I mean to keep the thing in subjection.

London is ever with us. Architecture is ever with us. The two are but synonyms for mystery and charm, for doubt, hope, wonder, and infinite consolation.

No traveller can help comparing his London with other capitals; and if, as is happily true, he always comes back to London to find a welcome and to realize fresh beauties, he none the less is aware that there are some things in which London falls short of the spirit, the habits, the ideals of other places.

Some while ago there was a debate as to what should be the motto of the London County Council armorial bearings. My own suggestion was "Keep off the Grass."

In suggesting it, I suggested no reflection on the County Council itself, but rather on a spirit which seems to threaten all those who find themselves in charge of our town. It is a spirit which, happily, is on the wane, and I believe that the County Council itself is contributory to its gradual extinction. I hardly know how to define it except by example and analogy. The simplest example is Paris. Paris, like us, has a river—a wilder, larger, less tameable river. But would anyone believe, who had not seen it, that in spite of embankments in solid masonry, higher and even more solid than our own, big trees of forest growth grow between the embankment and the river's edge?

Those who have seen these trees and that shore know also that men may, and do, go and fish on that river bank, and that the parapets of the embankment are beset—I might say decorated—by a mile of bookstalls.

Here are two things impossible in our London: the permission given to a great rural force to continue the force of its rural nature in the heart of town culture, and the permission given to the free-lances of an ancient trade to play their business otherwhere than in orthodox shops.

I know all about the excellent reasons which govern our behaviour, and all the sensible arguments which can explain it. "The Thames banks are muddy, not shingly." "Access to the water leads to suicide and accidents." "Trees wouldn't grow by the water's edge." "Our river is tidal; theirs isn't." "Irregular trade once permitted would extend all over London." But all these arguments are not really to the point: the fact is (and we *know* it) that if we woke up one morning and found that the Thames had become the Seine, we should have those trees cut down, we should send those fishermen to the police court, we should close the access to the banks, and Parliament itself would legislate for the removal of those bookstalls. And why? Simply because the whole thing is too free and easy for our ideas of propriety.

The fact is, I suppose, that we have a kind of protestantism or puritanism in our ideas of town propriety, and we certainly cherish (avowedly or not) a sense that there is a normal kind of rigour which suits a town, out of which country (which is to us a sort of abnormality) must be excluded. That is why our suburbs are largely hideous.

Put it another way. Paris is a large—a very large—country town. London, however much you were to reduce its size, could never be a country town. It does not differ in degree, but in kind.

Richmond Park, barring a certain superfluity of railings, may be looked on as being almost a miracle. That anything so like untouched nature should exist so near London is almost scandalously delightful. It is, I suppose, about the limit. Imagine another night-time transformation: conceive Richmond Park taking the place of Hyde Park. What would happen in the morning? I think it would be at once closed for necessary alterations.

Versailles is the same distance from Paris as Hounslow is from London. Drive from Versailles to the capital through St. Cloud, and you will not dare to tell me that the miles of unfenced woodland through which you pass would be permitted on the Hounslow Road.

There is undergrowth in the Bois de Boulogne, literally undergrowth. If it were to spring up in Regent's Park what would happen? Miles of unclimbable iron hurdles, and a penny on the income tax to pay for them.

The man, if there is one, who has walked along the banks of the Regent's Canal from its harbour mouth to the Great Central goods station; the men who go into Neville Court trembling for fear lest the great and tender treasure there be gone; the few who have found the one only spot on the Middlesex side of the Thames where one can wet foot on the river's edge: these men will know what I mean by that little touch of unrestraint which, with the best intentions in the world, we smother.

If you have ever made a water-colour sketch of St. Mary's Church, hard by the apparently prehistoric dyke which is really the north sewer outfall; if you have ever gazed at the cattle on the Beckton Road flats; if you remember the Piranesi-like wonder of St. John's Square, Westminster, in the 'eighties, or have been unable to tear yourself from Clerkenwell Green, you will know what I mean but cannot express.

There are great times coming for the Surrey side. The County Council office—which I frankly admire—is a pledge of that. The planning of that shore territory has got to be dealt with by somebody, or by some "body," or by chance. May it come to pass that whether the task is entrusted wisely to an individual or expensively to fortune, the result may contain some elements of that freedom which is a joy to poets, an inspiration to artists, and an aid to life.

Region-planning makes one think of axes—not axes to grind, but axes of alignment. I suppose the most famous of axes is that which, starting from the statue of Lafayette, does an unbroken flight of two miles to the Arc de l'Étoile, which, though its visual existence ends there, starts afresh for a four-furlong run to the Porte Maillot, and having there reached the boundary of Paris, takes breath for another 2,000 yards along the Bois de Boulogne, and, to show that it is not exhausted, does a gratuitous rush of nearly a mile to a mound on the farther side of the Seine. We cannot do such things in London—perhaps we do not want to; but there is no reason why we should make such havoc as we do of some of our small opportunities. It is an ill business hunting for ugliness in our dear London, so I will give only a hint or two. A pair of the best statues in London, that of the agricultural Duke of Bedford and the classic figure of Charles James Fox, face one another at the distance of a street which is 250 yards in length. At or near Fox's effigy common necessity called for the existence of a lamp-post and a swan-necked stand-pipe for feeding water-carts. Mere stupidity would suggest that one or both of these blemishes should be placed on the axial line; rather less stupidity would have placed one horror clear of Fox to the right, the other to the left. Stupidity *in excelsis* would naturally rise to the idea of placing both so as to obscure the view of the toga-robed statesman, each within a foot or so of the axial line.

Shall I confess that it was stupidity *in excelsis* that won the day. It is rather pedantic to suggest that statues serve no purpose but to be seen. Nevertheless I do suggest it.

When the Guards' Memorial in St. James' Park was first proposed the scheme was let loose on the public by the means of an article in "The Times," accompanied by a careful-looking plan. This plan clearly showed that the intended monument, which was of ridiculous lateral extent, was to be so placed that the view through the Horse Guards archway would permit the vision of one side of it only.

I wrote to "The Times." The author of the illustrated article at once replied that it was a well-known fact that plans accompanying articles of this kind were not drawn to scale. I admired his powers of defence.

It is the judicious observance of axial lines that gives charm to neighbouring non-axial arrangements. An axis all but respected is of no more æsthetic value than a catch missed in the deep field.

A word of mine let fall just now about the County Council House set me thinking of acoustics, and I couple the two ideas without any but the most sympathetic thought for Mr. Ralph Knott. I would never blame any architect for an acoustic failure in this present year of grace, but I trust that in a year of two's time such failures will be deserving of blame. I am in hope that members of our Institute, in consultation with experts in sound law, will before long reach such an interchange of national experience as will elevate our present groping insecurity into the region of scientific certainty.

I once built a committee room which was to be a model of acoustic excellence. Into it I crammed every device known to the handbook of that age as leading to perfect sound conduction. What is more, I cut out of it every known cause of acoustic disturbance. The achievement was a triumph of failure. As cures, curtains were only the slightest of alleviation, eight electric candelabra united by chains seemed, instead of baffling the sound waves, positively to vibrate to the voices of the outraged committee men. But peace came at last by the purchase of an eighty-guinea carpet of thick pile. I know, probably you know, that a pulpy wall-paper goes a long way to remedy the trouble, and I am myself experimenting—on a real building, worse luck—with a system of roughened surface.

But, after all, the best buildings for sound seem to be those in which echo is made our friend and not our foe, buildings in which, as in the old Exeter Hall, echo was timed to reinforce every syllable instead of fighting for dear life with the succeeding one or possibly with the next word. I look forward greatly to more light on this ancient bogey.

It was amusing to note that the correspondence in "The Times" on this subject floated away from the topic of our acknowledged darkness not to light, but to the confused noise of scientists belabouring one another on the general nature of induction from observed phenomena.

During my past year of office the architectural waters of Edinburgh and London have been stirred to their depths by three commotions, one in the northern capital, two in the south. The Edinburgh storm was an affair of tramway wires. Those who have wandered about Edinburgh in early dawns will have regretted in recent years that the trafficless quiet of the twilight was disturbed by a noise as of the clucking of innumerable hens. This was produced by the ceaseless toil of the underground cables chafing under enforced idleness and waiting for the far noisier burden of the tramcars.

Lured by the wish to be rid of this hindrance to poetic thought—or by other wishes—Edinburgh decided for the abolition of underground traction, and pending the invention of a "wireless" system the municipality found itself faced with the problem of wire suspension. I was asked to join a movement for protesting against the attachment of the wires—or, rather, of the wires that support the wires—to buildings, on the ground that the so-called "rosettes" or attachment blocks were outrages against architectural decency. The alternatives to rosettes are posts. Now, tramway posts are of two kinds. One sort, when disposed for duty, looks, unfortunately, like a random accumulation of sanitary vent pipes: the other sort is tainted with wrought iron of the kind which owes its prestige solely to the fact that in Victorian days there was a crusade—quite unmerited—against cast iron.

In order to make up my mind on this subject I adopted the line that a question of æsthetics can sometimes be as well decided by the eye as by the brain, so having heard that both rosettes and posts could be seen in full bloom at Leith, I went to Leith. There the question decided itself. I had to choose between yards of municipal "art" scroll-work and a small slab of practical metal. I chose the latter and had, I believe, all the best people in Edinburgh against me. I had never differed from a single Scotsman on any subject before.

London's two thrills have been the Bank of England and Higher Buildings. No one in this room needs any enlightenment upon the nature of these two problems. To take the Bank first. I may explain that it was solely as your President and as the assumed representative of a certain aggregate of cultivated—I didn't say cultured—opinion that my view on the subject was sought and published.

The facts, as I see them, are very simple, though the problem is very complex. The Bank, a very beautiful and greatly beloved building, is too small—vastly too small—for the Bank's business.

The Bank's business is of admitted importance; it is, in fact, of such great and national importance that the business man's answer to the problem, viewed without relation to the pleasures and affections of the heart, would be, "Rebuild the whole thing from the ground and from far below the ground."

But you cannot, in a decent country, view even money matters wholly apart from these "pleasures and affections."

Next there come two very interesting factors in the case. The site of the Bank is so consecrated by sentiment, necessity, convenience, and habit to the Bank's business that any idea of abandoning the site and choosing a new centre is entirely out of the question. Moreover, were this course adopted we should have to face the further problem that the abandoned buildings would have to become one of three things: (1) The home of some tenant whose needs they would fit unaltered; (2) the home of a tenant who would alter them; or (3) a historic monument. The first is unlikely, the second would be disastrous, and the third is contrary to the spirit of architecture.

What I call the other factor in the case is brought about by the low height of the Bank buildings.

The raising of the walls on the frontages to anything approaching normal city height would lead to interference with the prescriptive rights enjoyed by ancient light owners in all the surrounding streets.

This apparent disability is really a help towards the harmonizing of contending motives.

The Bank must increase in size, it must remain *in situ*, it must not violate its well-known architectural countenance, it cannot easily or reasonably heighten its exterior walls, but it can, and I should say must, build buildings of increased height inside the *enceinte* with which the genius of Soane engirdled it.

That there should be a necessity for altering any of the internal courts or any of the interior halls and rooms which are part of its beauty is indeed deplorable, but the deplorers of such internal change are but a millionth part of those who would or should suffer by any destruction or mutilation of the exterior. The right rule appears to be that the whole of the engirdling wall should be left undisturbed, expressing in the future as it does express to-day the very spirit of protection or custody, and that if it is impossible to retain unchanged any of the open courts which are among the less-known beauties of the interior there should at least be preserved as many as possible of the banking chambers which align the frontage to a depth of some 40 ft., leaving the new higher buildings to rise at such a distance from the façades as to render them a kind of keep within the castle. For my own part I deprecate the superposing of any upper growths on the frontage walls themselves, feeling that what Soane designed as horizontal and self-sufficient should not be made a substructure to any upward composition, however ably designed.

And now, with your leave, a word on the Higher Buildings problem. The opinions even of individual architects differ on this subject, but this Institute as a general body spoke on the matter in terms which were as remarkable as they were unmistakable. Why remarkable? Because architecture is an art whose business it is to clothe utility in beauty. What does our motto say? Utility for the citizens, beauty for the city. It is our business to balance the utility and the beauty lest either should over-weight the scale. When a man is faced in these balancing exploits with a difficult decision, it not infrequently happens that a coin or two in one scale or the other will help the mind's decision. The Institute's mind must have been fully open to the fact that if it were to throw its influence into the Higher Buildings cause it would undoubtedly open the way to increased opportunities of earning money. In other words, every self-interested motive lay for architects on the side of Higher Buildings. Now, the President is the one man in this Institute who doesn't normally vote, and he does as little as he can in the way of influencing others, so that perhaps he may, without indecency, say what he thinks about a vote taken in his presence; and I take this opportunity of saying (naturally without any reflection whatever on those who voted in the well-meaning minority) that the decision given by this body against the promotion of higher buildings in London was a remarkable and very high-minded example of truth to artistic purpose in face of very cogent and material counter arguments.

Do not let me be misunderstood. It was not a question of moral right and moral wrong with money on the Devil's side. It was a question of æsthetics in a very broad sense, and the side which was willing to sacrifice opportunity for an ideal won.

It is by virtue of my claim to speak without a fixed subject that I spring from Higher Buildings direct to the portrait of Mr. John William Simpson.

Our intention, in the series of portraits to which this painting will to-morrow belong—the series is already assuming the proportions of a respectable picture gallery—our intention, I repeat, is to acquire, often, I fear, at the cost of some generosity on the part of our good brothers the painters, a collection of first-rate works of art as first-rate memorials of architects who should be and may be first rate. Happily it has been our good fortune up to the present moment to be able to offer as sitters to the portrait painter men whose achievements and fame have been worthy of his work. Our distinguished brother-architect, Mr. Simpson, retaining during his years of presidency some traces of that modesty which it is the obvious duty of a president to set aside, may probably have been prone to decry his own claims. It is our pleasant duty this evening, in welcoming his portrait, to welcome him also to this familiar gathering and to assure him of our pleasure in taking possession of so good a representation of so good a president. Having regard to that modesty which since his departure from the chair he has been at liberty to resume I will be careful of what I say, but as his successor and as a member of his Council, I suppose I am as well qualified as any one else to speak of the unceasing vigour of his work for the Institute. The Council can never have had a better chairman. His conduct of debate was always firm and fair, his treatment of difficulties always judicious. But these are merely domestic qualities. Mr. Simpson went much beyond them. His constructive policy was bent upon the improvement of the Institute's position, and we know with what enthusiasm and zeal he laboured in a line of action which many of us thought it dutiful to advance. Nay, more. Mr. Simpson, before, during, and since his presidency, has always had at heart the relationship which should exist between our English architects and those of friendly countries on the Continent. Equipped with special gifts of intercourse with France, we acknowledge him as the father of that Franco-British union which has already brought the priceless gift of friendship to many men on both sides of the Channel.

Again, we know and realize that during those years which seemed to be devoted almost exclusively to the affairs of our Society, Mr. Simpson was blessed and encumbered with the cares and pleasures of a large practice. How a man with the handicap of several months of ill-health was able physically to cope with so many duties all generously fulfilled is more than some of us can understand. But the task was accomplished, the health was happily restored, the rest—if the renewal of increased professional work can be called rest—was won, and if Mr. Simpson should prove to be the last to whom the honour of belonging to the present series of portraits is accorded, he will have the satisfaction of knowing that he has won his position on the line not merely by the great skill of the painter, but by his own deserts. In thanking Sir Arthur Cope for the brilliant performance of his task—and it is my wish here and now to move a formal vote of thanks to him—we welcome the new possession as the presentment of one who, besides being a gifted and very productive architect, showed during his year of presidency, and, indeed, in many other years, a dutiful devotion to this Institute, and an initiative in that devotion which have been the admiration of his friends, the despair of his rivals, and the encouragement of his successor.

DISCUSSION.

Mr. Simpson said it was a privilege to second the vote of thanks to Sir Arthur Cope, proposed by the President, and referred to the intimate friendship of 40 years' standing which had existed between himself and the artist. The portrait was a beautiful piece of work. He was faced with two portraits of himself, and it would be a poor compliment to the artists to deny the resemblance, but the value of a work of art depended not on the subject but on its treatment. The little things he had been able to do for the Institute were of small value, but he thanked the Council for the honour they had conferred upon him, and the members for their loyal support.

Sir Frederic Kenyon said that it was an honour to propose a vote of thanks to the President on such an occasion, and wondered why he had been selected for the purpose. Was it because no architect could be expected to propose a vote of thanks to another architect, or was it because architects constituted a mutual admiration society? He spoke as a member of the general public, representing the clients of architects, who had to live in and look at their works. He wished every success to the Wren bicentenary celebrations, and suggested a large conspiracy of arson, which would give architects an opportunity of rebuilding London. Speaking of axes he said that the British Museum might be brought into line with Waterloo Bridge by pulling down a few hotels, and with Piccadilly Circus by straightening out Shaftesbury Avenue. Sir Frederic emphasized the present unsettled state of English art, and the lack of tradition, and suggested the revival of the atelier system as a remedy.

Among the guests at the Council Dinner, held before the meeting, were :—The Rt. Hon. The Earl of Crawford and Balcarres, K.T., P.C.; Sir Amherst Selby-Bigge, Bart., K.C.B., and Lady Selby-Bigge; Sir Francis Newbolt, K.C., and Lady Newbolt; Sir Frederic G. Kenyon, K.C.B., and Lady Kenyon; Sir Lionel Earle, K.C.B.; Sir Hercules Read; The Rev. E. C. Pearce, D.D., Vice-Chancellor, University of Cambridge; Dr. H. H. Waring, F.R.C.S., Vice-Chancellor, London University; Mr. Cecil Lubbock; Mr. E. J. Partridge, President, Society of Architects; and Mr. John W. Simpson.

Mr. H. V. Lanchester's Presidential Address to the Town Planning Institute.

THOSE who formed the group responsible for the inception of this Institute will, I am sure, endorse the statement that events have taken us along an intricate and difficult route very divergent from any we were able to visualize at that time. The problems that have presented themselves have proved so different from those which could have been foreseen that I feel the Institute has justified its existence in a way that would have been impossible had its early years been spent in smoother waters. First and foremost I attribute our position to the broad and logical spirit in which the Institute has considered its work, and the absence of any narrow professionalism or jealousy in every decision that it has taken. Recognizing as we do four professions as having a primary interest in our field of operations, we have found the linking up of them not only mutually advantageous to the outlook of each, but also conducive to a better appreciation of the scope of our work as a whole, while the conjunction of these four has led us to look still farther and to visualize the numerous activities that impinge more or less closely on our own, such as those of commerce, manufacture, education, social life, and others that will immediately occur to you. This expansion of our field of view has placed us in the position that the town planner, however determined he may have been to make himself solely a skilful practitioner, finds that he can only do this by becoming a philosopher and a psychologist.

Racial jealousy and class antagonism, consequent on the upheaval of 1914, are seriously affecting the results of our work, and will for some time handicap our efforts. The exceptional conditions have, however, provoked a number of experiments which, whether successful or otherwise, have made for flexibility in the general latitude towards ideas that might have had little chance of consideration under a less disturbed régime. This last is a valuable asset, but, in order that we should reap the benefit of it, it is imperative that a spirit more conducive to co-operation between all sections of the community should be fostered. The whole theory of our activity is that of a new humanism supplying the place of an outworn individualism and coordinating the lives of all who have a part in the civic structure. Therefore it is for us to point the way to a solution by which all shall secure the maximum advantage attainable in every branch of life and incidentally to inculcate that the true wealth does not depend on the distribution of material property, but on the life that is offered to the community as a whole.

If this were recognized there would be less of the irritation and jealousy produced by the restrictions of poverty, for poverty is relative and is usually measured by what other people spend, so that with opportunities all round for freedom in activities, recreation, and education, the sting of poverty would be extracted.

I know this is a state of things not easily come by, not so much by reason of lack of resources as on account of the heritage we have of a large class that has hitherto been driven into a dark and dismal channel of life from which there is no rational escape. Release can only come to such a class by degrees, and mainly through the younger generation.

A serious defect in our social organization arises from the inflexibility of executive faculty that it has imposed. When all workers have been rigidly trained to one occupation and one only, any change of conditions must result in unemployment and consequent hardship. Were it possible to have a larger element of those in every branch of work possessing a second or even a third string to their bow, communal life would run much more smoothly. I am not forgetting the old adage "Jack of all trades," but I remain convinced that if, say, one quarter of those engaged in each trade were permitted a certain latitude of endeavour, we should be able to adapt ourselves more easily to the inevitable fluctuations of demand.

We all cordially recognize the efforts of the societies that are working with us in advocating town planning in its various aspects and in securing a more widespread comprehension of the benefits that this branch of art, or, rather, this co-ordination of the arts, can confer on us. Their function is not identical with ours, but is of the very greatest value to us in leaving us freer to concentrate our attention more definitely on the technique of our work than we could venture to do did we feel that there were no others prepared to carry the flag of the propaganda.

Do not imagine that I am trying to narrow our outlook or discourage my co-workers from taking a part in any form of action that they feel qualified for. But it will make for economy of effort if sub-divisions of function are clearly recognized, and in so dividing those belonging to our Institute, as indicated by our constitution, we may achieve the soundest possible technique and the most effective methods by which the wide-spreading aims of our art can be translated into material form.

Now let us consider how best to advance the art which has taken such a hold on our imaginations. It is not a new one, indeed, it is one of the oldest in the world, and its conditions, at first, like all arts, accepted unconsciously, have been restated from age to age, according to the ideas of the times. Just as in philosophy and in religion the formulæ becomes obsolete and futile, so in sociology and its demands, when changes make these formulæ ineffective the organism dies and can only spring to life again under a new dispensation suited to changed conditions.

A new visualization has been afforded to us, and we should be less than men if we failed to take advantage of it. What we are engaged on is not merely the exercise of a profession according to the usually accepted standard; it is a co-ordination of the work of all the professions, and if those more definitely represented in this body are obviously required to shoulder the imaginative and executive functions, it is good to feel that we do not exclude anyone who can make a contribution to our ideas from a standpoint outside these.

In the degree to which we are able to assimilate and appreciate these ideas will our own work be successful or otherwise. Even in the more limited range of what may be termed active membership a quite important series of function may be defined, all of which impinge and overlap. Let me offer the following as a definition of the work of our four groups :—

Imaginative Art	The Architect
Imaginative Science	The Engineer
Economic Science	The Surveyor
Justice	The Lawyer.

We must all have realized that without the full representation of these, all dominated by the underlying demands of human welfare, the results will fall short of our ideals, and though many have tried to extend their personal range as far as possible in order to do justice to this work, there is no one who can fail to have felt at times that he would have welcomed the aid of the other branches. My own belief is that it is best to design a scheme on the broadest possible lines and then to set to work to challenge its general features by such tests as are available.

During the life of this Institute a much wider scope for the activity of the town planner has received general recognition. In the early days of town planning it was seldom regarded as possible to proceed otherwise than by the control of private enterprise; then the emergency measures due to war conditions brought in the public bodies and large concerns, under the assisted schemes, and we are now in a position to compare the results of the two methods and their subsidiary varieties. In one respect these public schemes have been of immeasurable value, in that they have raised the general standard of design and show a homogeneity not attainable under other circumstances.

While I need not assure you that, for my own part, I have always felt a keen interest in the maintenance of the characteristics and traditional aspects of our great cities, I feel that without doubt the time is approaching when they will need to undergo very definite reorganization if they are to maintain their efficiency from both the industrial and social aspects. What these changes will be it is difficult to foreshadow, and I will content myself with pointing out a few questions in which we might be well advised to keep an open mind.

Perhaps the most obvious is the extent to which flight will develop as a means of transit and the possibility of providing suitable landings and connections between these air lines and populous centres; but this, though likely to be much in the public eye, affects the mass of people less than the improvement of existing transit and transport, which is still, for two reasons, not fully organized. One reason is our heritage of obsolete plant and methods, the other a lack of co-ordination in controls. Our roads, tramways, and railways are often competitors, and are, consequently, often fighting an uneconomic battle where combination would result in an improved system. Take London as an example. It appears as if a great deal could be done in accelerating and simplifying transit by unifying the tubes and the suburban electric lines to a much greater extent than is being done at present. The possibility also of a night shift on these for transport purposes might also be worth investigation. There are other points that arise in connection with this question that have been by no means thoroughly explored, and other cities demand special treatment according to their organization and physiography. These matters have too often been regarded as outside the range of the town planner, but there are definite indications that the organization of transport will secure increasing consideration with a view to a more efficient combination of the various means employed, and the consideration of this question comes within the scope of our activities, inevitably demanding close attention from us in the near future, such attention as has been given to the problems of zoning during last session, and which has done much to make clear the nature of the demands for regulating the allocation of areas for specific purposes.

The question of maximum heights for buildings has recently been the subject of rather warm discussions. Now, looked at from an abstract point of view, there is no reason why buildings should not be very much higher than is at present generally accepted in this country, provided that the space around them be proportionately increased; but there are two objections to any material change in an established town: first, the provision of increased open space presents almost insuperable difficulties in view of the vested interests in occupied sites; and, secondly, the period of change would be long drawn out, and during that period the variation in size and scale would be fatal to general harmony and architectural dignity.

Again, we have to remember that many of our members are working in remote parts of the world, confronted with problems very different from those we have at home. Housing, sanitation, and traffic present very distinctive features in India and in our tropical colonies. We have to accept a much more economical scale of housing as reasonable where for ten months of the year it is possible, and, indeed, advantageous, to sleep in the open air, but the established type often leaves much to be desired from the sanitary point of view, and while we struggle to remedy this, the conditions prescribe that our efforts take much simpler and more primitive form than is customary at home. There are numerous endemic and epidemic diseases to be battled with, and the popular view being too often that these are "Acts of God," a term that even at home is grotesquely made to apply to any untoward happening, we have often an uphill fight to secure sympathy for remedial measures, however obvious and simple these may be. Commercial methods, also, are more primitive and wasteful in time and transport, though in these economic pressure is exercising an increasing influence.

I will now pass on to another aspect of our work that has an immediate claim for consideration, in view of its importance in the social scheme. For long the terms "congestion" and "congested areas" have been employed without a very definite idea as to what they represent, and there is an undoubted difficulty in dissociating too dense an occupation of areas from the insanitary conditions that often accompany this. Statistics suggest that a density of more than seventy persons to the acre is detrimental to health, but it is open to question whether this is a reliable figure, and there are a number of factors that ought to be investigated if we are to possess a clear view of the right distribution of the inhabitants of an urban group. Such investigations will, it is intended, form the basis of our discussions during the ensuing session, as will be evident from the programme laid down, and I think it may be confidently anticipated that the proposed papers and meetings will result in a much clearer view of this important section of our work.

In subsequent years there will be many other branches appropriate to special consideration on similar lines. I wish to make an emphatic appeal for the view of our art that sometimes, I cannot but feel, gets pushed too much into the background amid the complex demands of hygiene and economics. I mean the view that the most important thing about a city is that it should be beautiful, and beautiful in a characteristic way, not merely conforming to some adventitious ideal of beauty, but developing a peculiar beauty of its own, based on something belonging to its position and its activities. I have been in many cities and do not know one that does not offer distinctive characteristics which spur the imagination towards making it, not a second-rate imitation of something else, but an entity having a character which might mark it as distinct from others, such as we recognize in every city holding a notable place in the world. It is true that in some places the hints are vague and weak, but they can be found if sought for, and raised to a higher power of expression. Perhaps at a future date I may have the opportunity of illustrating what I mean from the cities of the East, where much of my work has lain, but the principle is no less true as regards those of Europe and even those in stolid England.

Such an attitude towards a city does not, I maintain, conflict in any way with the logical interpretation of needs; it is a help rather than a hindrance, in that these needs have to a great extent created the character, and our aim is merely to give more intensive and imaginative expression in harmony with the logical development, and the two are so welded together that they reinforce each other, and secure consistency in the design as a whole. As in purely architectural design we cannot have the best without an expression of purpose, so in a town falsified design cannot be good, and the imposition of artificial conceptions, whether grandiose or picturesque, is to be deplored; but no town is so organized that it may not achieve dignity and interest. We still lag behind some other countries in not demanding that the first stages of a scheme shall deal with the city as a whole, and this militates against the possibility of securing a characteristic form of expression such as I have indicated; but year by year general opinion is becoming more favourable to the extension of the idea of city design, and we have every reason to hope that in the not distant future we may have opportunities to employ the knowledge we are acquiring in the broadest and most effective way.

The Society of Architects

The Presidential Address of Mr. E. J. Partridge

THE Society of Architects held their opening meeting of the session last Thursday, when the new president delivered an address.

He said: Having been elected to the highest honour which it is in the power of the Society to confer upon any of its members, I recognize that many important duties and responsibilities will devolve upon me and I shall have to act, when occasion arises, as the official mouthpiece of the Society. In the meantime, the members will no doubt expect that I shall, at the commencement of my year of office, express my personal views on various points relating to the profession generally, and to the Society of Architects in particular.

One of the most important matters which in my opinion requires our earnest consideration, both individually and collectively, is the necessity of ensuring increased recognition by those interested in building, viz., our employers and clients, whether actual or potential, of the important part played by architects in the scheme of national service as servants of the public entrusted with the production of buildings which will, in every particular, efficiently meet the requirements for which they are designed, whether for private, municipal, or commercial enterprise, or for educational or religious purposes, or for the housing of the people.

MR. E. J. PARTRIDGE, F.R.I.B.A., F.S.I.

It is therefore incumbent upon the architect in his own interests, as well as in the interests of the community, that he should so carry out his work in every detail, whether artistic or utilitarian, that potential employers will recognize that the services of an architect are a necessity to the building owner and not, as is sometimes the case, particularly in regard to smaller works, a luxury. This leads up to the question of architectural education, in which great developments have been made during recent years. The established practitioner must improve and increase his knowledge by the continual study of the many problems which now arise in consequence of the great change in the conditions of modern life. With regard to architectural education in the early years of professional life, the old system of pupilage, which is not altogether without its good points, and was at one time considered the only proper way of entering the profession, is being rapidly superseded by the architectural schools, and it should not be forgotten that the Society of Architects was the pioneer in establishing in this country, in 1913, the first atelier of architecture for the purpose of promoting improved methods of architectural training in Great Britain. The work commenced by the Beaux Arts Committee and carried on ever since with the assistance of the Society, was at the time the subject of much hostile criticism, but the fact that the method then advocated has since been widely adopted by the architectural schools, and that other ateliers have been established and co-ordinated under the auspices of the Royal Academy Atelier Council, is sufficient to justify the claims of the Society that its efforts have resulted in revolutionizing and improving the architectural educational system in this country.

There never was a time when architects had such opportunities as exist at present for education in professional matters in all stages of their careers. Apart from the financial support which the Society gives from time to time to other kindred educational bodies, it has itself evolved and established a system of educational competitions in design and other subjects, for the benefit of its members, on lines which enable those at a distance to participate equally with others nearer to headquarters, and there is a scheme in preparation the object of which is to afford those members who, because of distance and other reasons, cannot take advantage of the facilities afforded to the architectural schools in the larger centres, some guidance and assistance in their efforts to improve their qualifications.

But the Society does not exist solely for its members, and in education as in other matters it takes a much wider view, and one of its most striking successes has been the institution of the Victory Scholarship Competition in design, open to any British subject. This year, upwards of sixty candidates entered for this competition from all parts of the Kingdom, and those who were able to see the designs and to listen to Mr. Robert Atkinson's recent criticism thereon, will realize the value of this competition to all those who participated in it, whether successful or not in obtaining any award. One result of this competition was to emphasize the remarks which I have previously made in regard to the designing of buildings, inasmuch as while many of the drawings submitted exhibited beauty and harmony in design and clever planning, some of the most conspicuous in this respect failed to realize one essential requirement, that relating to the assembly and dispersal of vast crowds of people and of vehicular traffic, a defect which shows that the competitors failed to solve the problem in its entirety, and, therefore, the building could not be considered as satisfactorily providing in all respects for the purpose for which it was designed, viz., a stadium for Olympic games.

Having provided for the education of the architect, it is in the interests of the public that all who wish to enter the profession of architecture should first be called upon to qualify themselves and to prove their qualifications under a statutory examination before admission to a register under an Act of Parliament. The Society was founded nearly forty years ago for the purpose of obtaining the statutory registration of architects, and although, owing to its growth and activities, it has developed in other directions as well, it has not lost sight of its main object, and is always pressing forward to its consummation. The sooner efficient registration is effected, the sooner will begin the weeding out of the unqualified man to the advantage of the public and of the profession.

It was some two-and-a-half years ago that the R.I.B.A. Council formed the Unification and Registration Committee, the most comprehensive body ever gathered together within the architectural profession for one purpose. The Society of Architects was invited to become one of the constituent bodies and very gladly accepted the invitation, and its representatives took a very active part in the proceedings. The Society had previously, from its knowledge of past difficulties in regard to the amalgamation question, suggested a federation of interested bodies for the purpose of securing registration, and this was the basis of one of the two schemes placed before the Unification Committee for its consideration and approval. After full and open discussion, the Committee eventually expressed its preference for a scheme which was in essence, so far as the Society of Architects was concerned, a proposal for the absorption of that body by the Institute, and the Society, anxious for unity, acquiesced in the vote of the majority and heartily supported the principle of the scheme selected, and was in the midst of negotiations with the Institute Council on questions of detail, when it became apparent that a divergence of opinion had arisen amongst the Institute representatives on the Committee, not only on questions of detail, but of principle also, so that whereas the proposal of the majority was for unification as a preliminary to registration, a minority on the Institute side took the opposite view, viz., that registration should be accomplished first. This difference of opinion was reflected in the election of the Council of the R.I.B.A. in June last, when, with only a few exceptions, an entirely new Council was formed, and one of its first acts was to intimate to the individual members of the Society on the Unification Committee that its work was at an end and their services no longer required. This was followed some time afterwards by an intimation to the Society as a body to the same effect, notwithstanding the fact that the Unification Committee was still sitting to arrange details of the scheme and had not completed its report. It has since been stated in the professional journals that the Institute Council has formed a Registration Committee of its own, and is making arrangements for the early presentation of a Bill to Parliament. It is well known, however, that Parliament will not give a hearing to any proposal of the kind which is not supported by all interested bodies, and members of the Society may rest assured that their Council will take whatever steps may be necessary to see that the interests of its members are not affected adversely by any proposals which may be put forward by any other body in regard to a matter which affects the whole profession. Personally, I hope and believe that the Institute Council will presently take a wider view of the situation and that we may once more work in harmony with it in this direction as we are doing in others.

Another matter of general interest to the profession is the production of a form of contract which shall be accepted by all parties to that contract. At the present time, as you all know, there are many different forms in existence, and in most of them it appears to have been the aim of the person drawing it to obtain some advantage over other parties to the contract. It surely is not beyond the power of reasonable men to devise some general form which shall be fair to and acceptable by all parties, and if each party will consider the question from the other fellow's point of view, as well as from his own, I feel sure that such a form will be produced. There is now sitting for this purpose a committee composed of representatives of all bodies concerned, and although their deliberations will involve much time and thought it is hoped that the object for which the committee was formed will ultimately be attained.

I will now return to a matter more directly affecting the Society, and one in which I invite the personal assistance of every member in every class in the Society, viz., the necessity for a large increase in the membership. The Society, as I have already pointed out, was established for a definite object, and it is for the purpose of achieving that object, and not for the glorification of the Society, that we must have the support of every qualified architect as such; it does not matter whether he is already a member of any other kindred institution or not. If any qualified architect is in sympathy with the Society's objects, particularly in regard to statutory registration of the profession, then I think it is his duty to seek to join the Society in whichever class he may be eligible for, not merely for the privileges of membership, which are considerable, but in order that he may help on the work of the Society. It is because the Society advocates an Act of Parliament, which would provide for the recognition of every bona-fide architect who is qualified for admission to the profession, that the Council of the Society decided some time ago so to reconstitute the Society as to make it a registering body capable of including within its membership all architects who are eligible. Within its ranks there is scope for the pupil, the assistant, and the practitioner, and it will be found that there are many architects at present outside the ranks of the Society who are in sympathy with its aims, and only require the case put to them personally in order to secure their support. In connexion with this I would remind members that they will be conferring a benefit upon the members of their staffs if they encourage them to join the Society and to compete for the awards which are so freely offered, in addition to other advantages.

With regard to the new Journal of the Society the Council has spared no expense in providing a publication which will serve to link still more closely the members of the Society, and particularly those at a distance.

Here I may suggest that at present the Society is comprehensive rather than representative, but it is well known that five or six men bound together and actuated by a fixed purpose can accomplish almost anything they set their hands to. There is thus no limit to the progress which can be made by a body of fifteen or sixteen hundred men all intent on one objective, and by means of the exercise of a little enthusiasm we can not only continue to be comprehensive, but can become so representative as to be able with still greater weight and force to impress our will upon those whom we seek to influence in the direction of the reforms which the Society advocates, and more particularly its main object, the accomplishment of the statutory registration of architects.

Proposing a vote of thanks to the President, Mr. T. S. Darbyshire agreed with him on the importance of obtaining an increased recognition for architecture on the part of the general public. The profession had only itself to blame if it persisted in hiding its light under a bushel. Architecture, as an art, was neglected in the public schools, and until it was incorporated in the curriculum he believed the lack of interest would continue. He hoped that the year would see the solution of the registration problem.

Mr. H. A. Aitken, seconding, congratulated the Council on the new Journal, which would, he thought, be a great help to architects in every way.

Mr. Sylvester Sullivan, speaking on behalf of the Council, promised the President the support for which he had asked. He thought that public recognition was on the increase, and referred to recent correspondence in "The Times." A building, he thought, had no *right* to beauty unless it arose from it and was part of it. It could not be applied.

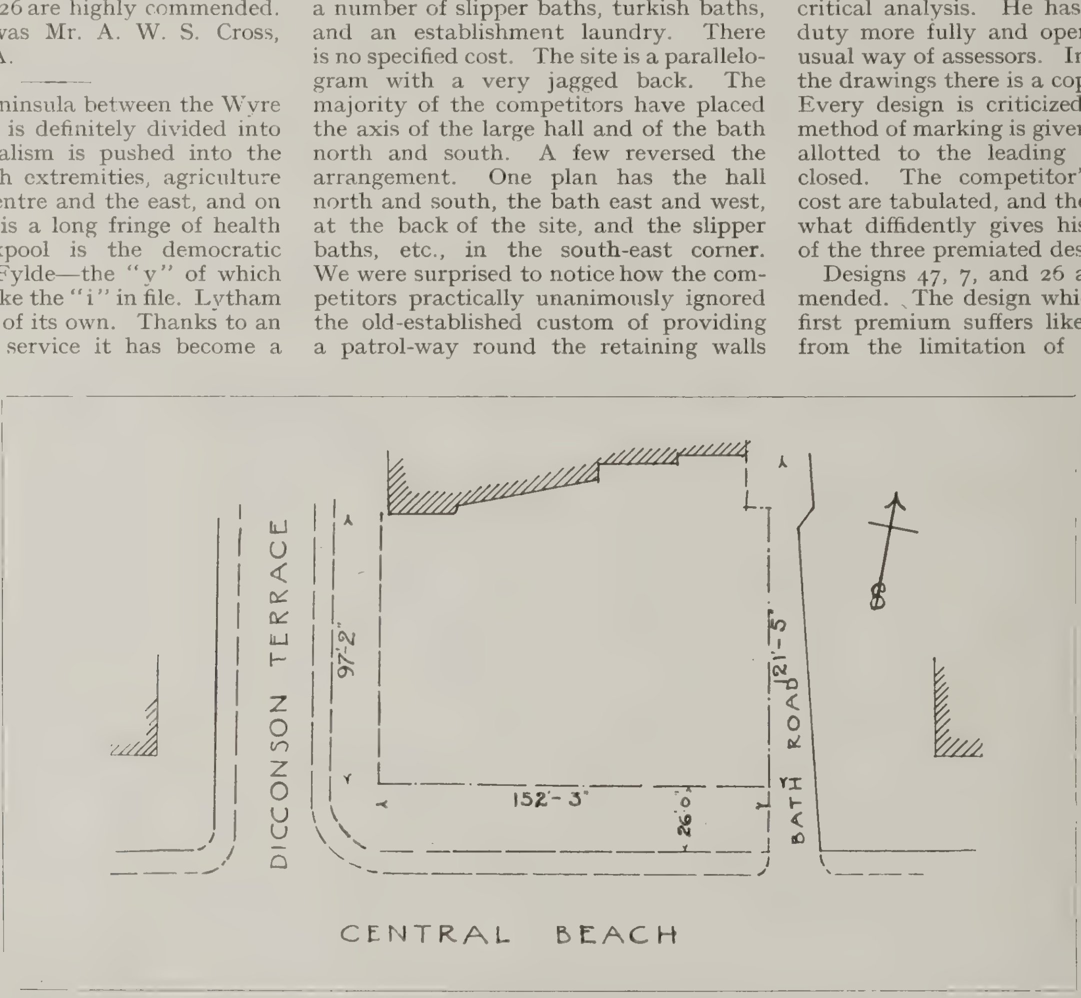
Mr. Sadgrove also spoke, and Mr. Partridge, in reply, mentioned that the Journal was anxious to obtain information as to the costs of current buildings. He hoped that members would co-operate in supplying this.

Lytham Public Hall and Baths Competition

A Criticism

THE awards have been made in the above competition, and are: First, Hubert A. Thomas, A.R.I.B.A., Fred G. Barker, L.R.I.B.A., Liverpool; Second, Messrs. Mennie and Smith, London; Third, Marcus A. Type, Birmingham. Designs 47, 7, and 26 are highly commended. The assessor was Mr. A. W. S. Cross, M.A., F.R.I.B.A.

The Fylde peninsula between the Wyre and the Ribble is definitely divided into zones; industrialism is pushed into the north and south extremities, agriculture embraces the centre and the east, and on the west there is a long fringe of health resorts. Blackpool is the democratic capital of the Fylde—the "y" of which is pronounced like the "i" in file. Lytham has a character of its own. Thanks to an excellent train service it has become a bedroom of Manchester much as Hoylake has of Liverpool. The atmosphere is high-class suburban. There are trees overhanging the railway lines, gardens in front of the station, trees shading the streets, and the station road is called "The Green Drive." The streets are exceptionally wide with broad flagged sidewalks. On the sea-front there is an endless chain of villas, each with its little garden in front. Between the villas and the sea-wall is a vast expanse of turf, apparently miles long, and averaging 150 yd. wide. All the older buildings are faced with a very dark red brick, which has a pleasant texture, and stone is very sparingly used but with good effect. Except for a house or two where the stone has been painted an aggressive white, there is hardly a jarring note in the whole length of the front. The environment of the competition building, therefore, may be summed up as spaciousness, dignity, and reticence.



PLAN OF THE SITE.

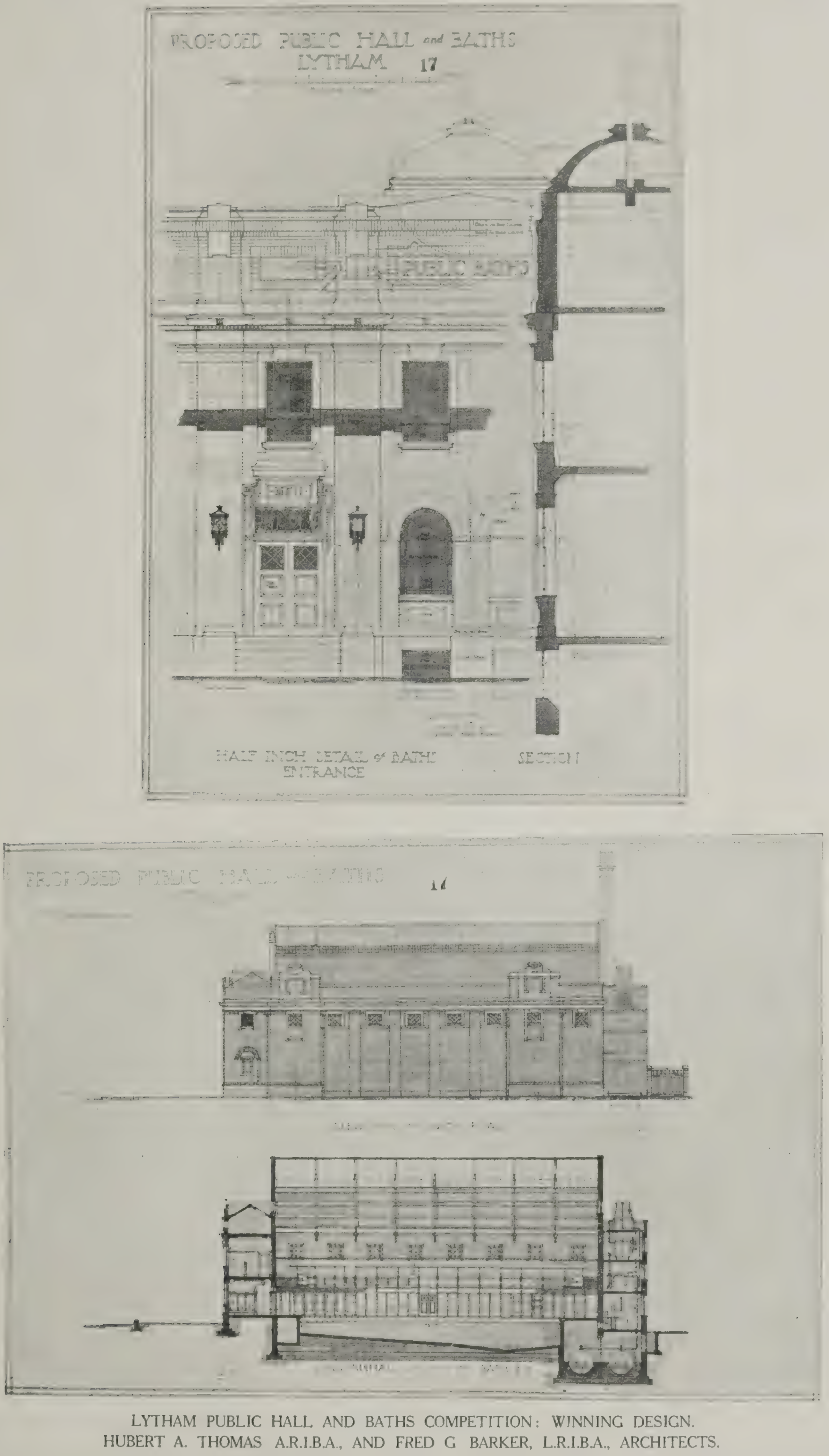
Great credit is due to the promoters for the excellent way in which the drawings are displayed. They are arranged in a well-lighted room situated on the very site of the proposed building.

The conditions ask for a hall to hold 1,500, a smaller hall preferably under the large hall, a large swimming bath and a number of slipper baths, turkish baths, and an establishment laundry. There is no specified cost. The site is a parallelogram with a very jagged back. The majority of the competitors have placed the axis of the large hall and of the bath north and south. A few reversed the arrangement. One plan has the hall north and south, the bath east and west, at the back of the site, and the slipper baths, etc., in the south-east corner. We were surprised to notice how the competitors practically unanimously ignored the old-established custom of providing a patrol-way round the retaining walls of the swimming pond. Anyone who has studied the site will have felt that at all costs the central beach front must be symmetrical and have a fairly level skyline. Not a quarter of the competitors have realized the nature of the problem, or perhaps it would be kinder to say, have produced a correct solution.

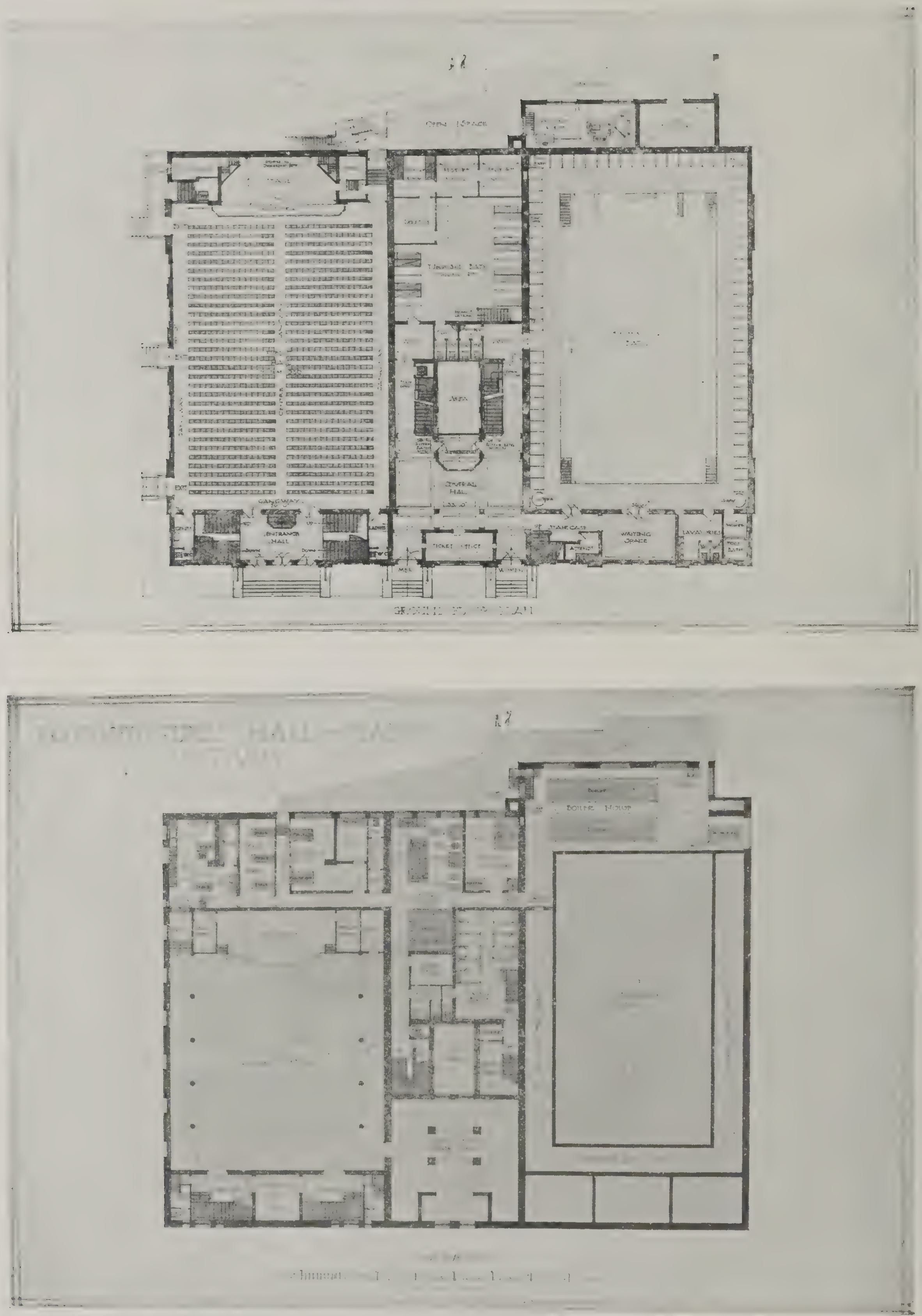
The promoters are to blame for the low standard of the designs. The site is far too small for all the scheduled accommodation. Over seventy architects deposited a guinea and obtained the conditions; forty-seven submitted designs. The difficulty of packing the box choked off 33 per cent., and proved too much for everyone. The clerk to the U.D.C. declares that some legal bogy causes the building line to be set back 26 ft. from the road. An examination of the site failed to give any clue, and there are countless instances of a civic building gaining in dignity by standing a little in front of its domestic neighbours. Either that bogy must be scotched or the accommodation reduced; otherwise Lytham for all time must be content to have a badly-proportioned hall with cramped and gloomy accessories.

Mr. Alfred W. S. Cross, the assessor, has had a difficult task, on which he has concentrated his well-known powers of critical analysis. He has discharged his duty more fully and openly than is the usual way of assessors. In the room with the drawings there is a copy of his report. Every design is criticized in detail: the method of marking is given and the marks allotted to the leading half-dozen disclosed. The competitor's estimates of cost are tabulated, and the assessor somewhat diffidently gives his own estimate of the three premiated designs.

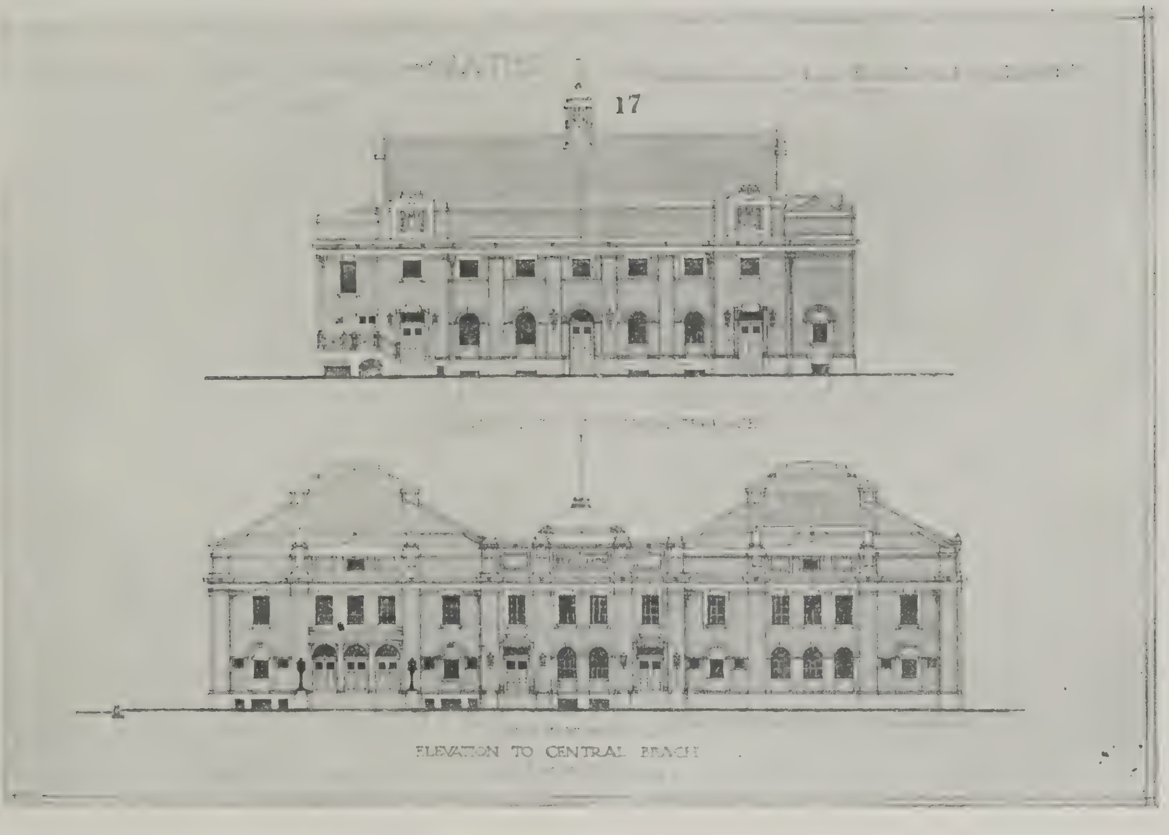
Designs 47, 7, and 26 are highly commended. The design which has won the first premium suffers like all the others from the limitation of the site. The large hall, 80 ft. long, is divided into seven bays; the inner side of the horseshoe gallery projects three bays, say, 35 ft., and the head room under is just 11 ft. The angle from the cinema operator's room is so acute that pictures will be disagreeably foreshortened. The entrance to the great hall is 26 ft. by 12 ft. 6 in.; in it are packed three pairs of outer and two pairs of inner swing doors, a pay-box, the commencement of two flights of stairs leading up and two flights leading down. The chairs in the great hall are in blocks of fifteen; the stage recess is only 12 ft. deep; the space between the nosing of the stage and the nearest row of chairs is 2 ft. 3 in. There are three tiers of seats at the sides of the gallery, and as many as thirteen at the back. The authors have made the smaller hall 56 ft. wide and only 15 ft. to the ceiling. The beams carrying the great hall over have a span of 44 ft., and, therefore, with only ¾ in. depth per foot will project about 3 ft. The assessor considers that the winning plan excels all the others in its

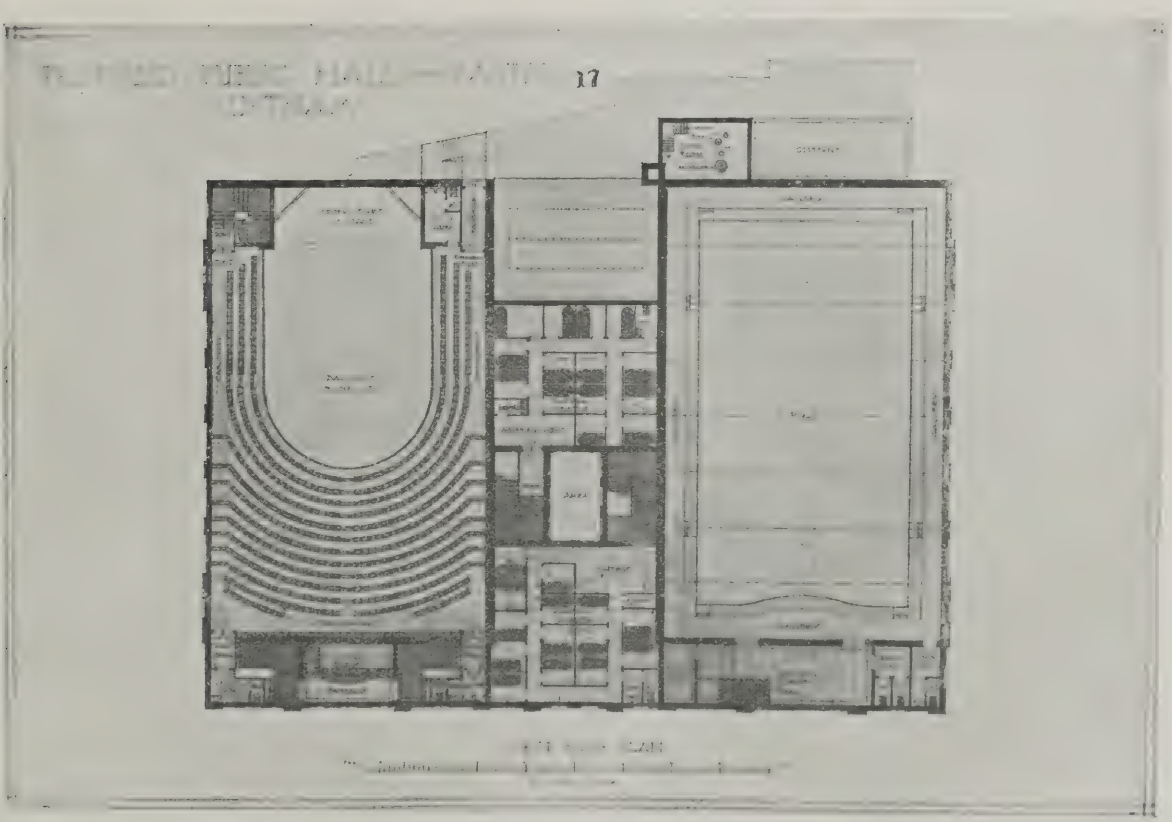

PROPOSED PUBLIC HALL and BATHS
LYTHAM 17
PUBLIC BATHS
HALF INCH DETAIL of BATHS
ENTRANCE
SECTION
PROPOSED PUBLIC HALL and BATHS
17

LYTHAM PUBLIC HALL AND BATHS COMPETITION: WINNING DESIGN.
HUBERT A. THOMAS A.R.I.B.A., AND FRED G BARKER, L.R.I.B.A., ARCHITECTS.

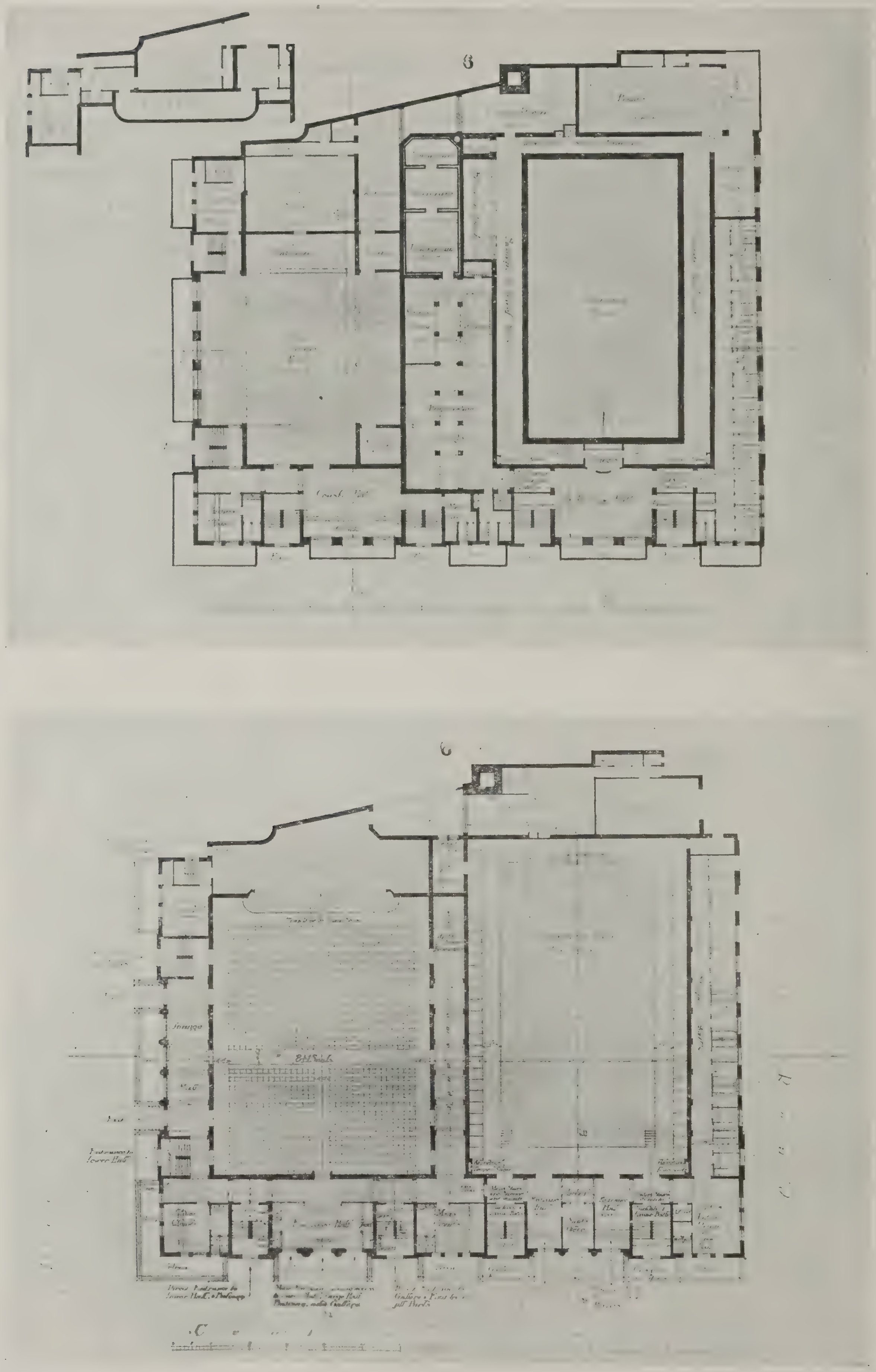


LYTHAM PUBLIC HALL AND BATHS COMPETITION: WINNING DESIGN.
HUBERT A. THOMAS, A.R.I.B.A., AND FRED G. BARKER, L.R.I.B.A., ARCHITECTS.





LYTHAM PUBLIC HALL AND BATHS COMPETITION: WINNING DESIGN.
HUBERT A. THOMAS, A.R.I.B.A., AND FRED G. BARKER, L.R.I.B.A., ARCHITECTS.



LYTHAM PUBLIC HALL AND BATHS COMPETITION: DESIGN PLACED SECOND.
MENNIE AND SMITH, ARCHITECTS.

vital parts, such as the boiler-house, that it equals the rest in the planning of the halls, and is hardly inferior in elevation or in planning of the baths. In the authors' voluminous report they estimate the cost of the special plant at £7,330 and the cost per cubic foot partly at 1s. 9d. and partly at 2s. 6d., which makes a total of £84,146. Averaging 2s. per foot cube all in, the cost is £81,700. The authors have constructed a symmetrical brick front. They boldly show the gable ends of the two larger rooms, and have squeezed in between them a central entrance surmounted by two tiers of windows, several of which give light to w.c.'s. There will be great difficulty in concealing the soil pipes internally; if shown externally the front will be ruined. The façade has many small blemishes which we hope can be eliminated. A flock of lamps, a mass of petty detail, and raking joints between stone and brickwork carry us back to the closing years of the Victorian era. The best that can be said is that a highly monumental front would probably have been too heroic for the site. The façade to Bath Street is much the best of the three elevations. Dicconson Terrace, which closely follows Bath Street, has not quite the same dignity. Mr. Cross suggests that if the great gables to the south were omitted, the little dome over the entrance would gain in dignity. We should prefer the width of each gable to be reduced by 10 ft., and the central features increased accordingly. The first premium, therefore, is due not to outstanding merit, but rather to deficiencies in the competing designs. We recommend Messrs. Thomas and Barker to stand on the sea wall and study the Queen's Hotel, the nearest largish building to the site. The proportions, the detail, and the materials are all in wonderful harmony with the situation and the purpose for which it was built.

The design placed second is full of difficult and expensive construction—for instance, the floor and one wall of the great hall are on girders with a span of 40 ft., and we failed to see how the roof over the great hall could be carried. The elevation has leanings towards the monumental, and gives promise of better work to come. Mr. Type is distinctly fortunate in winning a premium; his elevations are completely out of tune. Designs 26 and 34 have been attractively drawn. The elevations of Mr. Bright Fraser (15) and Messrs. Field and Pearson (18) have considerable merit. Perhaps more than any others Messrs. Cooke and Davies (20) have caught the spirit of Lytham. The concluding lines of Mr. Cross's report are only too true: "In this competition there are very few designs of an artistic nature combined with good setting out and departmental planning of a high standard."

Following, we give the concluding portion of the assessor's report, the preceding portion being devoted to a criticism in detail of each set of designs:—

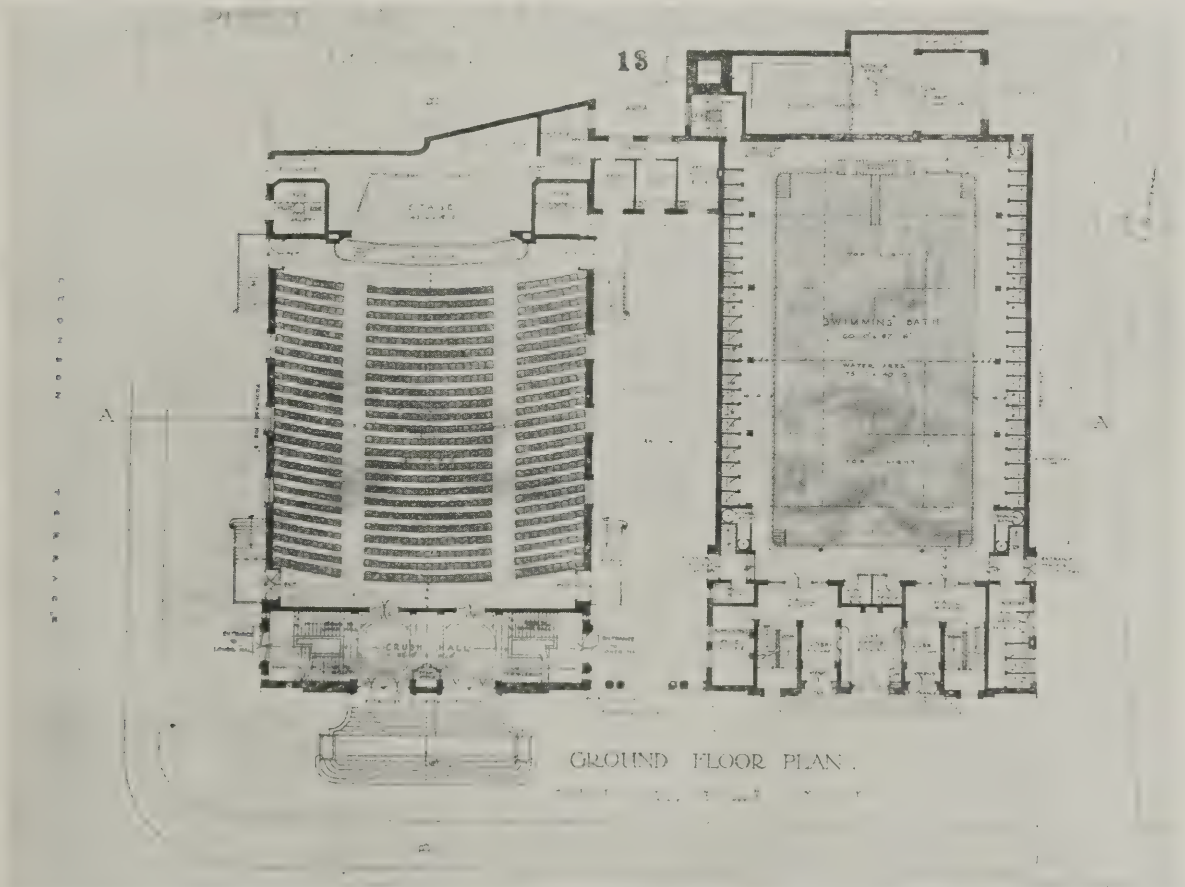
"In accordance with the conditions of the competition I hereby award the premiums to the authors of the following designs: Design No. 17, first premium, £105; design No. 6, second premium, £52 10s.; design No. 13, third premium, £26 5s.

"In addition to the above, I consider that the authors of the following designs should be highly commended for the quality of the work they have submitted in this competition: Design No. 47, fourth; design No. 26 and design No. 7, fifth.

"As to the relative cost of the three premiated designs, I have checked the authors' figures in each case and priced the cubic contents of each design on the uniform basis of 2s. per cubic foot, with the following result: No. 17, £81,700; No. 6, £70,000; No. 13, £80,000, as against the competitors' own estimates which, as stated in the critical notes on the various designs, are as follows: No. 17, £84,146; No. 6, £69,000; No. 13, £74,000.

"With regard to No. 17, I think the south elevation would be much improved if the gable ends of the public hall and swimming-bath could be dispensed with and replaced by hipped roofs. This would allow the central dome to dominate the long façade to a far greater extent than it does at present. And perhaps it would be possible to simplify the window treatment of this front with the view of obtaining a more monumental effect. No doubt you will seek the advice of the successful architect on these points.

"Finally, I should like to draw attention to the fact that in addition to the designs I have selected, or especially commended, there are a few others which, although artistically equally worthy of recognition, have not been mentioned, either in consequence of defective departmental planning or on account of some fundamental mistake in general arrangement. Unfortunately, however, in this competition there are very few designs of an artistic nature combined with good setting out and departmental planning of a high standard."



LYTHAM PUBLIC HALL AND BATHS COMPETITION: DESIGN PLACED THIRD.
MARCUS A TYPE ARCHITECT.

The Etchings of J. M. W. Turner

TURNER'S etchings at the Cotswold Gallery, 59 Frith Street, have made one of the most interesting exhibitions of the year.

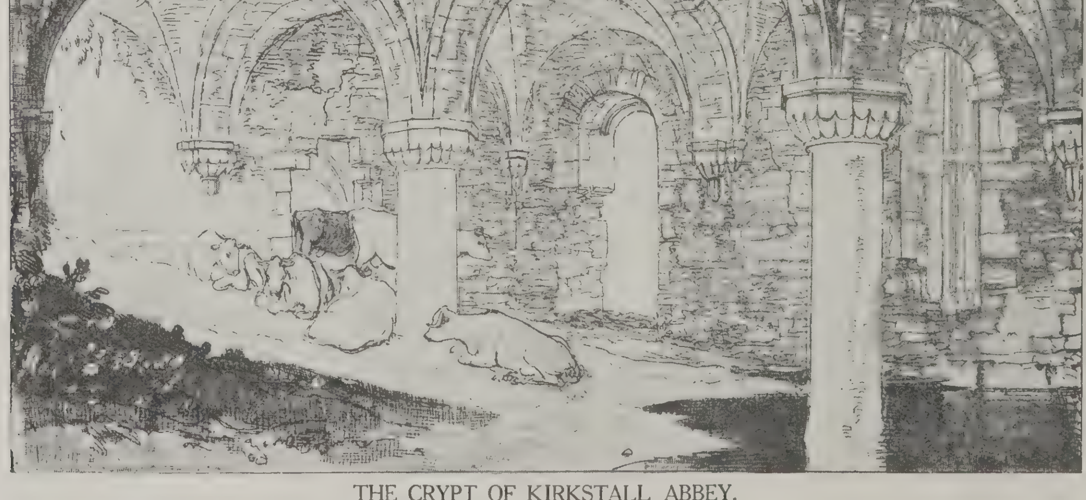
The artist did not intend them to be put on exhibition, nor did he consider them as finished works of art, for they were executed to act as the groundwork for his mezzotints and aquatints; but for this very reason they are particularly valuable. They are valuable because, from their nature as etchings—as drawings in line—they are bound to reveal, in the plainest manner, their creator's strength and weakness; for what he might conceal by a flourish of the brush he could not possibly conceal by a flourish of the etching needle. But they are still more valuable as human documents, as guides for the mind and temperament of the artist, and as tokens of the extent of his artistic genius, because, unintended as they are for the public eye, they cannot be other than the spontaneous utterances of the unconscious artist. It is a common saying that if you want to understand a great writer, you must get to know not his masterpieces but his private letters. Here you have Turner's notes and private jottings before you; and I may say that they make very good reading.

To begin with, Turner's etchings, as may be seen by the one illustrated here, have none of the impressionistic licence of his later oil paintings. They are, on the contrary, prosy, almost pedantic, in their expression, though they never stumble or hesitate. His drawing, too, falls to incredible depths when he tries to draw animals or human beings; nor can he shake himself free of the conventional eighteenth-century tree with its sloping trunk, carefully deformed branches and fringe of banana leaves at the end of each twig. On the other hand, his clarity of idea and his ability to express it, not only with clarity but with that dexterous precision which leaves no mark upon the plate that cannot perfectly vindicate its existence; his vision, his simplicity, his "imaginative completeness," as Mr. Finberg, in his preface to the exhibition catalogue, calls that power of Turner's which makes of his most trifling drawings entities, organisms—these are most marvellously depicted in his etchings. It is these qualities, indeed, which determine Turner's great genius. You would say that the lens of his mind had to be exposed to a definite mental image before that process could begin that ended in the print upon paper. It seems as though he were unable to put his pencil to paper until some definite picture had been realized in all its completeness and richness in his mind.

His simplicity, too, as displayed by his "Inverary Castle and Town" (38), his "Ville de Thun" (24), his "Dunstanborough Castle" (25), his "Crypt of Kirkstall Abbey" (27), where he realizes with intense appreciation the circular shapes of the Norman arches, is of the highest order of genius. In the hands of a lesser man such simplicity would degenerate into dullness, for ostensibly there is only a narrow margin between imaginative simplicity and the barrenness of stupidity. But with Turner this plain speech is his triumph. He sits on the hill near the Observatory above Greenwich, and with tedious prosaic composure draws the hospital and the river beyond, with its shipping in the docks, and beyond that again the whole of London spread out like a map. The scene appears neither to frighten nor exhilarate him; he merely jots down, in his dull way, a few deliberate spots and marks, whereupon the whole City of London becomes visible, teeming with life and sound. The crowded shipping "loses itself in endless obscurity."

As in his "London from Greenwich," so in all his etchings he has given us a glimpse of a profound imagination, glowing, unsubstantial, richly various. His lines infer a thousand sounds, scents, vistas which they do not limb. He leaves a blank in a landscape, and instantly the fields, forests, rivers, hills, which he has not delineated, come crowding upon the mind in all their variations of colour and form.

In one of his essays, Hazlitt draws a picture of Coleridge which is unexcelled as portraits go. "Mr. Coleridge," he says, "has 'a mind reflecting ages past:' . . . . He who has seen a mouldering tower by the side of a chrystal lake, hid by the mist, but glittering in the wave below, may conceive the dim, gleaming, uncertain intelligence of his eye: he who has marked the evening clouds uprolled (a world of vapours), has seen the future of his mind, unearthly, unsubstantial, with gorgeous tints and ever-varying forms. . . . He has only to draw the sliders of his imagination, and a thousand subjects expand before him, startling him with their brilliancy, or losing themselves in endless obscurity." It is the same gorgeousness of imagination which has placed Turner amongst the great artists.



THE CRYPT OF KIRKSTALL ABBEY.
(From an Etching by J. M. W. Turner, R.A.)

Popularizing Architecture

Both the Royal Institute and the Society of Architects are to be congratulated on the improvements they have recently made in their official journals. In fact, in the mere matter of appearance, both have been "improved out of all knowledge," as the colloquialism goes. The Society's Journal makes a very courageous attempt to attract the general public, and, having attracted it by its handsome exterior, to interest it by popular but sound treatment of architectural subjects. It has assumed the title "Architecture," to which the former title "The Journal of the Society of Architects" is now made subordinate.

Architecture in the Lay Press

Acoustics

"HAVE architects, when designing halls and churches, any sound principle to guide them in considering what the acoustic properties of these buildings will prove to be? Or is the outcome pure chance? There have already been numberless complaints about the great hall in the London County Council's new home, that has taken so many years abuilding; and now the Education Committee has decided to desert it on this very account and to hold its meetings in one of the committee rooms. One cannot for a moment suppose that Mr. Knott neglected the acoustic side when designing this vast and splendid chamber. It must be a gamble. The new Old Bailey courts are abominable, Pearson's splendid church in Red Lion Square has been a trial to those who have preached in it ever since its erection. Yet, so one is told, the acoustics of the courts in the new Sessions House on the other side of the river are as perfect as they could be. What is the secret?"—"The Daily Chronicle."

A Pedigree House

"Philip Webb, the architect from whose genius sprang the modern English domestic architecture, designed in 1868 for Mr. George Howard (afterwards Lord Carlyle) a house at No. 1 Palace Green, Kensington. The movement developed through Norman Shaw and on to Lutyens, and to our eyes the Webb building in its exterior does not look important.

"Nevertheless it is a pedigree building, and it is with regret one hears that, having been acquired by a big commercial firm in Kensington, it is likely to disappear before very long to make way for a commercial building. The famous eries of panels painted by Burne-Jones or Lord Carlyle to decorate the house were removed several years ago, but there are still some examples of painted decoraion and gesso work and panelling that ell of the quality of that famous art evival of the sixties and seventies.

"At the passing of this house one reflects hat its builder (with William Morris) ounded the Society for the Protection of Ancient Buildings, which has now reached he forty-fifth year of its valuable work. hould there not be a society for the proection of modern buildings of quality?"— Manchester Guardian."

The Customs Slum

"The Port of London offices recently pened are a magnificent home for their nhabitants. The cost has no doubt been onsiderable, and will be borne directly or ndirectly by the public, yet the business men of London do not complain. But ithin a stone's-throw is a building ousing a great Government department hich is cryingly inadequate to its work. Not far from these offices are the headuarters of his Majesty's Customs, which s a couple of stones'-throws away on the ver, hidden among the maze of little nes south of Eastcheap. It is a great ontrast. The Custom House was built 1817, at a time when the total Customs venue was ten million a year. It was signed to deal with purely Customs venue work on a comparatively small ale. Since then the revenue has increased beyond imagination, till now it is over three hundred and thirty millions a year. Not only so, but the business has been complicated by the taking over of an entirely different service—the Excise. Still further complications have been introduced by a mass of social work such as that attendant on the Old-Age Pensions.

"The inquirer proceeding to the Custom House finds himself in a maze of corridors and rooms, many of them designed as store rooms. They are dark, stuffy, inconvenient and overcrowded. The Long Room itself, once the glory of Government offices, is inadequate to contain its branches. Its floor is encumbered by a series of unsightly pens, and yet the merchant must wander hither and thither before he can perform his business."—A Customs Officer in "The Daily News."

Nameless Craftsmanship

"Ever since the Duchess of Rutland wrote to us to protest against the prevalent habit of ignoring the designer of a war memorial on the occasion of its unveiling, we have received numerous letters asking for more public recognition of the names of craftsmen, especially sculptors and architects, and suggesting that their works should always bear upon them the signature or a similar indication of the hand that created them. If composers and poets attach their names to their music or their verses, why should not an architect who is responsible for a church or a municipal building be allowed a similar right? There is, indeed, every reason why he should be given it; if only because brick or stone is bound to be more durable, whether as an object of beauty or an eyesore, than most pieces of fugitive music or casual verse. If a distich in a magazine can be followed by the writer's full name in larger type than the distich itself, it ought to be a point of honour to allow an architect a corner in which to record his identity. That is but bare justice to his effort, even if he and it come in time to be execrated by posterity. A candid architect, it is true, may perhaps declare that since he cannot make his name as prominent on a building as a writer can make his on a page of print, an obscure tablet, unless it happens to be of the same unique kind as Wren's epitaph, will be of no use to him, or that his style is his signature legible to all who can read it. But the public, it is thought, ought to be trained to praise or to dispraise, if necessary, both the creation and the creator.

'The hasty multitude
'Admiring entered, and the work some praise
'And some the architect.'

But that was a colossal structure and an exceptional occasion. Should lesser works always bear the maker's name? The poets' practice, where the sonority of a signature may effectively shout down an epigram, has already been mentioned; but it has its parallel in more material craftsmanship. One of the oldest scraps of archaic Latin is preserved on a brooch, which proclaims even to this age that 'Manius made me for Numasius,' and another on a vase explains, among other things, that 'Duenos made me.'—"The Times."

Library Planning and Design

"We have never known a library which, in the course of a few years, has not proved itself to be too small even with a rigorous weeding out of old stock. It is an advantage from every point of view to have the whole of the public departments on the ground floor. It may not be practicable to do this, but every effort should be made to secure enough land to make it possible. The advantages are, amongst others, less risk of accidents to borrowers and staff; much better oversight; ease of future alteration; dignity of appearance; effectiveness of ventilation; and a more even distribution of light. This is not to say that the building will look squat and shallow. The upper floors can be used for offices, stores, workrooms, and caretaker's apartments. We suppose few librarians would choose to live over the premises, while in most cases, it will be agreed, it is advisable for someone to be resident. It follows, therefore, that provision should be made for a resident attendant. . . . It can be taken for a general rule that the books in the lending library should be one to every three of the total inhabitants, rising in, say, twenty years, to one and a half inhabitants to each book. That is, a town of sixty thousand inhabitants would have a library containing twenty thousand volumes in the adult lending library, increasing to forty thousand volumes. This forms a standard by which to measure all the other departments."—"The Librarian."

The Adelphi

"The proposal to demolish the Adelphi and to build on its site 'a great Masonic Temple' is one which every devout Londoner will regard with horror. It is true that the quaint, old-world area, looking sleepily over the gardens to the river, has been badly treated of late years. The huge hotels which flank it on one side and the very hideous station and railway bridge on the other, are quite out of keeping with it; and it is, on the other hand, probable that the Masonic Temple would be a fine building quite worthy of the site. But would it be worth while to restore a vanished harmony by sacrificing the one good thing which has been allowed to stand in an unsuitable setting? We have little enough of Old London left. Some of the most beautiful of the City churches are threatened, and, on grounds of expediency, we may have to reconcile ourselves to their disappearance; but the same grounds do not exist for the substitution of a Masonic Temple for the quiet streets —reposeful even in their names—and the dignified houses which compose the finest architectural legacy that London has from the Adams. Both art and history, as well as that only half-realized fondness which the Londoner has for things of the past, would be outraged by the adoption of the proposal; and for once we are impelled to thank heaven for the existence of 'G. B. S.,' and for the fact that he dwells in Adelphi Terrace. If anybody can be expected to fight, tooth and nail, against eviction, whatever the pretext may be, he is the man!"—"The Westminster Gazette."

Land Settlement and Rural Housing

SIR LAWRENCE WEAVER, K.B.E., Second Secretary and Director-General of Land Settlement of the Ministry of Agriculture, gave a Chadwick Public Lecture on Land Settlement, Rural Housing, and Rural Industries, at York, The Lord Mayor presiding.

The lecturer outlined the history of the decline in the number of small holdings in England during the last thirty years. He sketched the economic causes of a movement so damaging to the national interest, and the various efforts, statutory and otherwise, to correct it. In the twenty-six years ending in 1921 there has been a net loss of 21,000 holdings exceeding one and not exceeding fifty acres in England and Wales, although since 1908 there were nearly 30,000 new statutory holdings created, including those provided between 1919 and 1921 for ex-service men. Sir Lawrence Weaver gave an account of the stewardship of the Ministry of Agriculture and the county councils, who have, since the armistice, settled over 17,500 on the land. This has meant the acquisition and equipment by county councils of 280,000 acres of the best agricultural land, or 437 square miles, an area bigger than the administrative county of Cambridgeshire, at a capital expenditure of about fifteen and a half millions.

The hygienic conditions of the new cottages built on the self-supporting holdings were described, and the lecturer claimed that despite due regard to economy they represented a new and better standard of yeoman's home, in which the improvements were due to careful planning and wise use of materials rather than to increased costliness of type.

The lecturer showed a series of slides of typical cottages erected under the Land Settlement Scheme, illustrating general principles of "fitness for purpose" in such details as combined wash-house and bathroom, a new type of rural drainage for sink wastes, raft foundations for Fen country cottages, etc.

Continuing, Sir Lawrence Weaver reviewed the cottage holdings of Belgium as a type of the co-ordination of industry and agriculture, and gave an account of similar holdings created under the Government's Land Settlement Scheme for disabled ex-service men. He examined the policy of the German Government since 1875 in establishing middle and minor industries, including pure handicrafts in rural districts as supplementary to agriculture, and the new effort being made in England by the establishment of a Rural Industries Intelligence Bureau to create such minor industries, especially for disabled men. The lecturer also gave an account of the remarkable and economic results achieved by tuberculous men at the Papworth Colony, Cambridge, and the new attempt to establish "foreign fancy turnery" at the Preston Hall Colony. He also touched on the definite achievement of the Women's Institutes and the Village Clubs Association in raising the standard of hygiene in rural districts, and on the hopeful development of the allotment movement as bridging the gap between town and country.

He pointed out, however, that any national movement for the closer association of agriculture and industry meant a programme of building and improved transport, which national economy forbade at present, whether in the form of more cottage holdings or garden cities, but claimed that statesmen would need to develop some policy on the lines indicated by Belgian and German models, but purged of many bad features belonging to both, when it again became possible to develop any scheme of social reform.

Architecture and Public Opinion

AT the first general meeting of the session of the Birmingham Architectural Association held at the Society of Artists' Rooms, Birmingham, Mr Rupert Savage, F.R.I.B.A., the President, gave an address, dealing with the influence on architecture of popular opinion.

Mr. Savage said that architecture is one of the most important demonstrations of national character, and its achievement may be considered a reflex of popular sentiment.

If we consider the great epochs of building activity, we find that the nobler developments of architecture are coincident with great political and commercial activities. The architectural splendours of Greece and Rome were the outward expression of intense national energy. The great public buildings were frequented by the common people, and the public squares and market-places were a source of pride to the citizens generally.

In the Middle Ages the predominant sentiment of religious fervour and civic pride found expression in ambitious churches and public buildings, while at a later period the masterpieces of the Renaissance were the outcome of an immense revival in the realm of scholarship and culture. It cannot be doubted that these great architectural achievements were due in no small measure to a popular desire for some visible demonstration of wealth and power. It must surely be a source of wonder to many that we are to-day unable, or unwilling, to emulate the great works of the past.

It must be remembered that many of he great constructions of the earlier enturies were rendered possible by the use of servile labour. Then, again, the simpler scale of living among all but the wealthiest class released for great constructional works labour now employed in manufacture; while, lastly, there was a conscious desire on the part of the people, or their rulers, for some abiding evidence of their own greatness.

The present generation does not realize the poverty of its environment. A sort of mean materialism frustrates all the efforts of the altruistic spirit.

The poor modern building of the recent past seems to have overlaid and effaced traditional work in most English towns in a greater degree than appears in many Continental towns. Even in new and partly developed countries, such as Brazil and Argentina, the cities are being planned on an ambitious scale, and we find that the inhabitants of these fine cities are quite conscious of the value of their inheritance.

In this country the great restraining influence on architectural design and town-planning has been the worship of so-called "efficiency." We rightly demand that our buildings and streets shall be conveniently planned; but we show great reluctance to make any sacrifice to mere beauty.

A big effort has recently been made to improve the housing conditions of the working class, but in these undertakings the cult of ugliness prevails.

The responsibility for the past must be shared by the public and the profession. The public knew nothing of good architecture, while the architects were for the most part inadequately trained and educated. During the last few years there has been a marked improvement in both respects, but before we reach a satisfactory standard two conditions are indispensable—public appreciation and professional efficiency.

The ignorance and indifference of the public in matters architectural is largely due to lack of publicity. It is possible editors may think that the public is not interested in the subject, but it should be remembered that the popular interest displayed in other arts is largely stimulated and developed by the enlightened criticism of the newspaper press.

While preaching to our fellow citizens we must remember that if we demand increased confidence in ourselves and respect for our art, we must do our utmost to deserve them.

Much has been done in recent years t systematize and improve the training o young architects, but in order to furthe our efforts for professional improvement and to give the public that confidence which we desire, we need some form o compulsory qualification, and we fee that this may best be attained by an Ac of Parliament restricting the use of th title "Architect" to those holding diploma from some responsible body suc as the R.I.B.A.

Our aim is not wholly selfish; we desir not only to gain public appreciation o our art and a better status for architects but to hasten the abolition of all that i mean and squalid in our present environment, and to encourage the gradual upbuilding of cities which shall be worth of a great nation.

At the close of the paper a vote o thanks to the President was proposed b Mr. H. T. Buckland, F.R.I.B.A., seconde by Mr. G. Salway Nicol, F.R.I.B.A., an carried unanimously.

Education and Registration

MR. FRANCIS JONES, F.R.I.B.A., in his presidential address to the Manchester Society of Architects, said that during the past year the school of architecture had been taken over entirely by the University, and the whole of the work would, in future, be carried on in one separate building, under one general direction, instead of in several buildings up and down the town, and subject to different authorities who did not always see eye to eye. At the School of Art the Corporation had also organized a complete syllabus for those who are not taking the University courses. One must be grateful for all efforts made for architectural education, and he felt that they were very much in debt to the Corporation who, until the University instituted a Chair of Architecture, were entirely responsible for architectural education in Manchester. In his own experience the late Mr. Richard Glazier was untiring in his efforts to assist architectural students in every possible way, and he hoped the Corporation would understand their motives in urging that the University should assume complete control of their architectural students. It was because they felt that, in addition to the artistic and technical subjects, the students' general education should be carried to a higher standard, and that the proper architectural spirit could best be fostered in a self-contained school where the students had all similar interests and where they would learn as much from each other as from any other source. He hoped the University and the Corporation would still co-operate sufficiently to prevent wasteful overlapping. The architects have collected £600, and, in addition, about £5,000 has been left to the school by the wills of former members of the Society. They must do more, and he appealed to them to subscribe liberally to the M.S.A. School of Architecture fund.

It was their duty to enlighten all and sundry, and they had joined with the Institute of Builders and the R.I.B.A. in arranging public lectures at the University to that end—the more interest the public took in architecture the better the architecture would be. If the public demanded a higher standard they would assuredly get it. With regard to registration, he said :—Registration is, I think, desired by most members of the profession—certainly it was the policy of the old Council, and most certainly it is the declared objective of the new one. So far we are all agreed. Again, who should the controlling body be ? Doubtless the R.I.B.A., and up to this point even we would, I think, be in agreement. Then why these tears ? Where does the canker gnaw ? The ultimate goal of all seems to be the same ; the ultimate is a higher standard of modern architecture in England. Yet here we are with two parties at the Institute ready to tear each other's eyes out because, though they both want the same thing, they want to get it by different ways. If we get registration, unification must follow, but it is almost if not quite impossible to get registration without unification in some form or other first.

Registration only is no use to us—you can register anything such as slaughter-houses, patent medicines, letters, or plumbers—we want education and registration ; if we have that, someone must decide how much education before registration, which really means there must be a general control. Who is to be that general control ? Naturally, one would say the R.I.B.A.

But will a man who is a member of a body not allied to the R.I.B.A. agree to that ? Or would a man who has practised as an architect for many years, but is attached to no society, agree to it ? Probably not. We must therefore get this other body and this unattached man to join in with us in some way or other. And this is the difficulty—amongst the practising architects not attached to the R.I.B.A. are many capable and efficient architects—we should all welcome these to the R.I.B.A., but there are also many who, although they have practised for many years, are neither capable nor efficient, and could not reach the standard worthy of registration. These men have made their living for years by designing and erecting buildings, and no Government would pass a bill which would debar them from carrying on their business. But the supply of new men of this type would cease the day of the passing of the registration bill ; their ranks are filled from time to time by clerks of the works, clerks from builders' offices, quantity surveyors, clerks from district council offices, and so on—all without architectural training, and this supply will continue to pour in men to practise in competition with those who have gone through a long course of training in the architectural school and architects' offices. The sooner this supply is stopped at the source the better for the contents of the architectural reservoir from which our supply of buildings is obtained. The cost of clearing the reservoir is the admission of the present doubtful supply until such time as the whole supply will have to pass through the filter-beds, or, in other words, examinations.

This must happen in any profession which has been an open one before it became a closed one. Before medical examinations were compulsory for that profession all sorts of people obtained a living, or part of their living, through giving medical advice, and when registration of doctors became compulsory, all and sundry—quacks, herbalists, and so on—assumed the dignity of medical men ; similarly with the law. If you have to have a bad tooth out the sooner you go and get it over the better. The sooner registration is accomplished the better for everybody, the better for the young architect materially, the better for the country architecturally.

Manufacture and Testing of Portland Cement

THE second of the series of public lectures at the Northern Polytechnic Institute was given by Mr. H. R. Cox, M.C.I., works secretary to the Associated Portland Cement Manufacturers, on "The Manufacture and Testing of Portland Cement."

The lecturer stated that up to 1885 the bulk of the world's cement was made in Kent and Essex. This was the birthplace of the industry. Later it was discovered that many other districts contained the materials from which good cement could be made.

There are now two methods of manufacture in general use, known as the "wet" and the "dry." The wet is applied to naturally soft materials, and the dry to such substances as limestone and shale. It is somewhat easier to make good cement by the wet than by the dry process. The "wet" process involves chalk digging by hand, or steam-navvies, and clay digging with grab dredgers. The chalk and clay are brought to the washmills in wagons each holding a definite weight (five to ten tons), one ton of cement requiring one and a half tons of chalk and half a ton of clay. The washmills are in batteries of six with screens between each having holes of an increasing degree of fineness down to $\frac{1}{40}$ in. diameter.

The proportions of chalk and clay are carefully regulated by the chemist who takes samples from the washmills every half-hour. The slurry leaving the washmills is so fine that barely 3 per cent. is retained on a sieve having 32,400 holes per square inch. The slurry is now pumped to storage and mixing tanks of about 66 ft. diameter and 10 ft. deep.

In the "dry" process the materials are crushed and then dried, the dryers being steel cylinders 50 ft. to 70 ft. long by 5 ft. to 6 ft. in diameter set at an incline and having a furnace at one end, the dry material is then elevated to hoppers and again ground and mixed. From these mills the material goes to silos, 40 ft. high by 14 ft. diameter, the silos being made so that the material may be mixed or changed as necessary.

The next stage, in either dry or wet process, is burning or "clinkering" in a rotary kiln, a cylinder up to 250 ft. long and 10 ft. diameter inclined to the horizontal $\frac{1}{2}$ in. to the foot, and revolving once per minute. It is lined with fire-brick about 9 in. thick. At the lower end is a large hopper containing powdered coal so fine that only about 8 per cent. is retained in a sieve of 10,000 holes per square inch. This coal is blown into the kiln and bursts into flame. The temperature reaches 700 deg. C., and afterwards 1,400 deg. C., and the slurry is clinkered. The whole process is under the complete control of the operator. The white-hot clinker falls into a cooler, and is then ground and passed through a sieve.

From the grinding mill the cement passes to a tube mill. This carries on the grinding process by means of a series of steel plates and tough flint pebbles and steel pellets. This produces cement which gives a residue of only about ¼ per cent. on a 10,000 mesh sieve.

This fine cement sets very quickly and needs regulating. Until a few years ago 0·5 per cent. to 2·5 per cent. of gypsum was added, but the regulating now takes place by a method of "hydration" invented by Mr. Bamber, which is carried out by blowing steam into the tube mill while grinding is going on. Cement was invented about 100 years ago. It is now made in almost every country in the world, ingredients being, silica, alumina, and a small quantity of magnesia, iron, and other elements.

The details of the methods of manufacture vary, but all follow the general lines given above. 80 to 100 h.p. is required to drive the plant and two tons of raw material and half ton of coal per ton of cement. An elaborate system of testing is in operation at all stages, and chemists are continually taking samples at various stages in the manufacture. The salient feature of all tests is the degree of skill required upon the part of the tester if accurate results are to be obtained. This applies equally to such an apparently simple operation as sieving as it does to chemical analysis.

The lecturer then detailed the tests required by the British Standard Specification, and indicated such points as the exact percentage of water that should be used in mixing, the operation of the Vicat needle, and the details of cement briquettes for tensile tests.

When cement has been obtained from a reputable manufacturer and is guaranteed to conform to the British Standard Specification, the lecturer stated that any substantial variations in the tests should be carefully scrutinized. In many cases they are the fault of the tests and not of the material itself. The colour of cement is no indication of its quality; the weight again is unreliable.

In obtaining cement for special purposes it is always advisable to describe the circumstances to the manufacturer and to ask him to provide a cement to suit these requirements.

At the close of the lecture a demonstrator mixed cement for a setting test, soundness test, tensile test, neat and with sand, and showed how sieving should be carried out.

Mr. G. A. Gardner, M.C.I., referred to percolation of water through cement concrete.

The lecturer stated in reply that some amount of bridging takes place, but cement properly mixed is quite impervious when set. In setting it is (1) amorphous and (2) crystalline. This action has a closing effect upon the pores. Water sometimes carries lime, etc., into the fine capillary channels in the concrete and tends to close them up.

Mr. T. Scott, A.R.I.B.A., referred to expansion of cement not air-slaked, and the need for air-slaking. The lecturer stated that air-slaking was no longer necessary owing to hydration during manufacture. Cement which is hot on delivery may simply have retained some heat from friction in grinding. Several students then asked questions relating to points that had been referred to in the lecture.

The next paper will be read on November 16 at 7.0 p.m. by Mr. F. W. Gayer, past-president London Master Builders' Association. Subject: "The Organization of Building Works."

Town Planning and Estate Development

Discussing the subject of "Compulsory Town Planning and Future Estate Development," at a meeting of the Auctioneers' and Estate Agents' Institute—the president (Mr. James S. Motion) in the chair—Mr. John A. Rosevear said the expense of promoting and carrying a scheme through to final approval need be merely a comparatively small amount, and was met from the ordinary district rate of the local authority. It would be realized that a scheme, when approved and operative, did not necessarily entail the immediate construction of the roads and work upon open spaces, nor the erection of public buildings, etc., as planned in the scheme, but merely set apart such areas for future construction as the needs of the district arose, and controlled the future development in accordance with the final map as approved by the Ministry of Health. In reality a town-planning scheme was of the truest economy. It provided for and enabled future widenings of roads to be effected as the necessity arose, instead of the extremely high cost in compensation for demolished buildings and trade disturbance having to be paid, which had been the experience of most towns, not to mention the metropolis and its suburbs, with the consequent heavy increase in local rates.

Mr. W. R. Davidge, F.R.I.B.A., congratulated Mr. Rosevear on the note of co-operation which he had struck. He felt that was the note land agents wanted to hear, and they realized too, he felt, their own interests as much as local authorities, and that their own notions should get into town planning and get in fairly early. He felt that the new procedure was very much simpler than the old, but still there was too much red tape about it. This was a matter of business which could be talked over in the early stages with the landowners concerned, and what he felt was that if landowners adopted Mr. Rosevear's suggestion and put their heads together and advanced their own schemes, they could considerably expedite matters. He thought tribute should be paid to the action taken by the Surveyors' Institution, which produced the recent general order which simplified the interim development of land and prevented that sterilization which was such a troublesome business with the last Act. The Town-Planning Acts, as interpreted by the Ministry, only applied to land that was available and likely to be used for building purposes. The Ministry were apparently advised that the inner area was not likely to be used for building purposes. On that he would ask them to take a walk down Regent Street. They must consider the inner portion, and it was one of the points that would have to be taken into consideration.

Mr. H. V. Lanchester, president of the Town-Planning Institute, remarked that they had got a whole lot of elaborate regulations about the number of houses, and the area they were to cover, and the height the houses were to take. He had always wanted to put this in one lump, that on an acre they should have so many cubic feet of building, say, 200,000 or 300,000 cubic ft., that was not to be exceeded. Give people a certain amount of freedom, whether they built three stories or two stories or whether they covered one-fifth or one-quarter of their area, and there might be a limitation that they might not cover more than a third of the area. But beyond that it seemed to him they got freedom and much more flexibility and much more simplification by simply putting cubic contents. It might not make for beauty, but they could deal with that afterwards. They could only get beauty if people wanted beauty. He thought the taste for decent, pleasing-looking houses had grown up in the last ten years to a most remarkable extent. They could not expect always to secure beauty by a critical attitude, although, of course, they could eliminate the very detrimental developments. He sympathized with Mr. Davidge's reference to Regent Street, and thought we wanted a lot more comprehensive and imaginative plans with regard to the linking-up of the existing cities with the new areas. He felt that at the present time London was rapidly reaching a point at which it was becoming inefficient, and they would want very much more, whether by town-planning or some other Act. They would want to step into London and some of our other big cities and give more scope for a city that could be run efficiently and economically. Otherwise some of our big cities would go under.

Sir Aston Webb's Dream

"London of the Future" was the subject discussed at a dinner which took place under the auspices of the Imperial Industries Club, at the Hotel Victoria. Sir Aston Webb (president of the Royal Academy) was the guest of the evening, and Sir G. H. Chubb (president of the club) occupied the chair.

The chairman said that he was a Cockney born, and had lived in or near London for many years. He had seen great changes, especially in the buildings, but the alterations and changes had been greater during the last few years than during the last century. He thought that that was very largely due not only to the expansion of business and larger and better ideas, but to the better type of architecture. In spite, however, of what had been done, London could not be compared in some respects with many modern continental cities.

Sir Aston Webb gave his impression of the London of the future in the form of a dream during which he was taken to the top of St. Paul's 100 years hence, a guide pointing out to him the many improvements which had been effected. For instance, the River Thames had been purified and had become a favourite resort of anglers as in Queen Elizabeth's time, when the river was so full of salmon that articles of apprenticeship invariably contained a clause that apprentices should not have salmon for meals more than three times a week. Then there was a fine embankment on the Surrey side of the Thames on which was erected the great hall of the London University; all the railways were underground for fifteen miles from the centre of London; the great gloomy railings which surrounded the parks were put back; and great roads ran through the metropolis.

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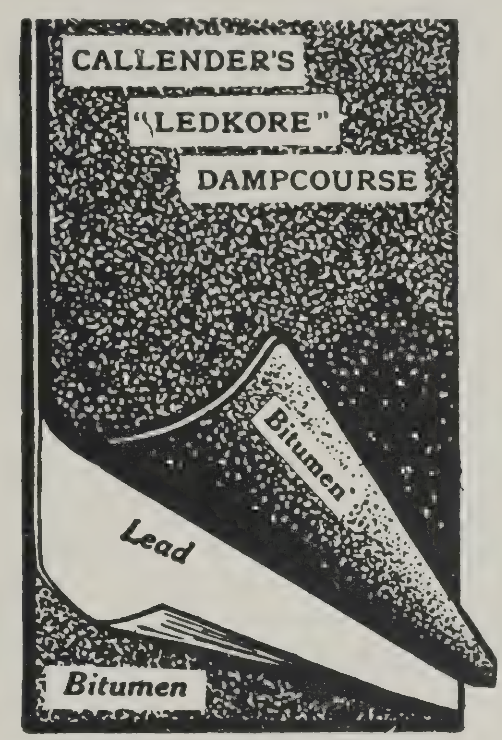

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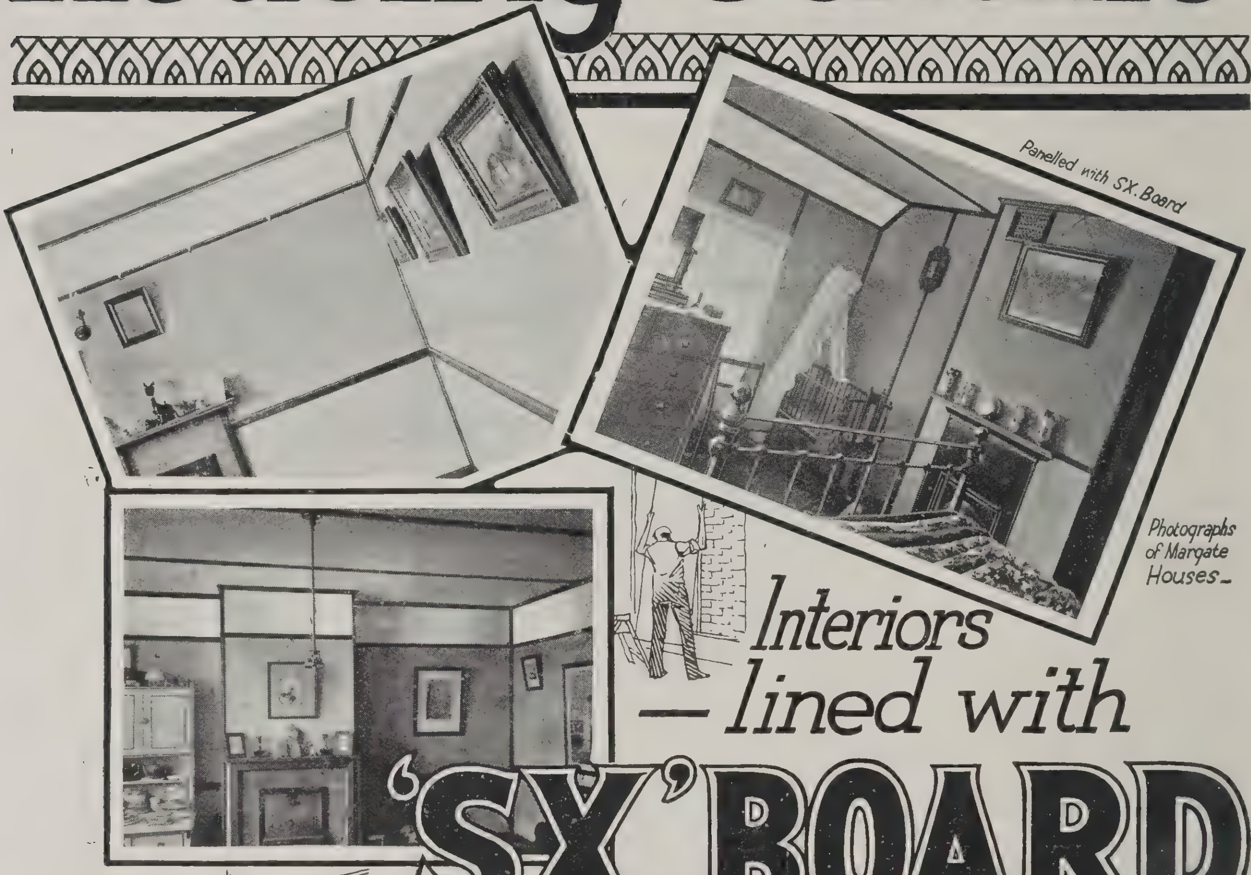
Housing Scheme



Interiors —lined with 'SX.' BOARD

THESE photographs showing how "SX" Board was applied to walls and ceilings in an important Housing Scheme clearly demonstrate the practicability of "SX" Board as an alternative to plaster. The fact that "SX" Board is unaffected by vibration and therefore cannot crack or fall is an important feature. A house lined with "SX" Board can be decorated and occupied immediately. There is no waiting while wet walls dry—this is another notable advantage. In view of the early revival in building which is anticipated in many quarters, the advantages of a good wallboard such as "SX" merit careful consideration.

WALLBOARD SX FOR INTERIOR LINING
BRITISH MADE

SX. BOARD
The British Wall Board
THAMES MILLS, PURFLEET.

S.B.103

The Week's News

New Sea Wall for Lowestoft.

£100,000 is to be spent on a sea wall Lowestoft.

New School at Tilbury.

To cost £7,000, a new school, for 304 rolars, is to be erected at Tilbury.

Redecoration of the Mansion House.

The Mansion House is to be redecorated the new Lord Mayor at a cost of £1,139.

£15,000 *Girls' School Extension.*

Farringtons Girls' School, Chislehurst, to have a new assembly hall and classoms at a cost of £15,000.

East Ham Town Hall Extension.

Among the schemes for helping East m's unemployed is the extension of the vn hall at a cost of £7,500.

Hastings-Bexhill Promenade Scheme.

A proposal which will result in the king-up of the Hastings and Bexhill omenades is under consideration.

Cheaper Houses.

Fifty houses are being built at Holbeach, colnshire, costing £320 each, to let 6s. per week.

Croydon Tramway Reconstruction.

Croydon is to reconstruct the tramway ween Norbury and Purley at a cost of 2,000, plus £55,000 for repaving.

Painting by Direct Labour.

Painting and repairs by direct labour West Middlesex Hospital came to £189. e lowest tender was £199.

Flats at Bethnal Green.

The foundation stone of a block of nty flats, which are being erected in s Street, Hackney Road, has been laid the Mayor of Bethnal Green.

Halifax Housing Scheme.

The Halifax Town Council have reved sanction to borrow £250,000, for purpose of carrying through a housing eme, free from Government control.

Christ Church, Westminster.

hrist Church, Westminster, on the of the "new" chapel in which Crom-'s horses were stabled, is to be reed at a cost of £2,000.

Recommencing Practice.

r. G. Val. Myer, A.R.I.B.A., of the late of Fair and Myer, of 39 Furnival et, E.C., has returned from India, recommenced private practice at Marylebone Lane, Wigmore Street, . Telephone number Mayfair 7067.

Temporary Bridge for Newport.

ne "temporary" bridge, which is to sed for the next ten or fifteen years e a new town bridge is being built ss the River Usk at Newport, has formally opened for public traffic. relief bridge, which has cost 000, carried the traffic over the nes when the new Southwark Bridge being constructed.

Beckenham Cottage Hospital.

Beckenham residents are being appealed to for the money necessary to enlarge the local cottage hospital, and so provide buildings more in keeping with the needs of the district.

Westminster Station Improvement.

Plans have been prepared, and work is about to start on the reconstruction of the Westminster Station of the District Railway. Under the scheme, which has been approved, there will be direct access from the street entrances in Bridge Street and on the Embankment, and the use of the private subway leading to the House of Commons will be facilitated by the reconstruction of the entrance.

The British Empire Exhibition (1924).

An invitation has been received from the Executive Council of the British Empire Exhibition for members of the R.I.B.A. to visit the exhibition grounds at Wembley and to inspect the various buildings now in course of construction there.

Members and Licentiates may apply to the secretary R.I.B.A. for tickets of admission, which will enable them to visit the exhibition at their own convenience. There are frequent trains from Baker Street and Marylebone Stations.

R.I.B.A. Associates' Committee.

At a meeting of the Associates' Committee held at the Royal Institute of British Architects recently it was agreed that: "Having regard to the fact that the Main Committee on Unification and Registration had been dissolved, no useful purpose would be served by the continuance of the Associates' Committee, and that it should therefore notify the general body of Associates, by whom it was appointed, of its dissolution, and inform them at the same time that the results of the Committee's labours could be seen on application to the Secretary R.I.B.A."

Bicentenary of the Death of Sir Christopher Wren, February 25, 1923.

The first meeting of the Grand Committee will be held on Wednesday, November 22, at 4.30 p.m. at the R.I.B.A. The business of the meeting will be to consider arrangements for the Commemoration Programme. The Grand Committee includes Sir Aston Webb, P.R.A., Mr. Paul Waterhouse, P.R.I.B.A., Mr. Andrew T. Taylor, Sir Lionel Earle, Sir Banister Fletcher, Sir Hercules Read, Professor A. R. Hinks, Mr. Mervyn Macartney, Dr. H. H. Turner, Major-General W. D. Bird, and representatives of the Universities of Oxford, Cambridge, and London, of the City of London, and of all the appropriate learned societies, guilds, and schools. Tea will be served in the Common Room of the Royal Institute at 4 o'clock.

The Society of Architects.

The following members were elected at the last meeting:—

As a Fellow: Anderson, James Rae, M.S.A., Karachi, India.

As Members: Cunes, Albert, 86 Park Road, Exeter; Gilder, Framroz Nowroji, Indian Students' Hostel, Keppel Street, W.C.1, and Bombay, India; Ledbury, Joseph William Nelson, 21 Clifton Road, Winchester; Piggott, John Robert, 61 Hartshill Road, Stoke-on-Trent.

The National Housing Policy.

The National Federation of House Builders draws the attention of all candidates and voters in the coming General Election to the necessity of a National Housing Policy being adopted, which will produce houses with the greatest rapidity, and with the least expense to the public purse, and puts forward the following as a suggested National Housing Programme. All restrictive legislation should be withdrawn at the earliest possible date; all local authorities which build houses in the future should be compelled to charge economic rents except for the clearing of slum areas; if any State assistance is granted for housing it should be granted equally to all agencies building houses of a good type; every endeavour should be made to encourage the people to invest their savings once more in house property; all methods of encouraging the citizen to purchase his own house should be examined and adopted if they promise to add to the available housing accommodation; local authorities should revise their by-laws in order to cheapen the cost of building and road making so that houses can be let or sold at a reasonable figure; local authorities should be empowered to lend money on mortgage to responsible builders developing estates and erecting houses of approved types.

Competition News

"The Modern Hospital's" Contest for Small Hospital Plans.

Superintendents of small hospitals and hospital workers and architects generally, have manifested interest at the announcement of the architectural competition for small hospital plans to be conducted by "The Modern Hospital," which was made by President George D. O'Hanlon at the opening session of the twenty-fourth annual conference.

This $1,000 competition has as its dual purpose the stimulation of small hospital construction, which is efficient in arrangement, suitable for small communities, and creditable in architecture, and the provision to boards of trustees of small hospital floor plans that will combine simplicity of design and good taste with a compact arrangement of the various departments of the hospital now regarded as essential to the efficient and scientific care and treatment of the sick.

The competition calls for a set of plans of a general hospital of from thirty to forty beds. Registration for the contest must take place by November 15, and the final date for submitting designs is January 15, 1923.

Copies of the conditions can be obtained from the Secretary, R.I.B.A., upon application.

Old Cranleighan Society Cricket Pavilion Competition.

The R.I.B.A. Competitions Committee have been in negotiation with the promoters of the competition and the conditions are now in order. The veto of the Royal Institute is accordingly removed, and members are at liberty to take part in the competition.

(*For List of Competitions Open see last week's issue.*)

Reinforced Concrete Road Construction

The scientific application of reinforced concrete to road construction was first introduced by the B.R.C. Engineering Company in 1911, since which time it has passed through the normal stages of growth of any new idea and now stands as a recognized feature of road construction. B.R.C. road constructions are divided into three classes of work, which serve different purposes; these are road foundations, complete roads, and tramway foundations.

B.R.C. road foundations are used under surfaces of stone setts, wood blocks, asphalte, and tar macadam. These require a permanently level bed, in order that they may themselves remain level. A B.R.C. foundation provides the level bed. The standard B.R.C. foundation is concrete, 6 in. thick, reinforced with No. 9 B.R.C. fabric. This is sufficient for the heaviest modern traffic in any ordinary ground. In very bad ground thicker concrete and heavier reinforcement may be necessary, and in very good ground the thickness of concrete may be reduced.

Complete B.R.C. roads are the combined construction of reinforced concrete foundation and concrete surface built together as one. Although they are generally sprayed with tar, the drag and grind of the traffic is transmitted quite closely to the actual concrete, and the surface concrete must have a very hard wearing stone as aggregate. Where suitable stone is obtainable locally it is used throughout the concrete and the road is called a "one course road"; where such stone has to be imported a softer and cheaper local material may be used for the bottom portion of the concrete, and the harder material for the top 1½ in., the top being laid within twenty minutes of the bottom. Such is called a "two course road." Complete B.R.C. roads are generally 6 in. thick, reinforced with No. 9 B.R.C. fabric laid 1½ in. from the bottom. This construction has, during the ten years which have elapsed since its introduction, been found sufficient for all ordinary cases. On very bad ground, such as soft peaty land, thicker concrete and heavier reinforcement has been used, but for ordinary purposes nothing further is required than the simple construction of 6 in. concrete with a layer of No. 9 B.R.C. fabric. The concrete is claimed to be sufficiently strong in itself to withstand, without special reinforcement, the shearing stresses and the slight tensile stress which may occur at other parts than at the bottom. In soft peaty ground the tensile stress at the top of the concrete is increased, and No. 14 B.R.C. fabric is then laid 2 in. below the top in addition to the No. 9 at the bottom.

In concrete less preparation is needed for the foundation. It simply requires to be brought to the necessary level without any special ramming or rolling. The concrete is strengthened by the fabric and transmits the weight of foot traffic over such a larger area of ground that the intensity of pressure on the ground is extremely small. The concrete is 2 in. thick, reinforced with No. 14 B.R.C. fabric laid half an inch below the surface.

The company have issued an interesting book of photographs arranged to provide in a pleasing form some evidence of B.R.C. roads constructed during the past ten years, showing the extent of the development which has taken place. Practical experience gained during that time has been added to the theory which led the company to the first tests, and the results up to date are embodied in the latest B.R.C. specifications.

The accompanying illustration shows Glenboig Road, Airdrie, a single-course concrete road 6 in. thick, reinforced with B.R.C. fabric ref. No. 9. The road was constructed in August 1921, and traffic since then has included the passage of a sixteen-ton tractor engine with steel tyres several times per day. Underlying the road there is a bed of peat bog 40 ft. thick. There is not a sign of any subsidence, crack or wear in the concrete. This road, considering the nature of the foundation and the weight of the load, provides additional evidence of the efficiency of a single layer of No. 9 B.R.C. fabric placed near the bottom of the concrete. The road was constructed under the direction of Mr. W. A. Chapman, road surveyor, County of Lanark, Airdrie. The address of the company is 4 Iddesleigh House, Caxton Street, Westminster, S.W.1.

The R.I.B.A. Exhibition of Working Drawings

The exhibition of Architects' Working Drawings now being held in the Galleries of the Royal Institute closes on November 22.

The exhibition, which is open between the hours of 10 a.m. and 8 p.m. daily (Saturdays 10 a.m. to 5 p.m.), is intended primarily for students of architecture; they are able to examine the drawings that a practising architect hands to a contractor, and thus will be afforded an insight into the methods adopted in a modern architect's office.

A special students' evening will be held at the exhibition on Friday, November 17, at 8 p.m. All students are cordially invited to attend. The architects wh
have kindly lent the exhibits—or the
representatives—will be requested to
present in order to explain the drawin
to students. Refreshments will be pr
vided, and no cards of admission are r
quired.

London Master Builder
Sports Association

The history of this organization is
follows :—

At the commencement of the footb
season in 1921 Mr. Dudley Bartlett, t
managing director of Perry & Co. (Bo
Ltd., convened a representative meeti
and offered to present a cup for ann
competition. Several invitations we
sent out, and the firms now appearing
the league table are those who respond
to such invitation. Last season's winn
were Holancube. All contracting fir
are cordially invited to join, and sho
get into communication with the H
Secretary, 56 Victoria Street, S.W.1. F
lowing is an explanation of the name
Holancube (Holland and Hannen a
Cubitt); Higadillo (Higgs and Hil
Trocoll (Trollope and Colls); Hollowa
Athletic (Holloway Bros.); F. G. Mint
Perrycobow (Perry & Co. (Bow), Ltd.).

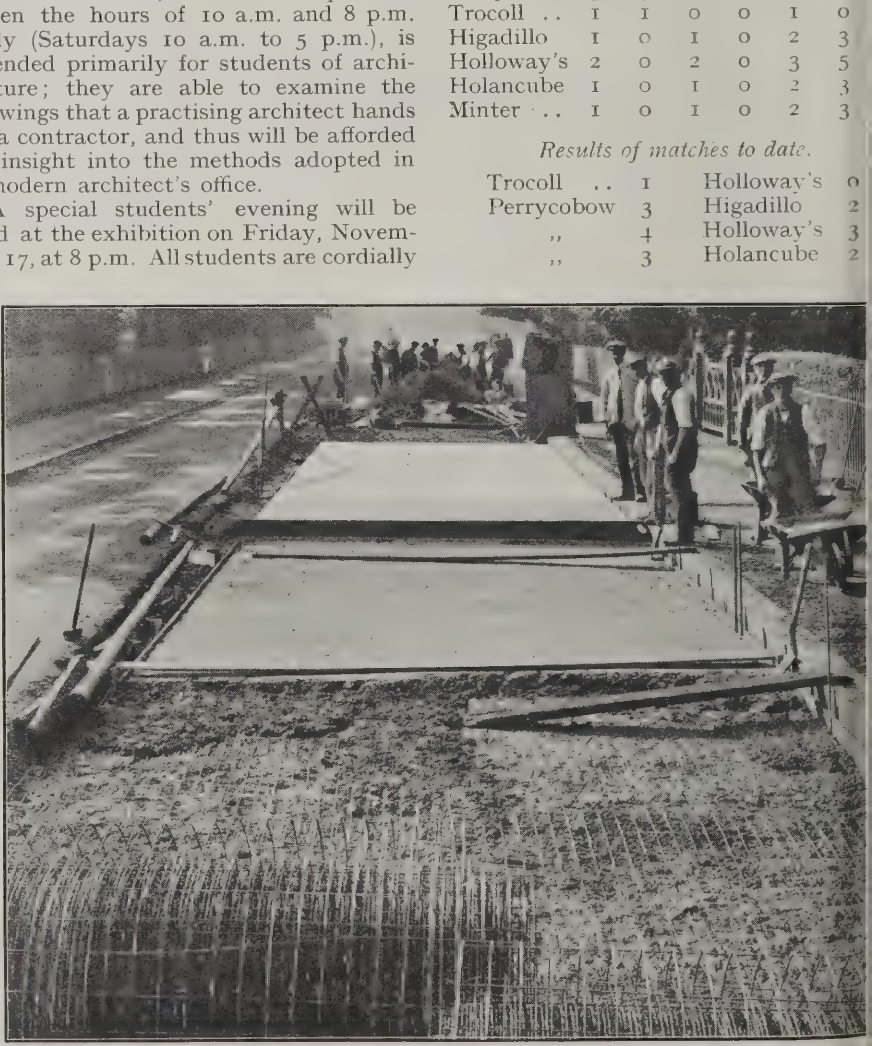
LEAGUE TABLE.

Week ending November 4, 1922.

					Goals.	
	Plyd.	Won.	Lost.	Dwn.	For.	Agnst.
Perrycobow	3	3	0	0	10	7
Trocoll ..	1	1	0	0	1	0
Higadillo	1	0	1	0	2	3
Holloway's	2	0	2	0	3	5
Holancube	1	0	1	0	2	3
Minter ..	1	0	1	0	2	3

Results of matches to date.

Trocoll ..	1	Holloway's	0
Perrycobow	3	Higadillo	2
,,	4	Holloway's	3
,,	3	Holancube	2

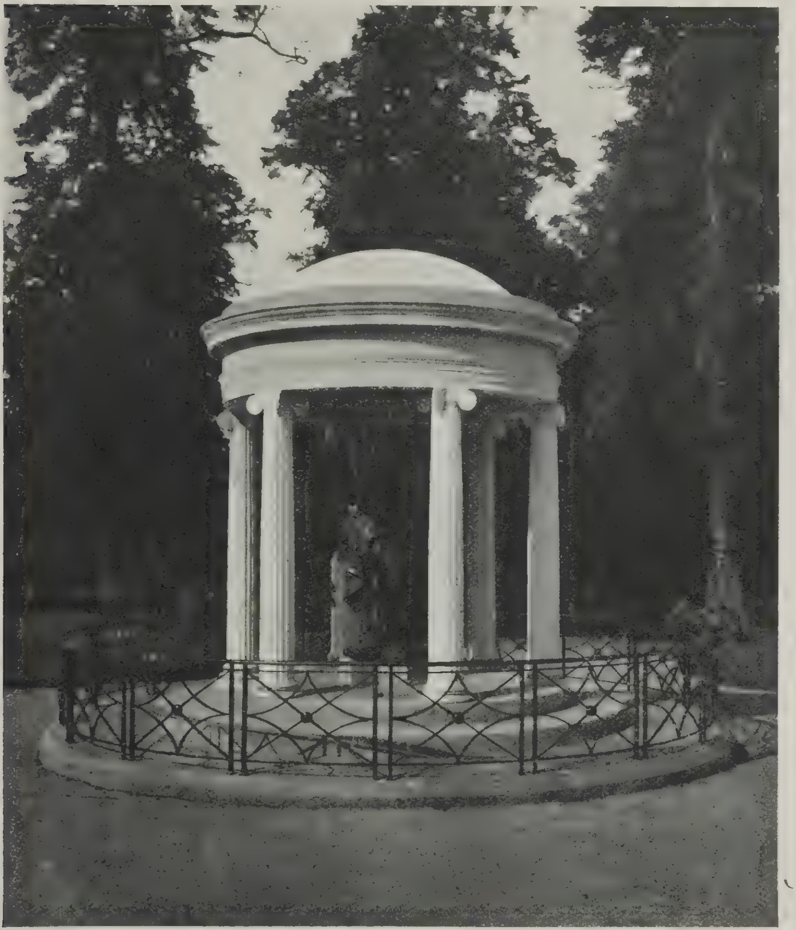


GLENBOIG ROAD, AIRDRIE, UNDER CONSTRUCTION.

nesday, November 22, 1922 Vol. LVI. No. 1455

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."



SHROPSHIRE WAR MEMORIAL.

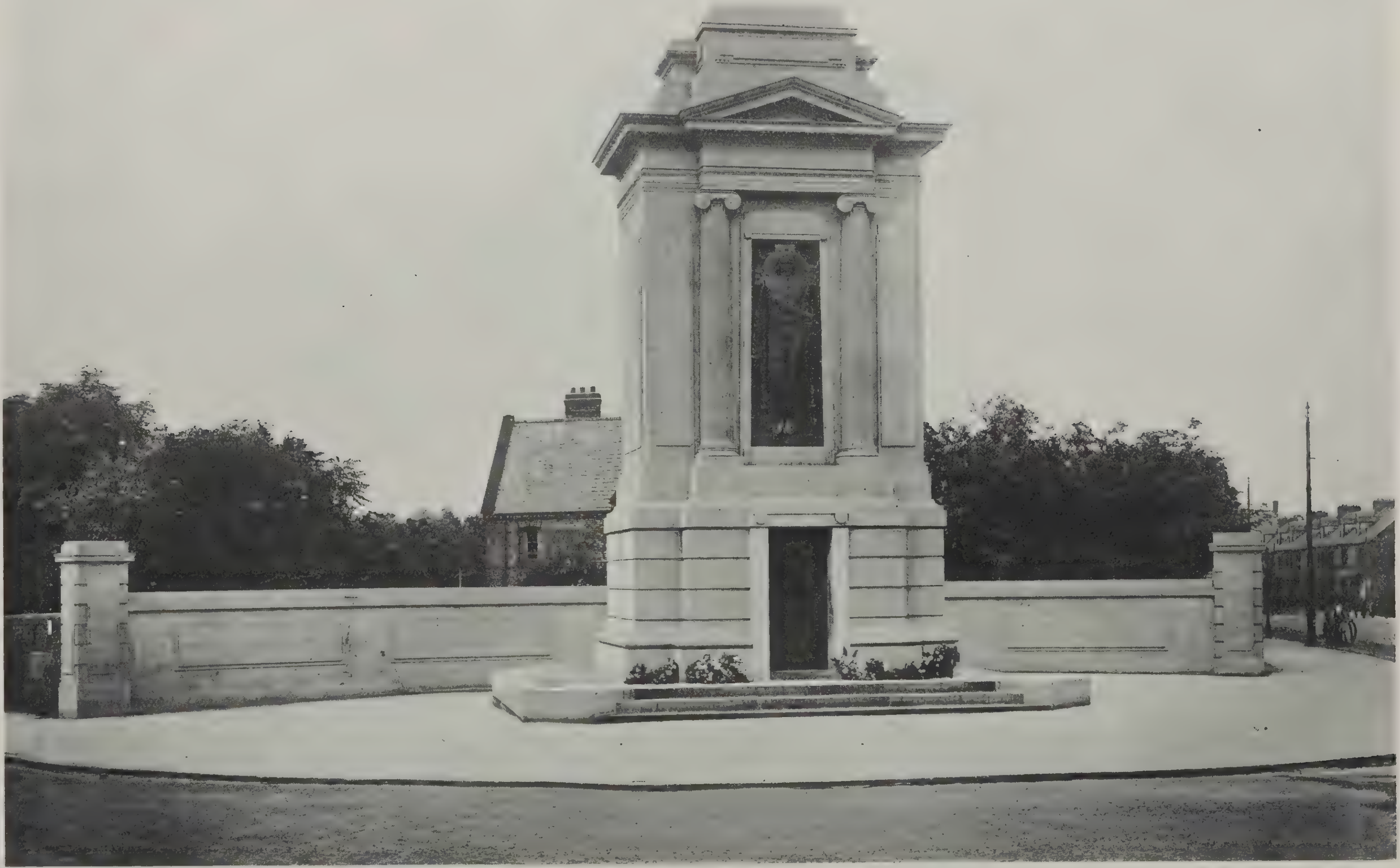
This memorial has been erected in the "Quarry" at Shrewsbury, near the River Severn. Messrs. George Hubbard and Sons were the architects. The temple, of Portland stone, is enclosed by bronze railings, and the dome is supported by six columns. The figure of St. Michael is the work of Mr. Allan G. Wyon, sculptor. The floor of the temple has been richly embellished with the County and the Regimental arms on a gold mosaic background, and the seals or arms of the six boroughs of the County are embossed on the inside frieze. A special feature of the memorial is the concealed lighting, which may be turned on at night. The monument bears the inscription: "To the Gallant Men of Shropshire who fought for God, King, and Country, 1914–1919."

(*See also page* 742.)

27-29 Tothill Street, Westminster, S.W.1.

War Memorials. 31—Gateshead

John W. Spink, Architect



The bronze panel upon the principal front of this memorial is modelled strongly in low relief, and depicts a warrior in an attitude of "Defence," the cross behind being slightly burnished. In the base of the cenotaph, is a Room of Remembrance, in the centre of which stands a stone lectern. Around the top of the lectern is carved "Their Bodies Are Buried In Peace But Their Name Liveth For Evermore," and upon it rests the volume containing the names of the fallen. Immediately above, suspended from the vaulted ceiling, is an ever-burning lamp, emblematical of undying memory. Upon the portal to the door is inscribed "Mors Janua Vitae." The door,

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, November 22, 1922 Volume LVI. No. 1455

The Future of Housing

THE problems involved in town planning, housing, and slum clearance are of an importance that should be sufficient to raise them far above the turmoil of party politics; where the health of future generations is in the balance, men of goodwill should unite and throw their full weight in the scales against the intolerable evils that have arisen through past thoughtlessness and neglect. Recrimination is useless, and the man who inveighs blindly against failures on the part of the Government, and has no constructive policy for the future, is not assisting any more than the man who still petulantly abuses a past generation of speculative builders. Ignorance is the greatest foe to progress, and, on the subject of housing, ignorance still prevails. Until architects and builders are prepared together to take the initiative, and inspire the community to take an intelligent interest in housing, the greatest of our present-day questions, we shall not solve the problems it entails, our towns will continue to present exhibitions of chaos, and our slums will remain breeding grounds for crime, sickness, and revolution, necessitating a worse than useless expenditure upon prisons, hospitals, and asylums.

Mr. Stanley Hamp's Presidential Address at the Architectural Association has once again raised the important question of co-operation between architect and builder, and he emphasized the charge that the architectural profession missed a great opportunity in allowing the State official to interfere in a matter that should have been settled between the architect and the builder. As a constructive proposal, Mr. Maurice Webb suggests that we should follow America's lead, and that architects should issue "type plans," somewhat on the lines of the book issued by the Ministry of Health, but of a more complete and comprehensive nature. Again, Mr. Manning Robertson, writing in the R.I.B.A. Journal of November 12th, 1921, proposed an arrangement, to be arrived at between architects and builders, under which architects would act as consultants and receive a small "royalty" on each house; the architect not to be responsible for supervision, or anything beyond providing lay-out, house plans, and a skeleton specification. No doubt numerous other forms of co-operation could be devised. The important point is that the architect has his quota to subscribe towards civilization, and it is his business to give it. The true artist cannot withhold his help from his fellows because the terms of remuneration that are applicable are not all that he might desire. The builder, for his part, should realize that the architect is capable of contributing something of æsthetic and practical value, and that the joint work of the architect and builder will, of necessity, be more creditable than that proceeding from either separately.

The necessity for an amendment in the architect's scale of fees, in favour of the builder of small houses, arises from the apathy of the architectural profession at the time when the existing scale of fees was being compiled. In those days it was erroneously assumed that housing and architecture were two separate things, and that the former was not within the architect's province. It is sometimes argued that, since architects are naturally not expected to charge for work that they have not done, an architect can, under the present scale, make his own arrangement for lower fees to correspond to reduced work. This argument is unpractical, because builders know nothing of such elasticity, and neither does the average architect, who has probably only given superficial attention to the scale of charges.

No matter what course is adopted, it will be necessary to convene a meeting of representatives of architects and builders thoroughly to thrash out the question, and to decide on some scale of remuneration for architects that builders could accept as "economic"; for the builder would probably be the first to admit that architectural amenity is in itself desirable, and, in view of a growing public discrimination, that it will also result in increased rent and selling value. It is illogical for architects to grumble at the uneconomic aspect of Government housing, and at the same time to place an uneconomic tariff on their own advice.

A body jointly representing architects and builders could exercise a more insistent pressure upon the Ministry of Health and upon local authorities in getting by-laws brought up to date, in cutting out obsolete requirements, in reducing redundant road charges, and in arriving at adequate safeguards to obviate admitted past evils, such as lack of space and sunlight. Town planning will do a great deal, but nothing of a compulsory nature can compensate for the lack of outside driving force that is lamentably evident at present. Government interference is a deplorable expedient, and the first State housing scheme has come to a halt; we are, however, deceiving ourselves if we feel confident that it is necessarily defunct. Unless private enterprise can come forward with a definite policy, and can guarantee the maintenance of a high standard in lay-out and design, proving that it can and will erect houses in something approaching adequate quantities, the Government, sooner or later, will have to step in again. We cannot stand still. We have a terrific leeway to make up, the number of dilapidated houses to be replaced is continually increasing, while hundreds of acres of festering slums await rebuilding, the latter in any case being beyond the reach of private enterprise.

While we have little doubt that the problem of providing convenient and healthy homes in pleasant surroundings for small middle-class families can well be solved by the architect and builder in consultation, the case of the real "working-class" house is unfortunately different. The 176,000 houses now being completed by the Government have nearly all gone to the middle-class man (who needed them as badly as anyone else), because he alone could pay even the low rents charged, but we must be prepared to face a far greater difficulty when it comes to housing the real "working class." Architects and builders would be doing their country a signal service if they would apply themselves to the reconciliation of the maximum wages that industry can afford to pay, with the minimum rents that can economically be charged for the simplest housing consistent with the decencies of life and with healthy and contented inmates. The experience gained by the Ministry of Health, by local authorities and their architects, and by progressive firms and syndicates, should be examined and sifted until we have found the solution of this problem, which can hardly be of a definitely insoluble order.

The housing question is of intense importance to architects, since it opens up to them a new country, one which may or may not be inviting as regards remuneration, but in respect to their art and its effect on the lives of this and future generations must be of paramount significance.

Reconstruction in Victoria Street

With the extensive alterations to several buildings of first-class importance in Victoria Street, Westminster, the architectural character of that teeming thoroughfare will be greatly improved. With the transformation now initiated and likely to be considerably developed in the near future, Victoria Street will soon be the Bond Street of Westminster. Hitherto its buildings have hardly risen to the dignity that so finely situated a street, with its vista of the Abbey, the Houses of Parliament, and glimpses of the river, St. Thomas's Hospital, and the London County Hall, certainly ought to possess. Its main characteristic, indeed, has been a mere monotony of dull uniformity, depressing to behold. Architects have long recognized its possibilities, however, and apparently they are now to enjoy a welcome opportunity of making Victoria Street more worthy of its situation. It should certainly be one of the finest streets in Europe, and apparently those who are controlling the present alterations are stimulated and inspired by that idea.

Adelphi Terrace

Even those who may be excused for tempering with certain reservations their admiration for the work of the brothers Adam are feeling uneasy at the persistent rumours of alterations in Adelphi Terrace. It is the one spot where Adam house and street design can be seen at once succinctly and comprehensively. Adelphi Terrace, indeed, represents an important phase of town-planning in London, as being the first real attempt in that kind, as well as supplying the root idea of a Thames Embankment. Besides, Adelphi Terrace is *per se* of a unique architectural character, and no lover of architecture could complacently see that character marred. Yet there are many disquieting rumours such as that which appeared in "The Daily Chronicle" one day last week, to the following effect : "The threat that a large part of the famous Adelphi Terrace and the region of little streets running down to the Embankment are to be demolished in an immense housing scheme gives rise to the hope that 'if the worst happens' the past will still be kept vivid in street names." That would be, indeed, a poor compensation for the disappearance of one of the most notable architectural features of London, and, for the credit of its citizens, the "worst" should not be allowed "to happen" to Adelphi Terrace, nor anywhere else.

Anonymous Architecture

The Duchess of Rutland, who started in "The Times" the very interesting debate that, under the heading "Sculptors and War Memorials," has included several protests against the similarly enforced anonymity of architects, has written a further letter, in which she warmly acknowledges the sympathetic interest aroused by her first communication (October 21) on the subject. The Duchess fears, however, that the main point in that letter "has not quite been appreciated." Except in a letter from the President of the Royal Society of British Sculptors, Her Grace declares, "no one has quite grasped it. He has put, in clearer words than mine, the protest which I made against the injustice and unfairness which sculptors and, I will now gladly and earnestly add, architects have suffered at the hands of the British Press." The President goes on to say : "They seem to have made it a custom to omit the name of the sculptor when reporting the unveiling of any public memorial." As our previous notes on the subject will show, our own impression was that this was the gist of the arguments. We are in full agreement with the Duchess's hope for "appreciation for the worker in the 'historic present,' which the unveilers might be asked to remember and the Press to record, with courtesy and unfailing certainty." Her Grace's letter concludes with a very sensible suggestion : "May I venture to hope," she says, "that in future those who officiate at the unveiling of a memorial will request that the sculptor and architect, however unknown, should be presented to them at the opening of the ceremony ?" It is surely a very serious omission, amounting to a breach of decorum, not to make this presentation; and it ought always to be made, as her Grace of Rutland suggests, at the beginning of the ceremony, not at its fag-end.

Who's Who in the New House

So large an industry as that of building should surely be more numerously represented in the House of Commons. Yet, in the admirable series of brief biographies appearing in "The Times," one looks in vain for extensive accessions to the ranks of the several denominations of builders, and there are a few very regrettable casualties. Sir Tudor Walters, for example, lost his seat for the Brightside division of Sheffield; and all architects will also sincerely regret the defeat of Major H. Barnes, F.R.I.B.A., in his gallant fight to retain his seat for Newcastle-upon-Tyne East. Major Barnes had so rapidly achieved distinction in the House that his (we trust merely temporary) absence from it will be felt as that of a rising statesman as well as of one of the surprisingly few architects who have won their way into the House of Commons and "made good" there. Rather oddly, the announcement of the misadventure at Newcastle-upon-Tyne was immediately preceded by the result of the polling at Dartford, where Mr. G. W. S. Jarrett, architect and surveyor, won a seat handsomely from a Labour member. So far as the full results of the elections reveal the *personnel* of the new Parliament it would appear that Mr. Jarrett will sit in splendid isolation as the only architect elected to the new House, where, however, building interests do not end with the architect member. Mr. J. W. Lorden, "governing director of a firm of building contractors," retains his seat for North St. Pancras by the substantial majority of 1,011; Mr. F. J. Privett, who has won a seat at Central Portsmouth by the slender majority of seven, is described as "a builder and contractor at Portsmouth and Haslemere"; and Mr. D. G. Somerville, the managing director of Messrs. D. G. Somerville & Co., Ltd., constructional engineers, won a stiff fight at Barrow-in-Furness by the substantial majority of 1,927 against a formidable Labour candidate; while Mr. E. G. Price, who gained a seat at Shoreditch, is "the head of the firm of B. Goodman & Co., housebreakers and contractors, and is one of the largest employers of labour in the borough of Shoreditch. He is also a Warden of the Paviors' Company." At Oldham Mr. S. Smethurst, whom we take to be identical with a Past President of the National Federation of Building Trades Employers, polled 23,200 votes, and would no doubt have won a seat but for a "split vote." With the political composition and complexion of the new Parliament we have nothing to do, beyond remarking that the new House would seem to comprise more business elements than the old, to the obvious advantage of the entire community.

Joking Apart

(A Monthly Causerie)

Architecture and "The Man-in-the-Street"

LONG ago it was St. George who stood for Merrie England; early in the eighteenth century St. George gave way to John Bull, and we may now observe "The man-in-the-street" gradually, but surely, dispossessing John. St. George is, in these days, either forgotten or, if remembered, so violently sneezed at that I will say nothing about him; and we are all, I think, so well acquainted with John Bull—who first saw the light in a satire from the pen of the famous Dr. Arbuthnot two hundred years ago—that it is unnecessary to describe him, yet I cannot deny myself the mischievous pleasure of exhibiting the familiar figure of John as he stands aglow in the searchlight Mr. Masefield turns upon him. I quote from the essay contributed by the author to the volume titled "Ruskin the prophet." Mr. Masefield says: "I have seen many images of John Bull, but none showing him as a person who would think, or pray, or fight, or be courteous, or chivalrous, or merciful, or practise any art, or sing, or be delightful, or make love, or do a decent day's work, or have an enlightened idea, or be tolerable company under any circumstances whatsoever. He is always an animal man standing in the way."

John Bull, also, although Mr. Masefield does not mention t, lacks any sense of humour; but too much has been said, or the picture is unfair to John, who has redeeming qualiies: courage, for instance, and honesty, and an obstinate oyalty to the principle of fair play. What his views on rchitecture may be cannot be imagined—it would seem mpossible he should have any. In this matter the man-inhe-street is an entirely different "proposition"—as our usiness acquaintances would say. He has decided views; n fact, his views are the most conspicuous thing about im. He is compacted of views on every subject, and is a erson to reckon with.

The man-in-the-street is, of course, an abstract conception; he no more typifies any actual man in any street han John Bull typifies any actual state of life. The two gures stand for popular angles of view. What John Bull hinks is supposed to be the bias of the country, and we obtain a reposeful satisfaction in associating ourselves with point of view which eliminates perplexing subtleties, flat ers our complacency, and justifies our prejudices. "The an-in-the-street," as he is represented to us, has all ohn's deficiencies, but none of his redeeming qualies, and prides himself on being impervious to reason, rtifies himself with ignorance, and justifies himself narrow obstinate prejudices. He is an intellectual olshevist shouting "Highbrow" at the man whose pronce it is to know and to think, and for him wisdom consts of a cynical distrust of human nature and a dullitted pursuit of the main chance. This is the conception hich we may set up in place of John Bull, vice St. George, tired.

It would provide matter if someone with plenty of time spare would make the necessary crafty investigations d draw up a statement setting out exactly what the public, pified by the man-in-the-street, thinks about architects. is undoubtedly a fact that very few people indeed have y idea what an architect is for. This is because they have her never had the curiosity to wonder, or because that riosity has not been strong enough to carry them beyond e point of idle speculation. The confusion of mind in ne persons on the subject of the duties of the architect y may employ is so complete that the poor man has been own to feel vague on the subject himself. He has the sensation of being spun around and told to catch whom he may, when a prospective client says, "I want you to build a nice house for me, but I want you only to design the *outside* of the house. I will do the inside as I know exactly the house I want." The lady who so expresses herself has, however, advanced a long way towards the knowledge; she has reached a point where the architect is definitely associated with design. This is unusual. The majority—speaking of the public as a whole—associate the architect with the trap of the scullery sink that will not pass sand used for cleaning pots without surgical aid—by which I mean to express that it is the mechanical imperfections of a dwelling-house that first present the idea "architect" to the man-in-the-street. He is aware of "architect" as a person connected with building, and when he becomes a householder the shortcomings of his speculative-built villa are laid to the door of "the architect." No architect has had any hand in the building of the house, but a scapegoat is wanted and "the architect" fits the case to admiration. Why is not the recess by the fireplace big enough to take the new wardrobe? Why is not the electric light placed where I want to put the dressing-table? Why do the taps drip, and the slates slip down the roof, and the doors bang, and the stairs creak? The answer is—"the architect." He is the culprit. He is the person who is accountable for all the stupidities, uglinesses and inconveniences in buildings. It does not occur to the public that the architect only differs from other men in having special knowledge of building, or that the tasteless designs and shoddy construction sown broadcast over the country are due, not to architects, but to the ignorant taste of the public itself, who, if it employs an architect at all, commonly selects a spurious one.

Under conditions in which he is chiefly identified as the "man who makes the chimneys smoke," it seems remarkable that the architect should be employed as much as he is. This fact depends upon another pet illusion of the public, namely, that all builders are dishonest. It has specially held by the idea that every builder will scamp the drains unless he has an architect sitting, like the old man of the sea, on his shoulders with legs locked in a strangle-hold on his throat. This is extremely lucky for architects, many of whom have won great credit from the conscientious toil of the experienced old bricklayer crouching in the trench to joint the pipes, by taking the client for a stroll along the brink and assuming the whole of the credit for the meritorious proceedings going forward below. The architect is a person, then, who sees that the man-in-the-street gets his money's worth out of the builder who would otherwise cheat him, but it is very rarely that the real work of an architect —the thing that he gives his nervous energy to, is in the least understood. With so many discouragements lying in wait for those who embark on the career of architect it is remarkable that so many should practise. The explanation may be in the qualifications for a career as an architect. Deafness is a well-known qualification, and has produced some distinguished men; chronic indigestion has also guided more than one youth to the threshold of success, and it is now generally accepted that architecture is one of the very best professions in which to have epileptic fits. Broadly speaking, however, the usual factors decisive of an architectural career are an apparent incapacity to do anything else, supported, perhaps, by a weak taste for drawing, which is made conspicuous by the absence of evidence of other mental vigour.

KARSISH.

The Houses of Well-known Architects

1. Sir Reginald Blomfield's Residences at Hampstead and Rye

EVERY architect must have dreamed of the day when there would walk into his office The Perfect Client—one who had money, and to spare; who asked only that the mansion should be built and that nothing should be put before him but the bill. A faint flush of pleasure can be imagined to spread over the face of the dreamer at the thought of no longer being "cabin'd, cribb'd, confin'd" by sordid considerations of cost, by the requirements and "ideas" of the client, and by the many "changes of mind" of the client's wife—but such a commission is secured only in one's dreams.

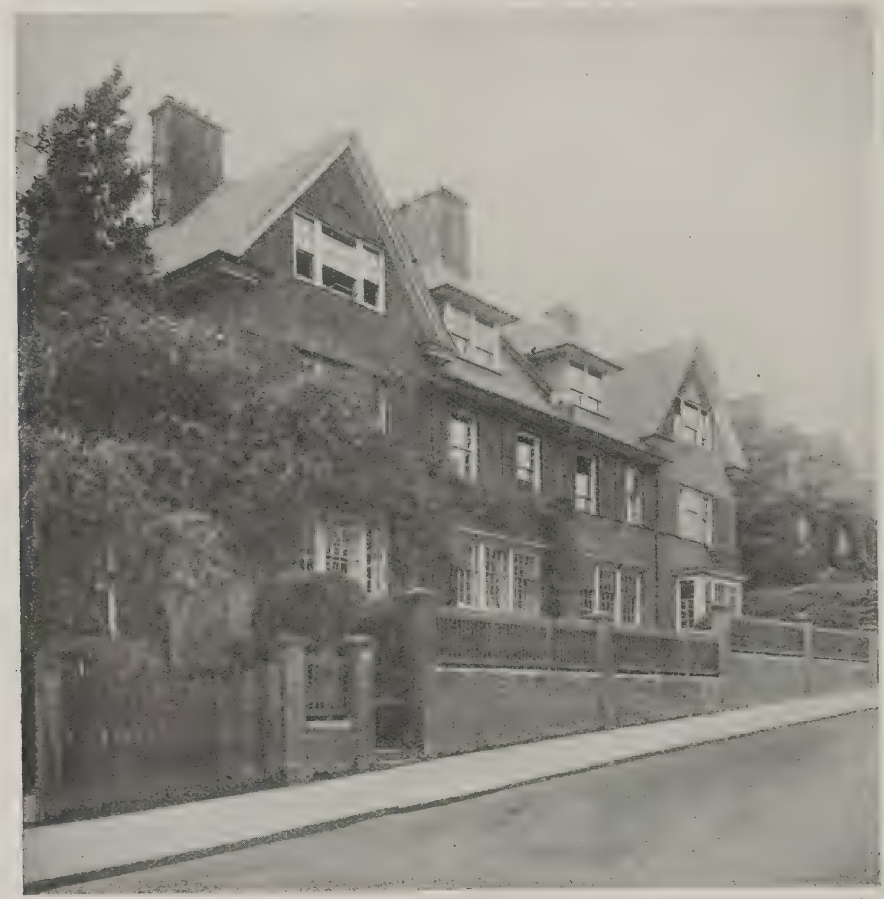


Photo: "Architects' Journal."

SIR REGINALD BLOMFIELD'S HAMPSTEAD HOUSE.

All artists are, of course, bound by similar considerations; the actor must please his audience—the gallery; the playwright is restricted by the limits of the stage, and to succeed must—even as did Shakespeare—introduce unwanted lines to please the mind of the age.

However, the house which an architect builds for himself may be said to hold forth possibilities. Here at least he may give free rein to his imagination; here he may bring down to earth castles which have hitherto been suspended in the air; and now, with himself as client, he may at last have his fling.

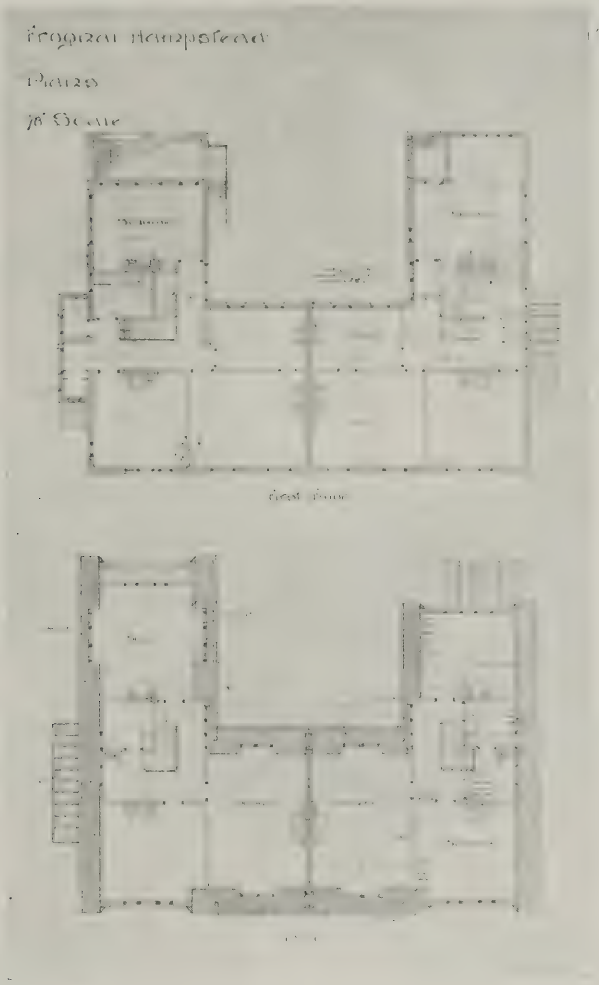
The self-designed house of a great architect cannot fail to be of interest to all who have eyes to see. It is a *journal intime:* it may be as revealing as the "Autobiography" of Cellini himself! It is, of course, not given to every architect to design even his own domicile: if you would satisfy your curiosity as to where lived X, that great Gothicist, you might be led to a block of flats in Maida Vale; W, the well-known domestic man, you shall find miserably housed in one of a long row of depressing villas; R, the famous Classicist, has found shelter among the homely cottages of a garden village. Obviously, it is a matter of means, as well as of inclination, and where the architect's dwelling is an unsought-for architectural mask, one must look deeper—beyond, even, the pattern of the very wallpaper—if one would discover the secret leanings of the artist's soul.

One remembers a verse or two from a little poem on the subject by Mr. Thomas Hardy:—

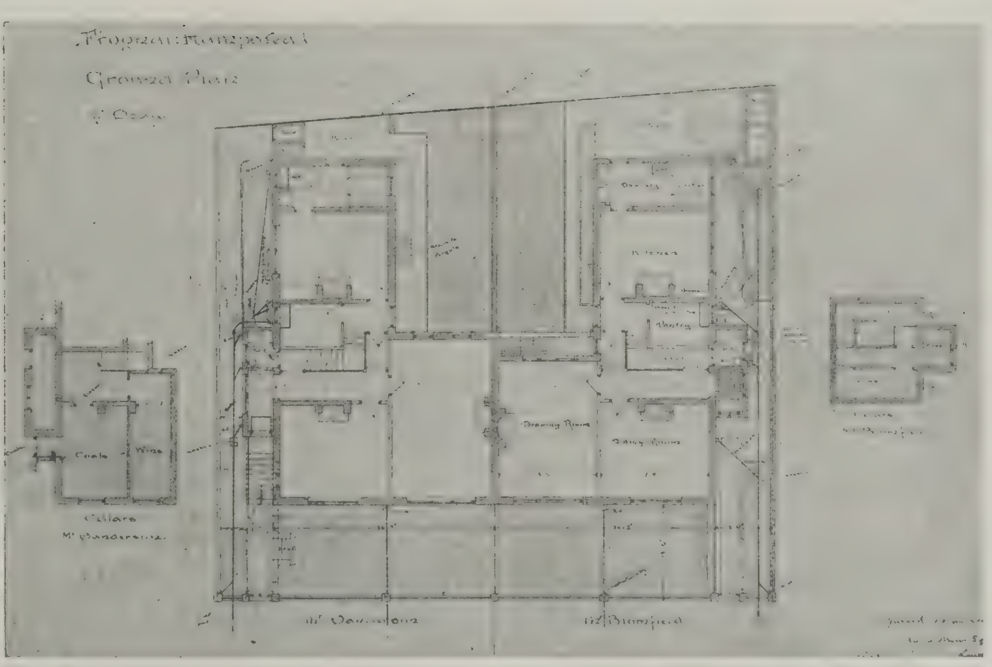
There is a house with ivied walls,
  And mullioned windows worn and old,
And the long dwellers in those halls
Have souls that know but sordid calls,
  And daily dote on gold.

* * *

In blazing brick and plated show
  Not far away a "villa" gleams,
And here a family few may know,
With book and pencil, viol and bow,
  Lead inner lives of dreams.

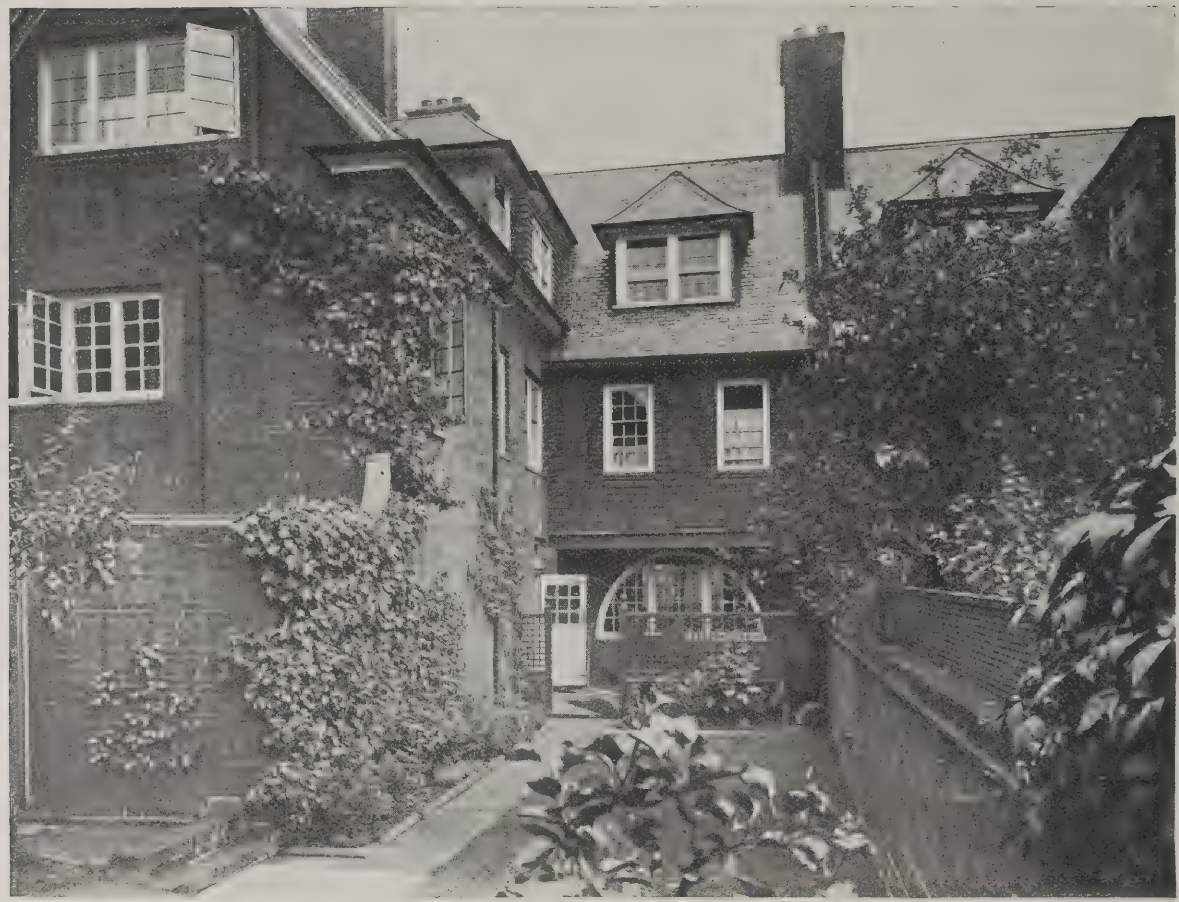


FIRST FLOOR AND ATTIC PLAN.

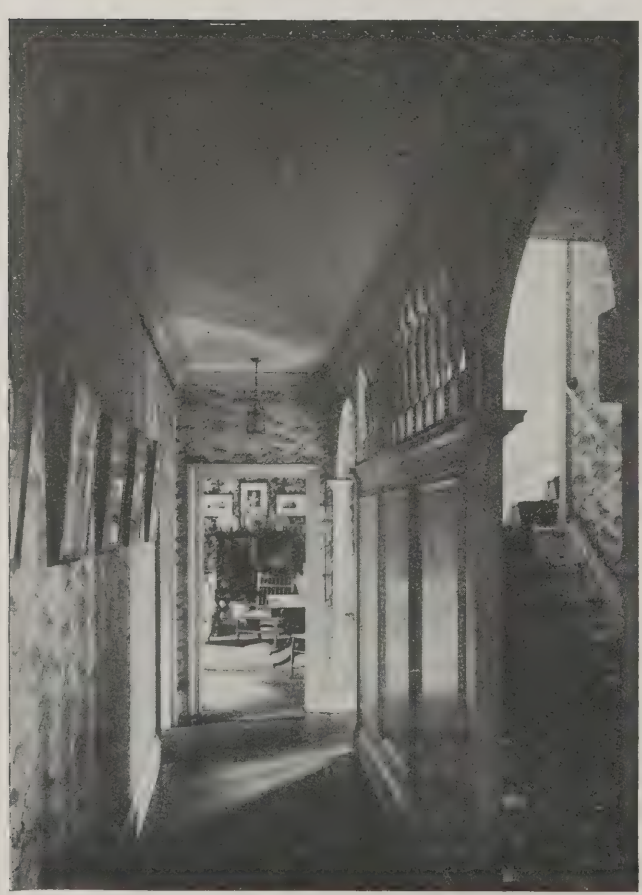


GROUND FLOOR PLAN.

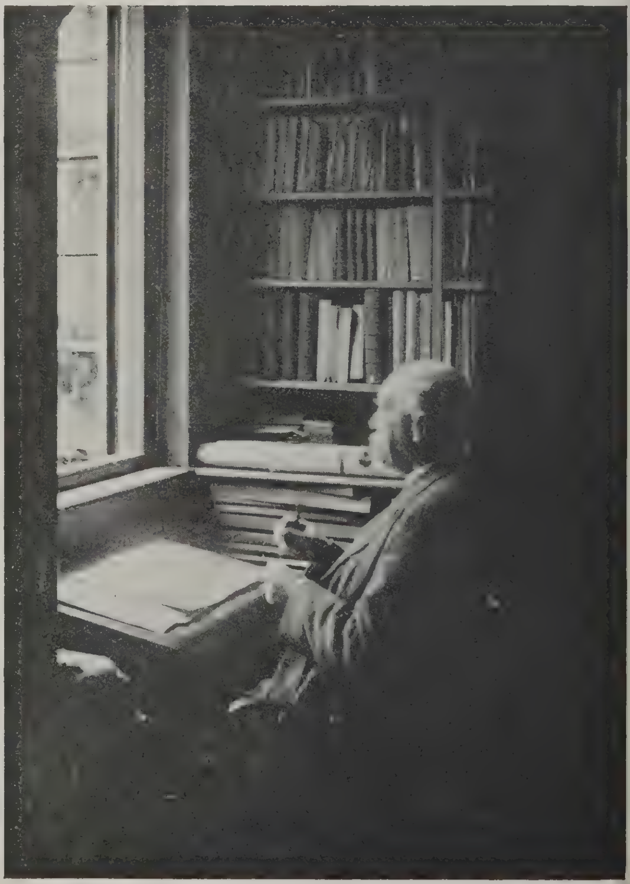
SIR REGINALD BLOMFIELD'S HOUSE AT HAMPSTEAD.



THE GARDEN SIDE.



VIEW FROM HALL INTO THE DRAWING-ROOM.



Photos: "Architects' Journal."

"WHERE THE FRENCH BOOKS WERE WRITTEN."

SIR REGINALD BLOMFIELD'S HOUSE AT HAMPSTEAD.

"POINT HILL," RYE—

FROM THE MILITARY ROAD. FROM THE LAWN-TENNIS COURTS.

We open this series of "The Houses of well-known Architects" with Sir Reginald Blomfield's homes at Hampstead and Rye, and purpose to give at intervals the houses of other prominent members of the profession.

Hampstead has been chosen by many architects for their London residence :—In Well Walk, it will be remembered, dwelt the late Temple Moore; the late Sir Gilbert Scott's house ("Admiral's House") has a tablet affixed; Mr. Raymond Unwin occupies an old farm-house that is mentioned in the local histories; and the number of lesser-known architects who dwell there must be legion.

Sir Reginald Blomfield's Hampstead house is one of a pair in Frognal, built about thirty years ago from his own designs, the one up the hill being for his own occupation, and the lower one for the late T. J. Cobden Sanderson, the well-known book-binder, craftsman and writer.

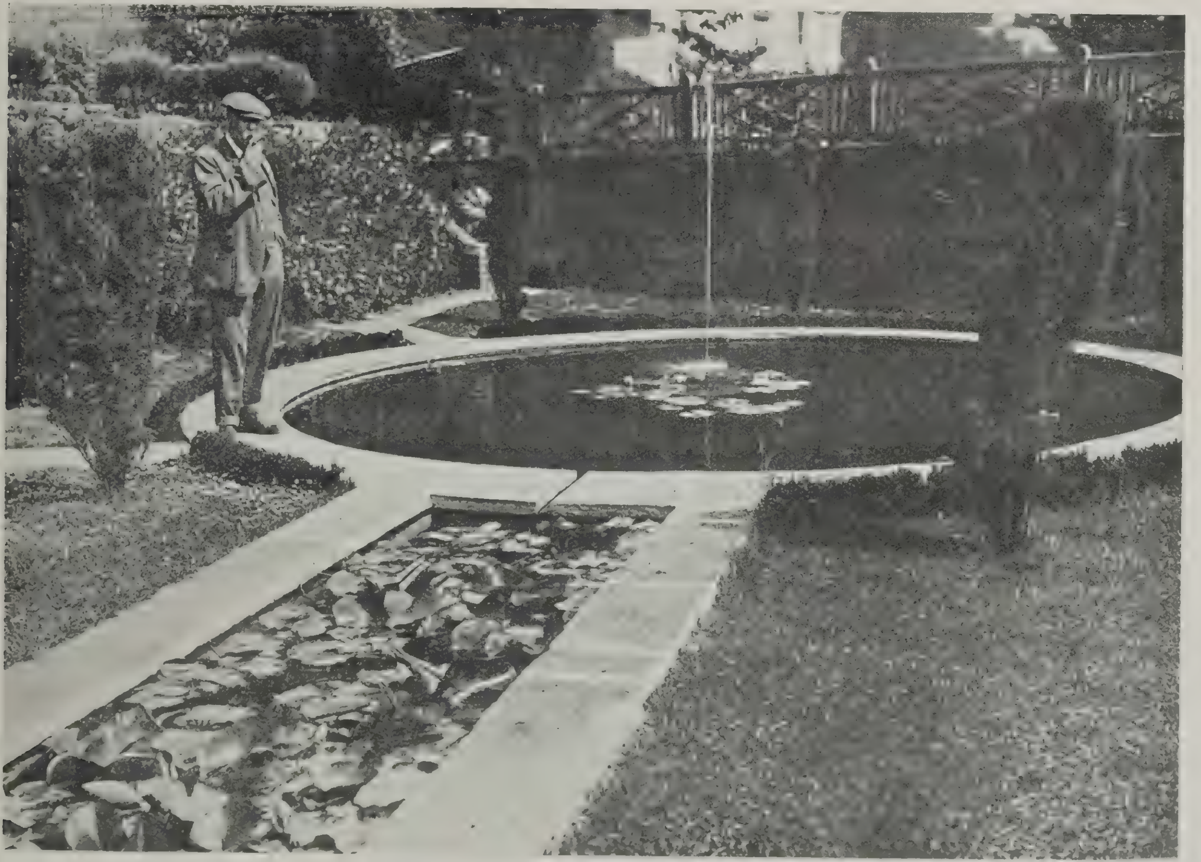
The materials are red brick and Whitland Abbey slates, and the design was intentionally kept simple and plain, the principal aim being convenience in working. The alcove in which Sir Reginald is sitting was originally a loggia on the first floor opening out of the study, but was closed in some years ago in order to house an ever-increasing number of books.

The position of "Point Hill," Rye, is, in its own way, unique. The house stands on high ground outside Rye, and overlooks Romney Marsh and the Rother. "On a clear day," says Sir Reginald, "one can see the cliffs of Dover, and at night the lights of Folkestone,and the flash of Grisnez over the horizon." The real quality of the house is the way it lies along the top of the cliff, and this is well shown in the general view from below, showing the gazebo lattice bridge and house at the top.

Owing to its position and the thickness of the summer foliage, it has been impossible to take a near view.

The house was originally a three-room cottage, which was enlarged by Sir Reginald to a nine-bedroom house, with three sitting-rooms, bath-rooms, etc.

H. J.



"POINT HILL," RYE: THE WATER-GARDEN.

(Sir Reginald Blomfield in the foreground.)

The Whitgift Hospital, Croydon

A Practical Suggestion

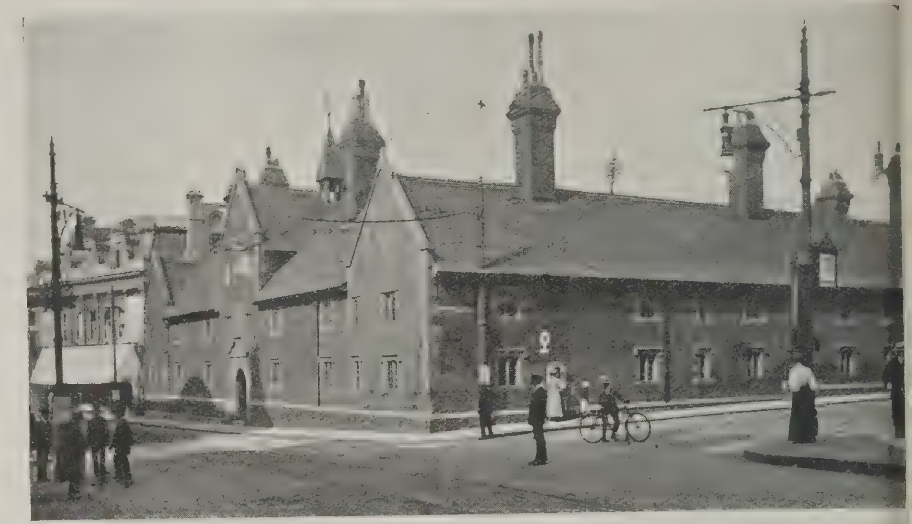
By H. V. MILNES EMERSON, A.R.I.B.A.

TO the observer of the present-day traffic in the High Street of Croydon, it is apparent that some solution will have to be found at no distant date to relieve the congestion that occurs at the junction of North and South End, George Street and Crown Hill. This is due to the bottle-neck formation of the roads at this point, aggravated by the sharp turn that occurs in passing from George Street to Crown Hill, combined with the steep slope of the latter commencing directly at North End. On drawing No. 1, showing the existing roads, it is clear that the main obstruction is the position occupied by the Hospital of the Holy Trinity, more generally known as the Whitgift Hospital. This building when erected in 1596–1599 formed the frontage line in North End and George Street, but the widening of both these thoroughfares within recent years, without due regard to the position occupied by the Hospital, has left the building projecting into the roadways.

When the widening scheme was first undertaken the obvious course would have been to make the Hospital the starting point and to have carried out the widening of these thoroughfares by setting back the buildings on the opposite sides of the roads as and when the opportunity occurred.

However, somebody blundered, and it would serve no good purpose to discourse upon this point. Rather is it important that means should be found to carry out the necessary widening and at the same time prevent the destruction of the Hospital.

Proposals have been made from time to time dealing with this problem, but all the schemes so far brought forward have proposed the removal of the property on the opposite sides of the roads, or the construction of new roadways to divert the traffic from this particular spot. It is obvious that these schemes, necessitating the removal of a large amount of property, would prove costly, and still leave the Hospital more or less an obstruction.



VIEW FROM THE MAIN ROADS.

Now, if it is possible both to widen the roadways and retain the Hospital, at a reasonable cost, such a solution should be acceptable to those who are for or against the removal of the Hospital building, and the scheme which I now bring forward is to move the building bodily back some 40 ft. north-east of its present position, as shown upon drawing No. 2.

By doing this the roadway is at once opened, but, more important, this historic building would still be retained upon practically the same site, and perhaps be made still more historic by being the first building of its character to be removed bodily in this country.

Apart from this building and the old Palace, little remains at the present day in Croydon in a tangible form to connect the town with its historic past, and it would almost amount to sacrilege if this perfect example of Elizabethan architecture, which has been associated with Croydon for the past 325 years, should be destroyed.

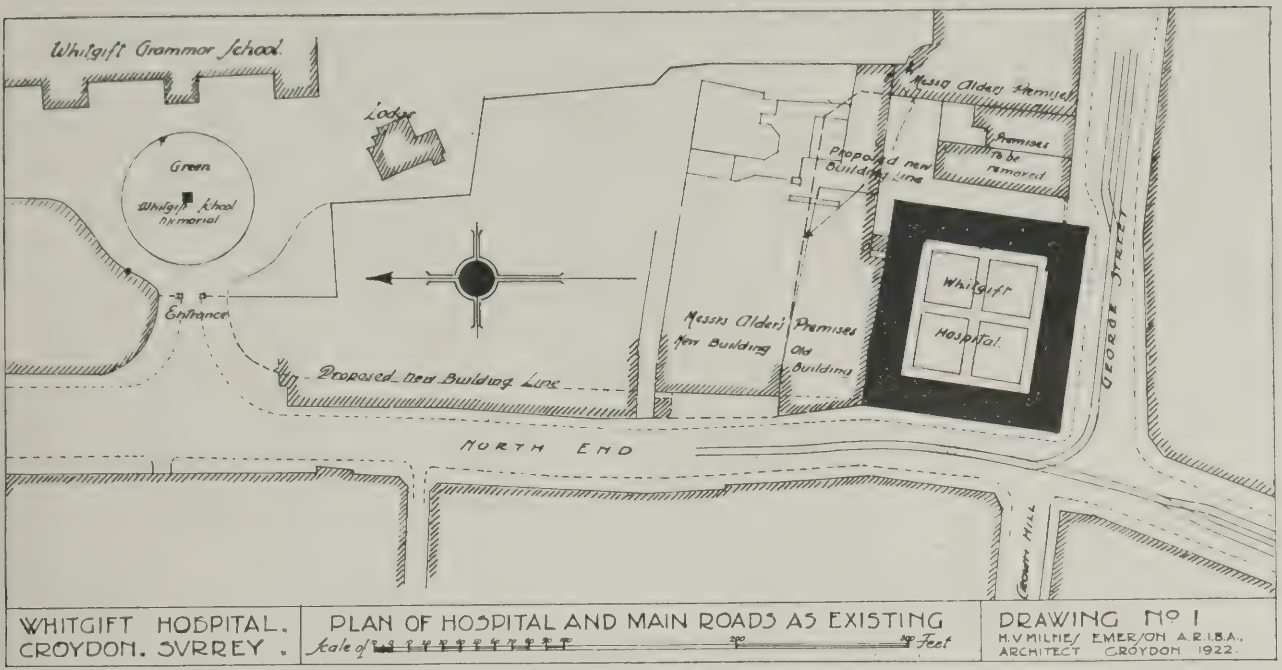
In America it is not unusual to alte the position of buildings, many of a much larger size and weight than t
Whitgift Hospital. One of their late
achievements was the shifting of an eig
story building with the side-walks inta
whilst business within the building w
in no way interrupted, not even the li
being stopped.

The setting back of this building is
much smaller proposition, and, althou
I am not aware of any work of this s
being undertaken in this country,
would present no undue difficulties,
the substratum is good, evidenced
the present stable condition of the str
ture, and Messrs. Heron Rogers a
Pettit, consulting engineers, of 181 Que
Victoria Street, E.C.4, with whom I ha
conferred upon the matter, are in agr
ment.

Underpinning would be carried out
the usual manner, and a steel fra
inserted in sections, supported w
blue brick piers in cement upon concr
foundations, until the rolling stock
been inserted. The next operation wo
be excavating and levelling the whole
the site to the required depth, and lay
the reinforced concrete raft, which wo
carry the rails, wheels, and carriages,
latter being somewhat similar to
modern railway coach chassis. The
riages would be fixed to the steel fra
carrying the building. From this fra
would project the sole plates for the
pose of receiving the raking shores
are required for supporting the w
each opposite pair connected with tie
where necessary. The door and win
openings would be shored as usual,
the chimney stacks would also be secu
if required, or alternatively they could
removed and rebuilt, if, as I understa
they are of modern construction.

At the N.W. and S.E. corners of
building the steel frame would be
structed as shown upon drawing No. 4
order to receive the electric motors, wh
operating upon a cogged tract and w
ing upon a very low gear, would su
the necessary power to move the buil

A VIEW IN THE QUADRANGLE.


Whitgift Grammar School
Lodge
Green
Whitgift School Memorial
Entrance
Messrs Alders' Premises
Premises to be removed
Proposed new Building Line
Whitgift Hospital
George Street
Messrs Alders' New Building
Premises Old Building
Proposed New Building Line
North End
Crown Hill
WHITGIFT HOSPITAL. CROYDON. SURREY.
PLAN OF HOSPITAL AND MAIN ROADS AS EXISTING
Scale of Feet
DRAWING No 1
H. V. MILNES EMERSON A.R.I.B.A. ARCHITECT CROYDON 1922.

at a very slow rate to the new position. Alternative power could be supplied by hydraulic rams. Owing to the slope of the ground from east to west, the building, when in its new position, would be raised by means of jacks, whilst still upon the steel frame, in order to bring the ground floor above the level of the adjacent thoroughfares.

The concrete raft would now form the foundation for the building, the frame, carriages and tracks would be removed and replaced with brickwork and damp course, new drains and sanitary arrangements would be installed, and the building made fit to stand in its altered position for all time.

It will be seen by comparing drawings Nos. 1 and 2 that by placing the building in the position shown on plan No. 2, the difficulty of increased width to the cross roads is overcome, these being now made some 65 ft. wide. The project entails the demolition of a minimum amount of existing property, viz., two shops in George Street and the remaining old premises in North End, belonging to Messrs. Alders, which have already been scheduled for removal by the owners. By the removal of the two shops in George Street, Messrs. Alders' premises in that street would abut upon the new walk around the Hospital, thus enabling this firm to have a continuous frontage from North End to George Street. At the same time this new walk would considerably relieve the pedestrian traffic.

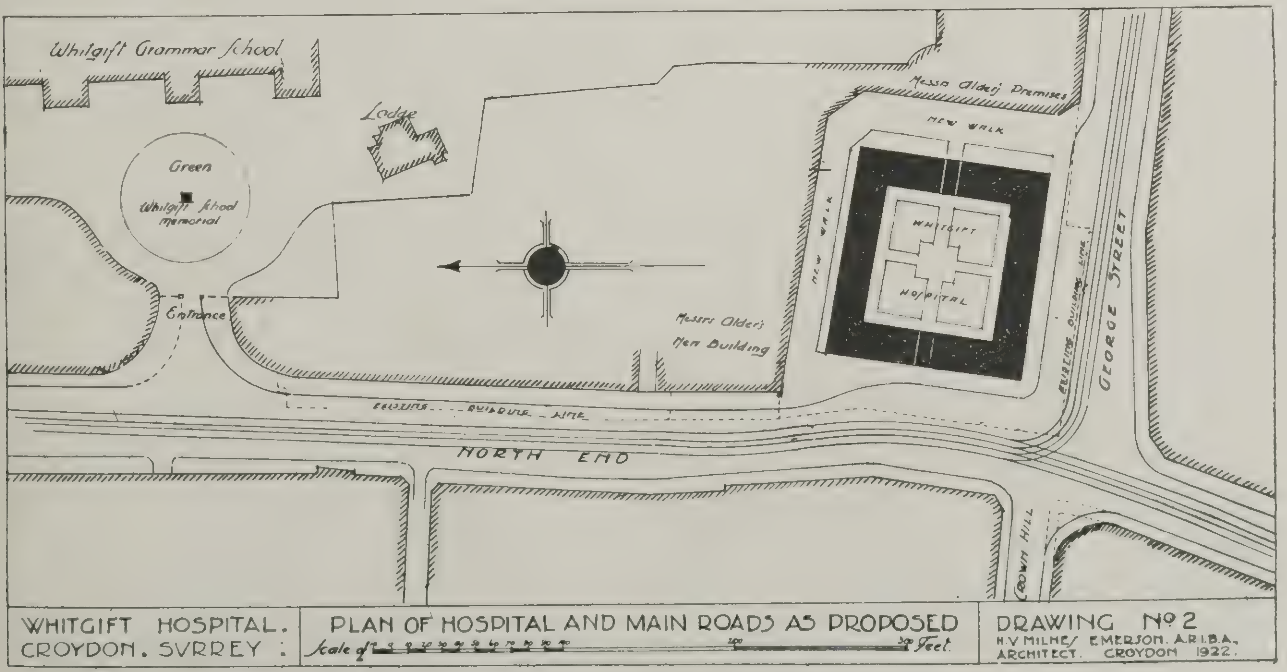
In addition to the widening of both North End and George Street, it will be noticed that the north side of Crown Hill would be in line with the north side of George Street, thus doing away with the present obstructed view of traffic approaching in either direction.

Apart from the purchase of the property to be demolished, the cost of the work should not be greater than £20,000 to £25,000, a sum that will compare more than favourably with the expenditure that would be incurred in carrying out any of the alternative schemes, including the proposed demolition of the Hospital. The project also provides the very necessary widening of both thoroughfares, provided by no other scheme, excepting the demolition of the Hospital building or the extensive and extremely expensive removal of property on both sides of North End and the south side of George Street, and a modification of the gradient of Crown Hill.

This proposition provides for the least possible expenditure compatible with a complete solution to the problem. The Hospital building remains intact upon the larger part of the original site, and, as I have suggested, the scheme should meet with the approval of those who wish to retain the Hospital in its present position and those who would destroy it in order to widen the thoroughfares.

Garrow's "History of Croydon," published in 1818, contains some deeply interesting information relating to the foundation and building of the Whitgift Hospital.

"We now come," says the writer, "to an institution which, while it confers honour and distinction upon the town of Croydon, exhibits a venerable testimony of individual piety and munificence. The



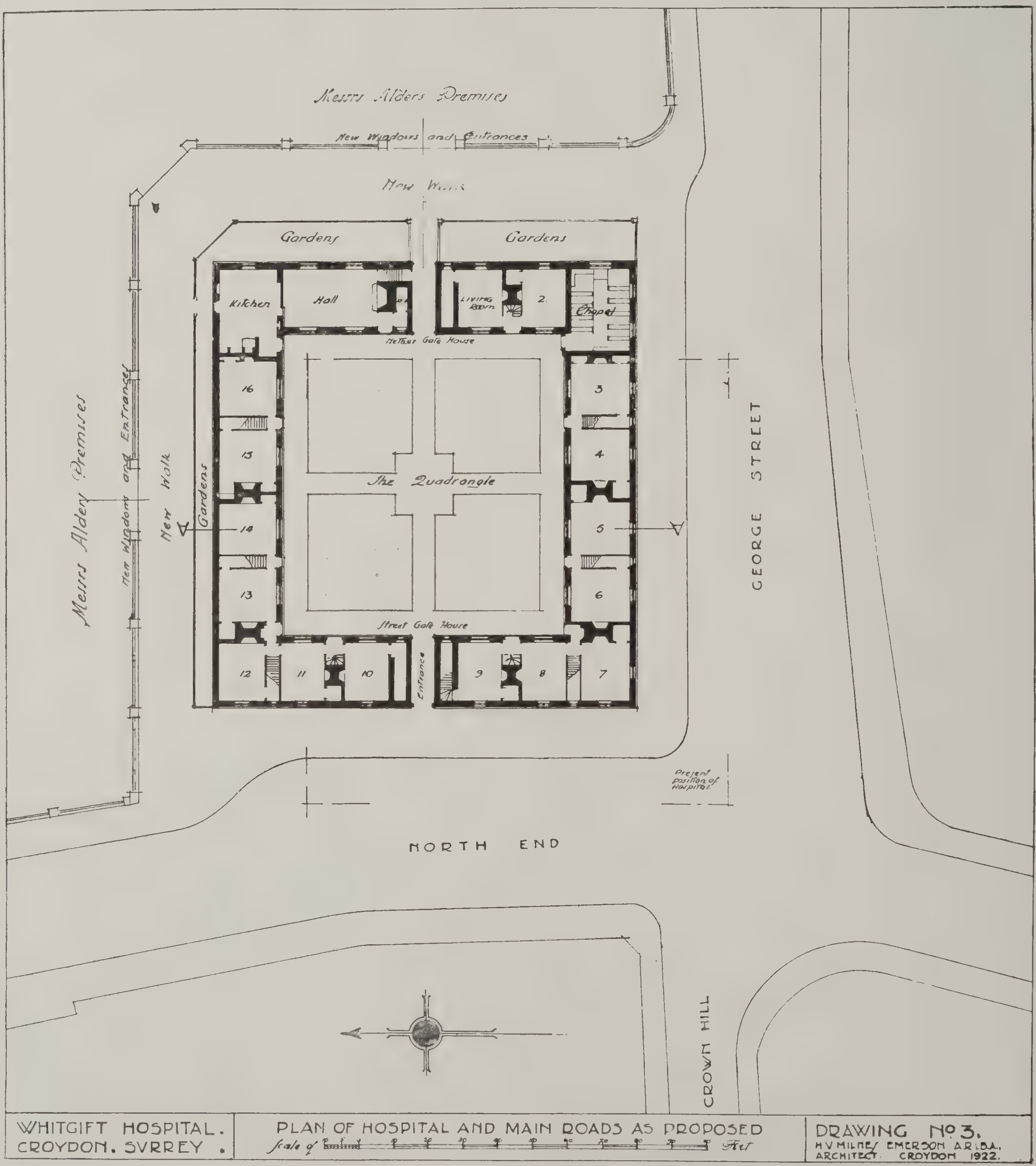
Hospital founded by Archbishop Whitgift conveys to us in its history a delightful representation of benevolence, liberality, prudence, and humility combined."

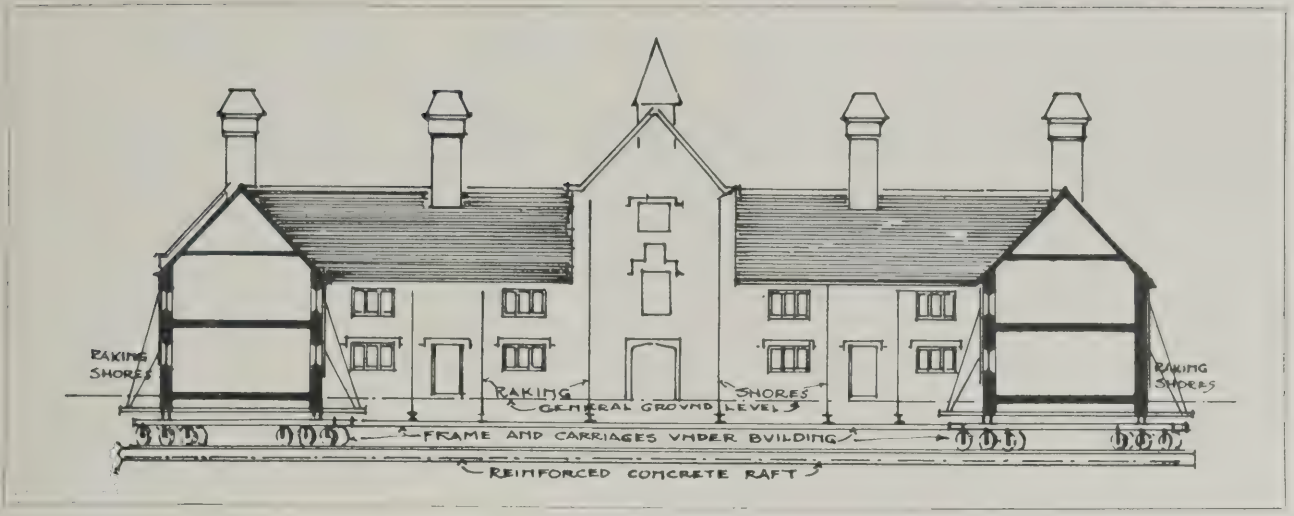
The Archbishop having obtained letters patent for building the hospital, with license of mortmain, from Queen Elizabeth dated November 22nd, in the thirty-eighth year of her reign, began it on January 17, 1596, and finished it on September 29, 1599. It appears that this distinguished prelate was extremely desirous that his charitable work should be completed in his lifetime; he knew that a man's own experience of temporal things was the best proof of their existence; and he could fully estimate the difference of value between an actual donation during life and a bequest to be enforced after death. "This yeere," says Stow (speaking of the year 1600, in which the schoolmaster's house, adjoining the Hospital, was completed), "the most reverend father, John Whitgift, Archbishop of Canterbury, did finish that notable and memorable monument of our time, to wit, his Hospital of the Holy Trinitie, in Croydon, in the Countie of Surrey, by him there founded, and builded of stone and brick, for reliefe and sustentation of certaine poor people. As also a fair school house for the increase of literature [now demolished], together with a large dwelling house for the schoolmaster, his use, and these premises he through God's favourable assistance in his own life time performed and perfited, for that (as I have heard him say) he would not be to his executors a cause of their damnation, remembering the good advice that an ancient father hath left written to all posteritie; it is a way far more safe for a man to doe good and charitable deeds by himself, than to hope that others will do the same for him after his death."

The reverend Samuel Finch, who was Vicar of Croydon at the time this Hospital was founded, was employed by the Archbishop to make contracts, to superintend the workmen, and see that his plan was put into execution. This he performed with great diligence, paying them regularly every week. In a book preserved in the manuscript library at Lambeth, and entitled "the particular accounts of the building of Trinitie Hospital in Croydon, and the statutes and ordinances belonging to the same," is contained a very minute schedule of the expenses attending it; the sum total of which up to September 29, 1602, amounted to £2,716 11s. 11d.

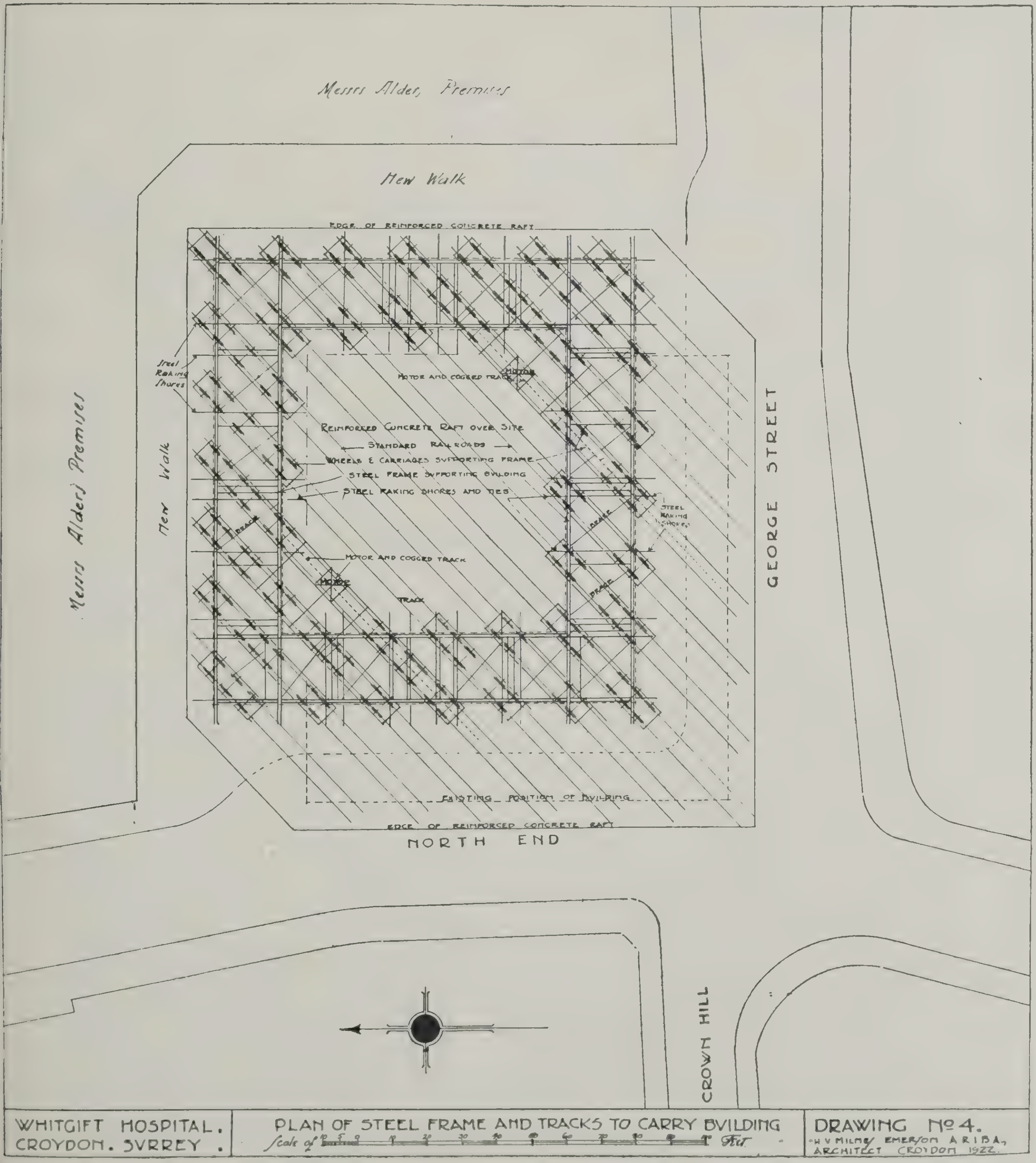
The statutes of this Hospital inform us that it was founded for the benefit of at least thirty persons of both sexes, and so many more under the number of forty, as the revenues of it will permit; and to every poor brother and sister was to be paid the sum of £5 per annum, besides wood, corn, and other provisions.

The Hospital is a handsome edifice built, as before-mentioned, in the form of





SECTION SHOWING METHOD OF REMOVING THE HOSPITAL.


Messrs Alder, Premises
New Walk
EDGE OF REINFORCED CONCRETE RAFT
Steel Raking Shores
Messrs Alders Premises
New Walk
MOTOR AND COGGED TRACK
MOTOR
REINFORCED CONCRETE RAFT OVER SITE
STANDARD RAILROADS
WHEELS & CARRIAGES SUPPORTING FRAME
STEEL FRAME SUPPORTING BUILDING
STEEL RAKING SHORES AND TIES
BRACE
MOTOR AND COGGED TRACK
MOTOR
TRACK
BRACE
BRACE
STEEL RAKING SHORES
GEORGE STREET
EXISTING POSITION OF BUILDING
EDGE OF REINFORCED CONCRETE RAFT
NORTH END
CROWN HILL
WHITGIFT HOSPITAL. CROYDON. SURREY.
PLAN OF STEEL FRAME AND TRACKS TO CARRY BUILDING
Scale of 10 5 0 10 20 30 40 50 60 70 80 90 100 Feet
DRAWING No 4.
H V MILNES EMERSON A R I B A, ARCHITECT CROYDON 1922.

a college. The chapel is a small, neat structure, of a most unassuming appearance; it is, however, enriched with a fine portrait of the venerable founder painted on wood, under which are these two lines : "A breathing portrait of the Primate see, Who built this Chapel to the Holy Three."

Over the outer gate is an upper room called the treasury, in which were deposited in remarkably strong and secure boxes a variety of papers relating to the Hospital, including Queen Elizabeth's original grant to the Founder and the Archbishop's deed of gift of the several estates with which he endowed the Hospital.

The Archbishop entrusted the erection of the Hospital and the school buildings to Samuel Finch, Vicar of Croydon, and to mark his gratitude he left him an annuity of £6 13s. 4d. for life in consideration of the great care and pains he had taken about the building of this Hospital.

The following extracts from letters written by the Rev. Samuel Finch to the Archbishop and his Mr. Wormall at Lambeth, give a very interesting insight into the erection and completion of the Hospital.

In a letter dated Friday, February 8, 1596, he says :—"My humble dutie remembred unto your Grace. Yesterday, being Thursday, Wolmer the bricklayer was here to vewe your worke. And he sayeth that he cannot be here himselfe; but he wyll appointe one from Westminster to be here, who will not come under xviiid the day, and his laborer xiid. . . . The yarde ys all defenced in, stronge and saffe. This day we make an ende in pullinge downe as yet. Nowe we take morter makinge in hande, clensinge and levellinge of the grounde; and by Monday come sevenighte, Hillarie saith, we shall be ready for the foundacon and bricklayer. . . . Blease hath begunne the grounde worke nexte the highway leadinge to London; and findinge that grounde made and false, digged the trenche alonge the door, and ware little or nothinge combred with water, and finding firme grounde, they have filled up that trenche, with great flinte and small stone, and brick batts and rubbishe not confusedly, but orderle layed in, and rammed stronglye, course upon course, stronge and sure. We have provided cartes to fetche us great flinte and chalke for the buildinge, and small for fillinge; because the lower ground is not soe good and firm as the upper, and the waite of the worke may not be trusted only upon bricke; and four loads of flinte, which come to xs. will save one thousand of bricks at xvis. . . The laborers have digged up iiii skulls and the bones of deade persones in the trenche that they are nowe in digginge, nexte the highway leadinge to the Parke."

The following is part of an interesting document :—

"I send you here the Copie of the condicon of the Free-masons bonde.

"Nicholas Richardson and Christopher Richardson, Citizens and free-masons of London, and Gabriell Anscombe, of Charlton. . . ."

"The condicon of this obligacon is such, that if the above bounde Nicholas Richardson, Christopher Richardson and Gabriell Anscombe, They or any of them, do bringe, or cause to be broughte, to that place of the aforesaid Croydon, where his Grace's hospitall is buildinge, soe muche good and seasoned free-stone as shall be sufficiente for those dores and windoes belonginge to the said intended hospitall as shall be made of free-stone; and shall worke the same, and sette them up in such necessarie and readie manner as that the worke or building be not stayed or hindered through there defaulte, the dores being wrought fayre and comelie as suche dores ought to be. . . .

In a letter dated March 7, 1596, the following reference to the bricks used is interesting :—

"Rednap came hither this day; and assone as ever he came into the yarde, and sawe the bricks, his harte was deade; he went to them, and chose here one and there, and knockt on it and saith, 'he hoped there war better to be founde in the Parke.' To the Parke we came, and there went from clampe to clampe, and here we found and there some one or more good, but not to the purpose of his owne expectation. Fain he woulde have excused himselfe, but his handie worke spoke against him, and we ware soe rounde with him, that he burste out into taeres, sayinge, 'he was never the like served in anie worke; he was ashamde of it, he could not excuse it; yt was the wickednesse and deceitfulnesse of the yearth. And albeit he coulde not thoroughlie make amends, yet he could be contente to doe what lay in him, but not of that yearth.' Well, then to the lome pitts beyond Dubber's hill we came, neere Halinge-gate, where bricks had been made in tyme past. . . ."

Instructions being sought regarding the arms, etc., over the gateway, the following directions were sent by way of answer from Mr. Wormall :—

"For the foregate of the Hospital at Croydon.

"The Armes over the doore must be without helmet and mantelling; and must be the armes of the See of Canterbury, viz., the Pall in pale with the nowe Archbishoppe's armes; and the yeare of the Lord under them, viz., 1597. Over the said armes a free-stone square, with these words in great letters, viz., SANCTAE TRINITATI SACR. On the bare places over the gate (called as I think) the ashlar, this sentence following to be written in great capital letters, viz. :—PRO 28. QUI DAT PAUPERI, NON INDIGEBIT."

The Whitgift Hospital is an invaluable possession, both architecturally and historically; and it is the duty of the inhabitants of Croydon to see that the threat to its existence is brought to nought. The suggestion for its preservation contained in this article is entirely practicable, and is put forward as a reasonable solution of a very difficult problem.

Institution of Structural Engineers

AT the last meeting of the Institution of Structural Engineers, Mr. W. Marriott, M.Inst.C.E., read a paper on "Concrete on British Railways, together with some Notes on the Durability of the Natural Cements used by the Ancients." Mr. Marriott said that he had for many years been an enthusiastic user of concrete, and had never lost an opportunity of studying the question in all its bearings, making journeys abroad nearly every year to see some examples of foreign work. He was first attracted to it through reading of Monier's experiments in Austria more than forty years ago; in fact, many years ago, when he commenced his railway career, he was with a firm that had done a good deal of foreign work, and who were among the first exponents of concrete in this country.

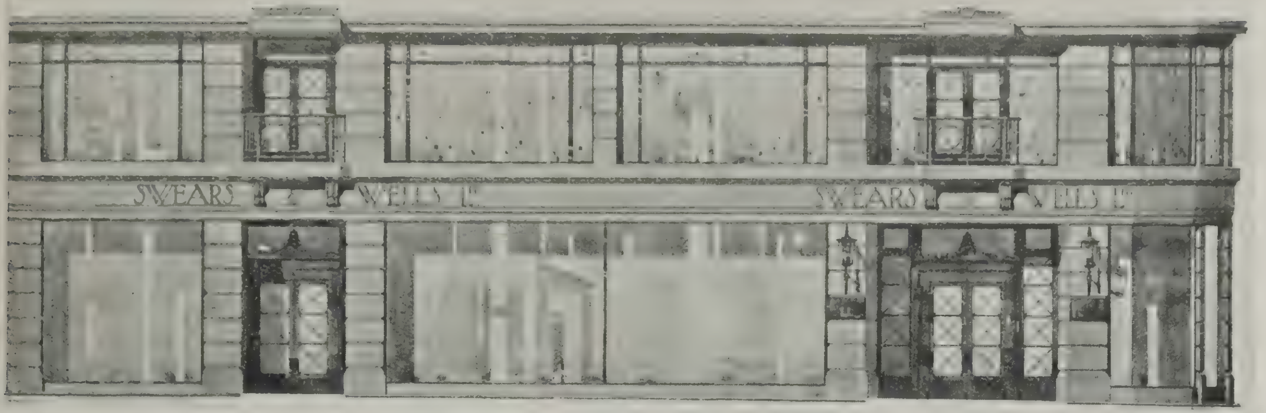
Proceeding, he said : We endured a great deal of opprobrium, and our concrete was not up to modern standards, or to present-day knowledge, but as the proof of the pudding is in the eating, bridges built then have stood, and are standing today, in as sound or sounder condition than they were on the day they were constructed. There are not many engineers who can say they have bridges in concrete nearly fifty years old on which not a penny has been spent on maintenance. In those days there was no steel in the concrete as reinforcement, as we now understand it, as the floor systems were generally formed by rolled iron joists which took all the weight, and were embedded in concrete mainly for protection.

The only difficulty we have had with concrete has been that when we have had to pull down buildings, etc., for enlargement, so solid and sound were the structures, they were very difficult to remove, and the fact has also been noticed that the joists where they have been covered or embedded in concrete were as good as the day they were put in, and in many cases had even got the mill bloom still on them.

Since those days, whenever permissible, the speaker has built scores of bridges of concrete, using, however, a brick facing as being cheaper than shuttering, and even going so far as to build in lime concrete, with excellent results, as was proved when one of these bridges near Cromer had to be taken down recently, the lias lime being as hard as a rock.

The use of pre-cast reinforced concrete in bridgework also offers many opportunities for economical construction. It is quite possible—and the speaker has done so—to make concrete girders for short spans complete and ready to lift into place. In other cases, where the steel girders are encased in concrete, the floor system is economically made of arch blocks. These arch blocks are pre-cast, and can be run into place as fast as men can handle them. They are then covered up with concrete *in situ*, and trains can be, and have been, run over within twenty-four hours. They form a bridge floor which is economical in first cost, and also in maintenance, especially where trains are continually running underneath; no temporary woodwork or centering is required, a good coat of lime white every now and then being all that is necessary. There are many ways of designing bridge floors. Some engineers prefer a flat slab. The speaker consider that the arch is more scientific and economical.

New Shop Front for Swears & Wells



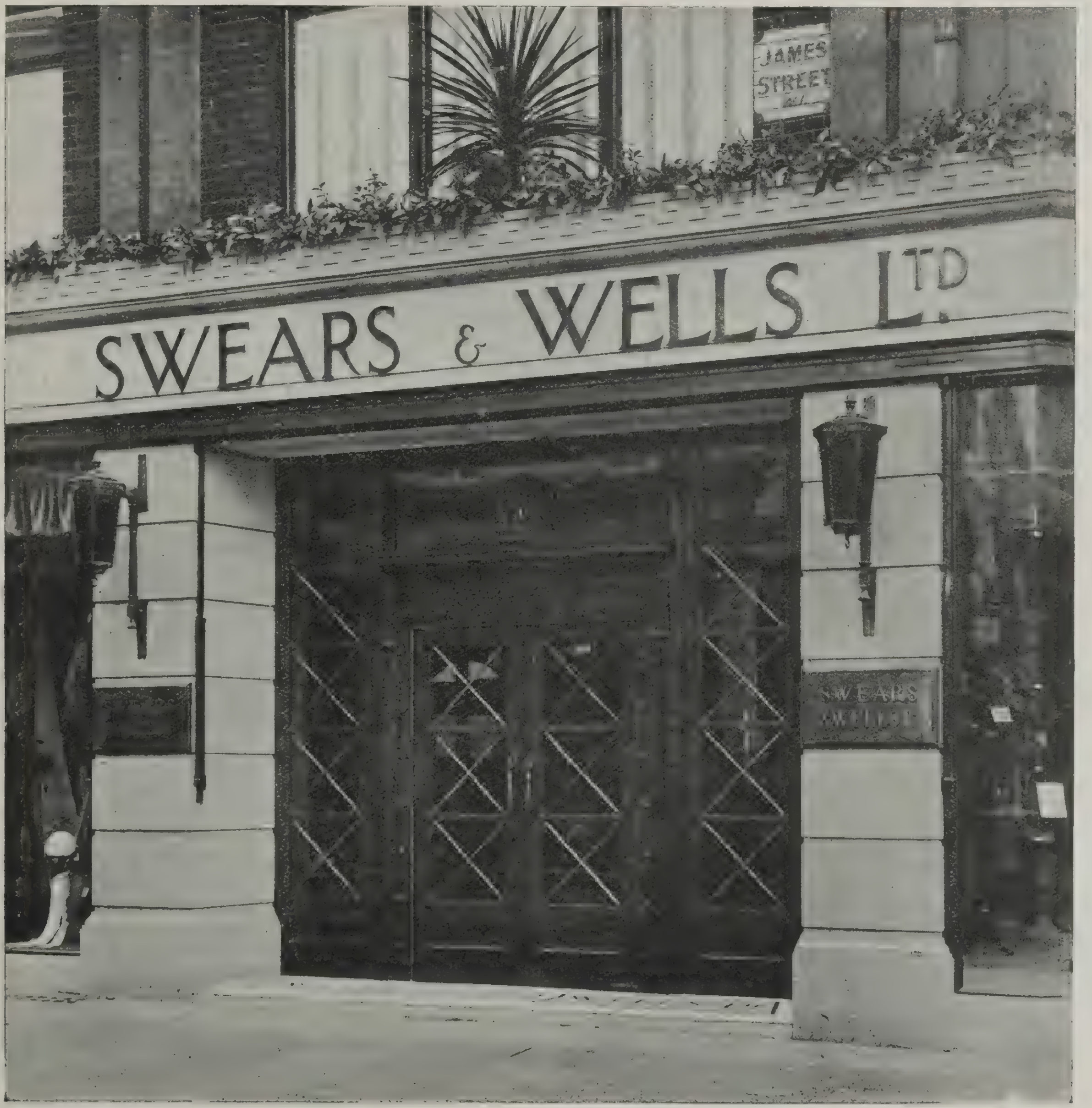
ELEVATION OF THE COMPLETE SCHEME.

THE remodelling of the ground floor of Messrs. Swears and Wells's premises in Oxford Street, London, together with the introduction of new shop fronts, etc., has recently been completed to the designs of Mr. Keith Arnold.

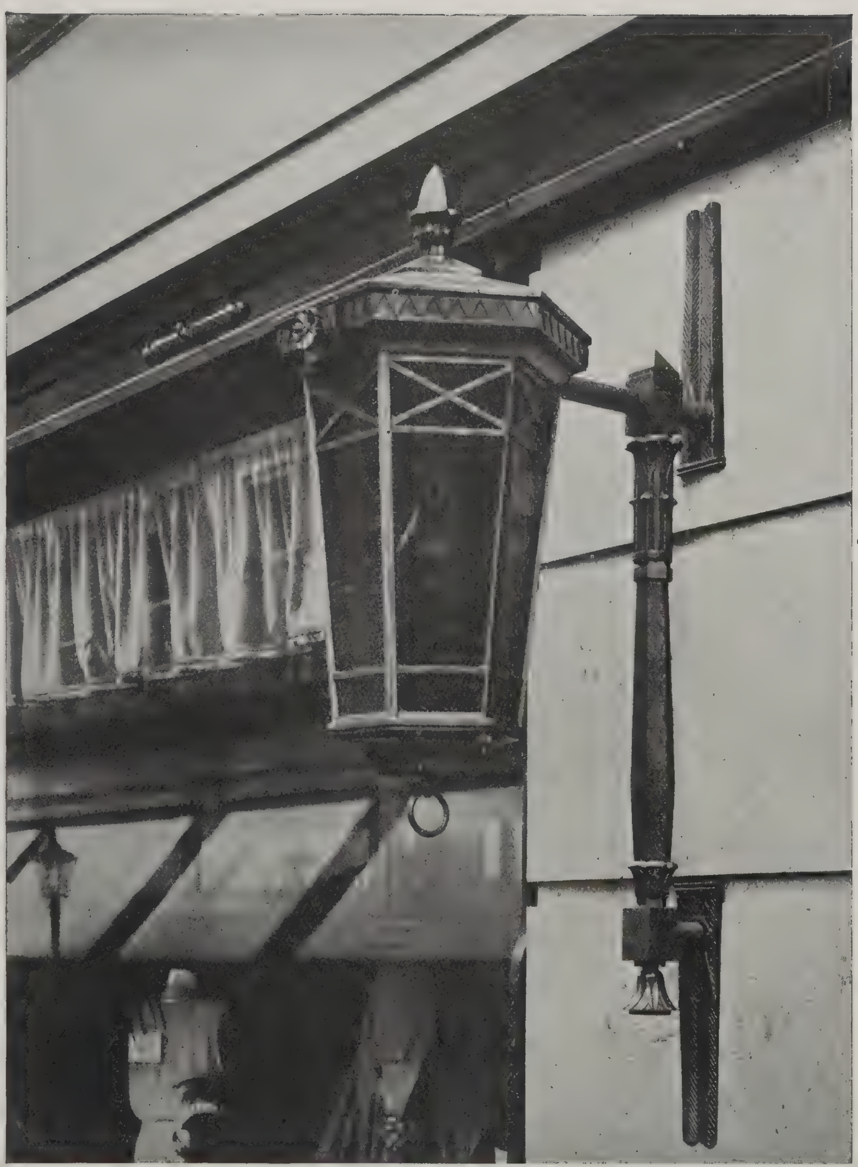
It was desired to secure the maximum space for display compatible with structural necessity and architectural design. In the details a marked Egyptian influence in the shape of the doors, the design of the door handles, and the lamps and window signs will be noted.

The accompanying elevation shows the original scheme, embracing the first floor, which it is proposed to complete at a later date. The materials used were: Roman stone for the piers and fascia; bronze metal for the entrance doors, shop fronts, blind lathes, lamps and signs, and walnut for the window enclosures.

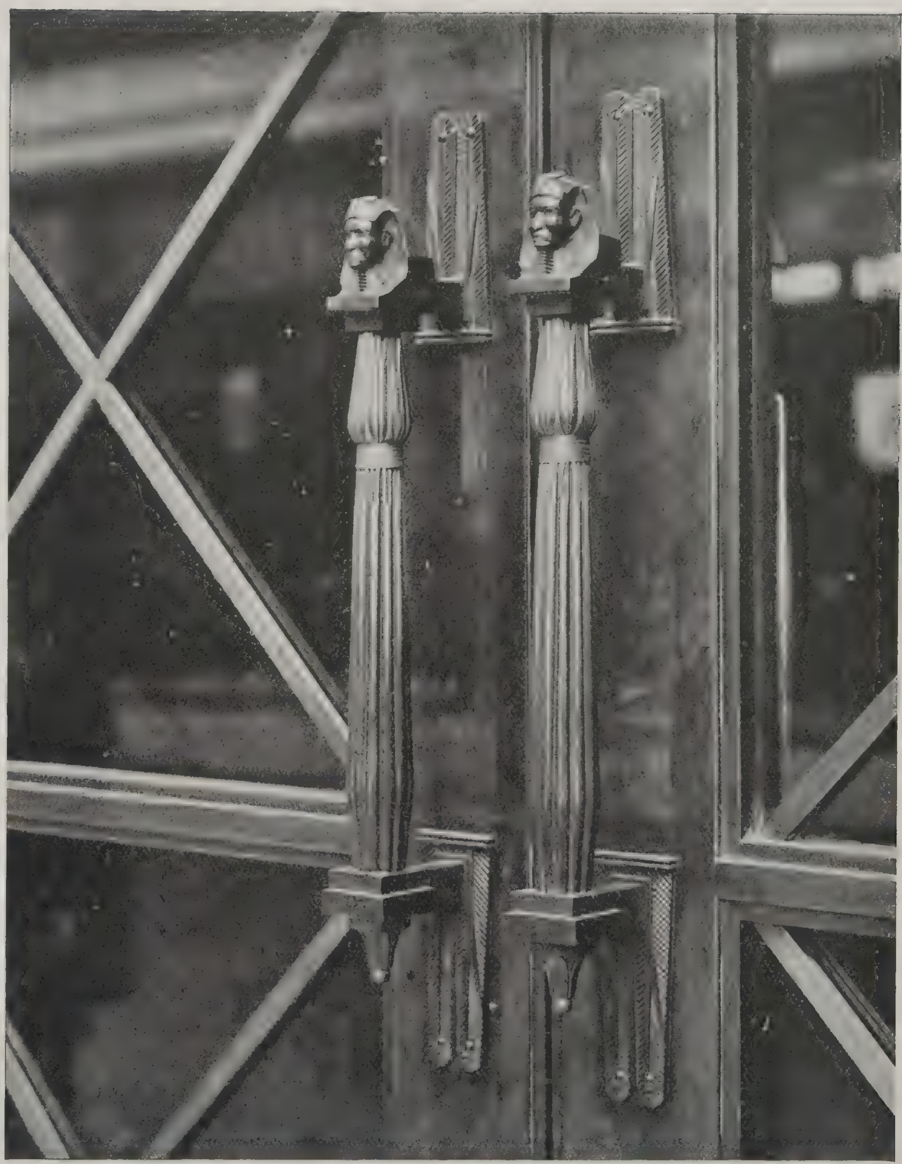
Messrs. Haskins, Ltd., of Walthamstow, carried out the work.



DETAIL OF ENTRANCE. KEITH ARNOLD, ARCHITECT.



DETAIL OF BRONZE LAMP.



DETAIL OF DOOR HANDLES.

NEW SHOP FRONT FOR MESSRS. SWEARS AND WELLS, LTD., OXFORD STREET, LONDON. KEITH ARNOLD, ARCHITECT

Enquiries Answered

The Editors cordially invite enquiries from readers who require information on architectural, constructional, or legal matters. Answers to enquiries are in all cases the work of experts ; and while every care is taken to make the replies thoroughly reliable, the Editors cannot hold themselves responsible for any inaccuracies that may inadvertently occur. Correspondents whose difficulties involve possible legal proceedings are strongly urged to consult their solicitors before taking action on any advice that may be given. Examination questions cannot be answered. It must be understood that, as a rule, both question and answer will be published in these columns. The name and address of the querist must always be given, not necessarily for publication. Correspondents are requested to be as brief as possible, and to write on one side of the paper only.

Load on Garage Floor.

"Motor" writes : "In designing a floor for a public garage what should be allowed per square foot for superimposed load? The floor will not support lorries or buses, but will be used by the heaviest of private cars—which I suppose is the Rolls-Royce. The cars will probably drive into the garage fully loaded with passengers. It will be a concrete floor."

—Assuming that a Rolls-Royce motor car weighs about 2½ tons, that the axles are about 10 or 12 ft. centre to centre, and the wheel track about 5 ft. wide, the floor should be designed for a minimum point load of 15 cwt. on any part that can be reached by the wheels, and 1 cwt. per foot super on the remainder.

HENRY ADAMS.

Formula for Reinforced Concrete Lintels.

"Associate" writes : "In your issue for December 15, 1920, Professor Henry Adams replied to a query by 'C. F. M.,' giving a formula for depth of concrete and area of reinforcement. I should be pleased to know whether the sizes obtained by this formula have to be increased for a lintel carrying the weight of a floor and, if so, to what extent." The query and reply of Professor Adams read as follows :—

"Please give me a rule-of-thumb formula for calculating reinforced concrete lintels and beams by which I can readily reckon the height and depth of concrete and area of steel required. The formula is only intended for use in economically designing window and door openings and the like."

"—Let L = clear span in feet, b= breadth of lintel same as thickness of wall in inches, d=net depth of lintel in inches above the centre of reinforcement. Steel reinforcement 1 per cent. of area of concrete above reinforcement. Then approximately $d^2 = \frac{L^3}{12}$ or $d = \sqrt{\frac{L^3}{12}}$. Example 4 ft. opening in 9 in. wall. $d = \sqrt{\frac{4^3}{12}} = \sqrt{5\cdot 33} = 2\cdot 236$, say, 2½ in., and giving 1½ in. cover to the reinforcement it makes the total depth 4 in. The reinforcement in this case would be $\frac{2\cdot 5 \times 9}{100} = \cdot 225$ square ins., or, say, two ⅜ in. rods properly turned up into a hook form at the ends. The general principles of economical design in reinforced concrete may be summed up as follows : Slabs and beams supported by columns are more economical than slabs and beams only. Keep slab thicknesses small by introducing a sufficiency of beams, and thus keeping the span small. A low percentage of slab reinforcement is more economical than a high percentage, but a thin slab is more economical than a thick one. Keep beams deep and narrow, not exceeding, however, a proportion of three to one. Reinforcement of beams should be in few rods of reasonably large diameter. There is very little to choose in ultimate economy between single and double reinforcement. One per cent. reinforcement may be taken as a standard of economy in either case. Have pillars just sufficient to carry the loads. For economy in pillars the laterals should be spaced closely. The economy of different proportions in the design will depend upon the relative cost of the materials. Remember that engineering efficiency is not always architectural efficiency."

—The approximate rule given for reinforced concrete lintels allowed for no load beyond the brickwork above them, which may be taken as comprised within an equilateral triangle having the clear span as base. If the lintel has also to carry the weight of a floor it should be calculated as an ordinary reinforced concrete beam. Given the span=L in inches, first find the total load=W in lbs., then the maximum bending moment in lb. inches=$\frac{WL}{8}$. The moment of resistance of a reinforced concrete lintel or beam is 95 bd^2, where b=breadth in inches, d=effective depth from top of beam to centre of reinforcement in inches. Say the span is 6 ft.=72 in.; the total load at 10 cwt. per ft. run, including weight of beam = 60 cwt. = 6,720 lbs.; then the bending moment will be 6720×72= 483,840 lb. inches, and $bd^2 = \frac{483{,}840}{95} = 5093$. Suppose the breadth to be 14 in., then the effective depth required will be $\sqrt{\frac{5093}{14}} = 19$ in., and the total depth allowing 1½ in. cover=20½ in. The reinforcement at ·675 per cent.=14×19×$\frac{\cdot 675}{100} = 1\cdot 7955$ square in., or, say, three ⅞ in. rods.

Testing this conclusion by the ordinary formulæ for reinforced concrete beams we have the following :—

m=modular ratio of steel and concrete =15.

d=effective depth=19 in.

p=ratio of steel to concrete.

k=fraction of depth given by distance of neutral axis from upper surface.

$$\text{Then } p = \frac{A_s}{A_c} = \frac{1\cdot 7955}{14 \times 19} = \cdot 00675$$

$$k = \sqrt{p^2 m^2 + 2p.m} - p.m$$

$$= \sqrt{\cdot 00675^2 \times 15^2 + 2 \times \cdot 00675 \times 15} - \cdot 00675 \times 15$$

$$= \sqrt{\cdot 01025 + \cdot 2025} - \cdot 10125 = \cdot 46125 - \cdot 10125 = \cdot 36$$

$$1 - \tfrac{1}{3}k = 1 - \frac{\cdot 36}{3} = \cdot 88.$$

Then the maximum tension in the steel will be—

$$t = \frac{B}{pbd^2(1 - \frac{1}{3}k)} = \frac{483{,}840}{\cdot 00675 \times 14 \times 19^2 \times \cdot 88}$$

$$= \frac{483{,}480}{30\cdot 02}$$

=16,117 lb. sq. in., the usual stress allowed being 16,000 lb. sq. in.

The maximum compression on the concrete will be—

$$c = \frac{2 \times 483{,}840}{kba^2(1 - \frac{1}{3}k)} = \frac{2 \times 483{,}840}{\cdot 36 \times 14 \times 19^2 \times \cdot 88}$$

$$= \frac{967{,}680}{1601} = 604 \text{ lb. sq. in.}$$

the usual stress allowed being 600 lb. sq.in.

HENRY ADAMS.

Cost of Laying Pipes.

J. C. writes : "In your issue for October 18, in answer to 'A. L.,' it is stated that the approximate cost of laying a 4 in. supply pipe main from the sea, 400 yds. long and 5 ft. below street level, would be somewhere about £250. This works out at about 4s. 2d. a foot run. May I ask if this is correct ? It appears to me to be exceedingly low."

—Upon looking into this matter more closely the pre-war price for 4 in. cast-iron socket pipes, including laying and jointing, was 7s. 6d. per yard run; excavation to lay 5 ft. deep, fill and ram, at 1s. 6d. per cube yard would in this case be 1s. 6d. per yard run, making the total cost 9s. per yard run. The present prices are about 12s. 6d. and 3s., making 15s. 6d. in all, or £310 for 400 yds. If, however, they are laid down existing roadways a sum of, say, £50 should be added for extra labour and making good, plus any special fees. It should be noted that tenders may vary from 10 per cent. below to 20 per cent. above these prices.

HENRY ADAMS.

Fireproofing Thatch.

M. C. writes : "Can you tell me whether there is a way of fireproofing thatch either before or after it is put on ?"

—Reed for thatching may be fireproofed by the treatment of the Timber Fireproofing Co., of Market Bosworth. This treatment rather increases the brittleness of the reed. Straw may be rendered less inflammable by saturation with a solution of alum and size. This is not completely protective, or permanent, in effect, but it will reduce the inflammability of the thatch when it is new, at which time it is most liable to ignition. After weathering some time the thatch lies much closer. It is also protected somewhat by vegetable growth.

E.

The Architectural Association

The Policy of the Schools and the Work of the Students

THE primary object of the teaching at the A.A. Schools is to fit the students successfully to undertake and carry out all architectural work which may devolve upon them in the various stages intervening between the commencement of their careers as junior office assistants and their final establishment as fully-fledged practitioners.

It is realized that some architectural students may never practise, and that nearly all will have to pass through a more or less lengthy period of office training before being competent to practise. The School course is intended to turn out students who will rapidly develop into reliable assistants, and who will have acquired in the School a breadth of mind and training which will enable them to become successful practitioners when circumstances allow.

The Schools do not specialize in training for prize-winning in students' competitions. Although the educational value of such prizes is realized, it is felt that the teaching should develop the students to take these competitions "in their stride," and for this reason no special drawings are prepared for such awards as the R.I.B.A. Diploma Medal. The School work is shown as completed in the studio, without the special elaboration which is customary in competition sets.

The combination of the practical and the imaginative in teaching architecture is as difficult as the combination of these two qualities is rare in the practising architect. Critics on the one or the other score rarely see the work as a whole, nor realize that the student is open to the same human failings as their practising brethren.

The main difficulty in carrying out the policy of the A.A. Schools lies in a too frequent curtailment of the period of study, often through unavoidable causes.

The course is one of five years.

Of students who have completed the full course the Association has received reports which justify full confidence in the method of training which the School adopts. Too often, however, the student is obliged to leave after a period of two or three years, at the most critical stage of his training. The School makes no claims for students who have had to interrupt their studies in mid-career. It is obvious that they are greatly handicapped, and when judging their capacity as office assistants, it is only fair that their architect employers should bear the facts in mind.

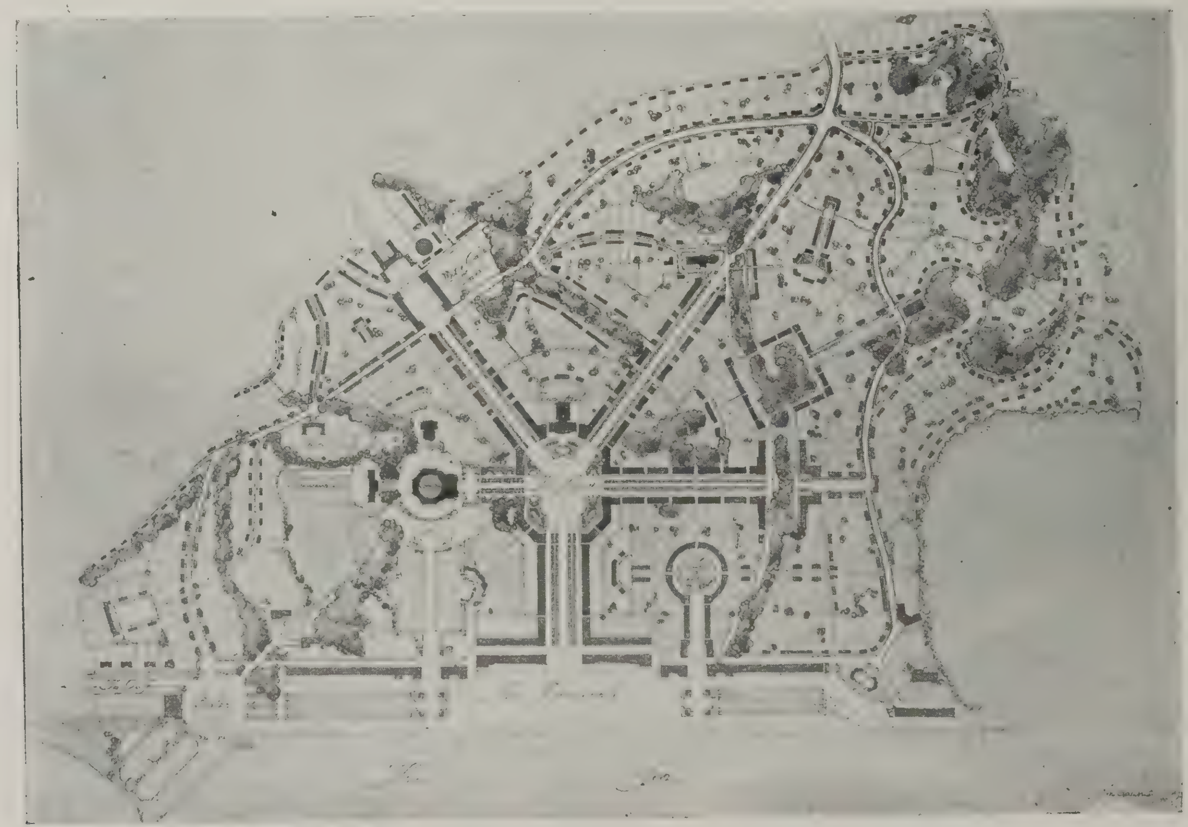
It is the usual practice to publish students' work without any explanation of why the subject was set, or the conditions of competition. Designs and plans are always more interesting when the programme is known, and it is for this reason that the following programmes are published.

The criticism generally levelled against school work is that "the subjects chosen will rarely be asked for in practice; few architects will ever be called upon to design a palace, pleasure island, etc." Perhaps this is true from the general practice point of view, but these problems are specially chosen to illustrate to the student points in planning, composition, expression, and also to develop imagination. The subjects chosen are all parts of a progressive programme, and as the student advances through the school course he finds that the smaller problems are incorporated in the larger ones. Unfortunately, space is not available to show the complete progression; that is, from the first year to the end of the fifth year. It is only at the end of the session exhibition that the course can be traced.

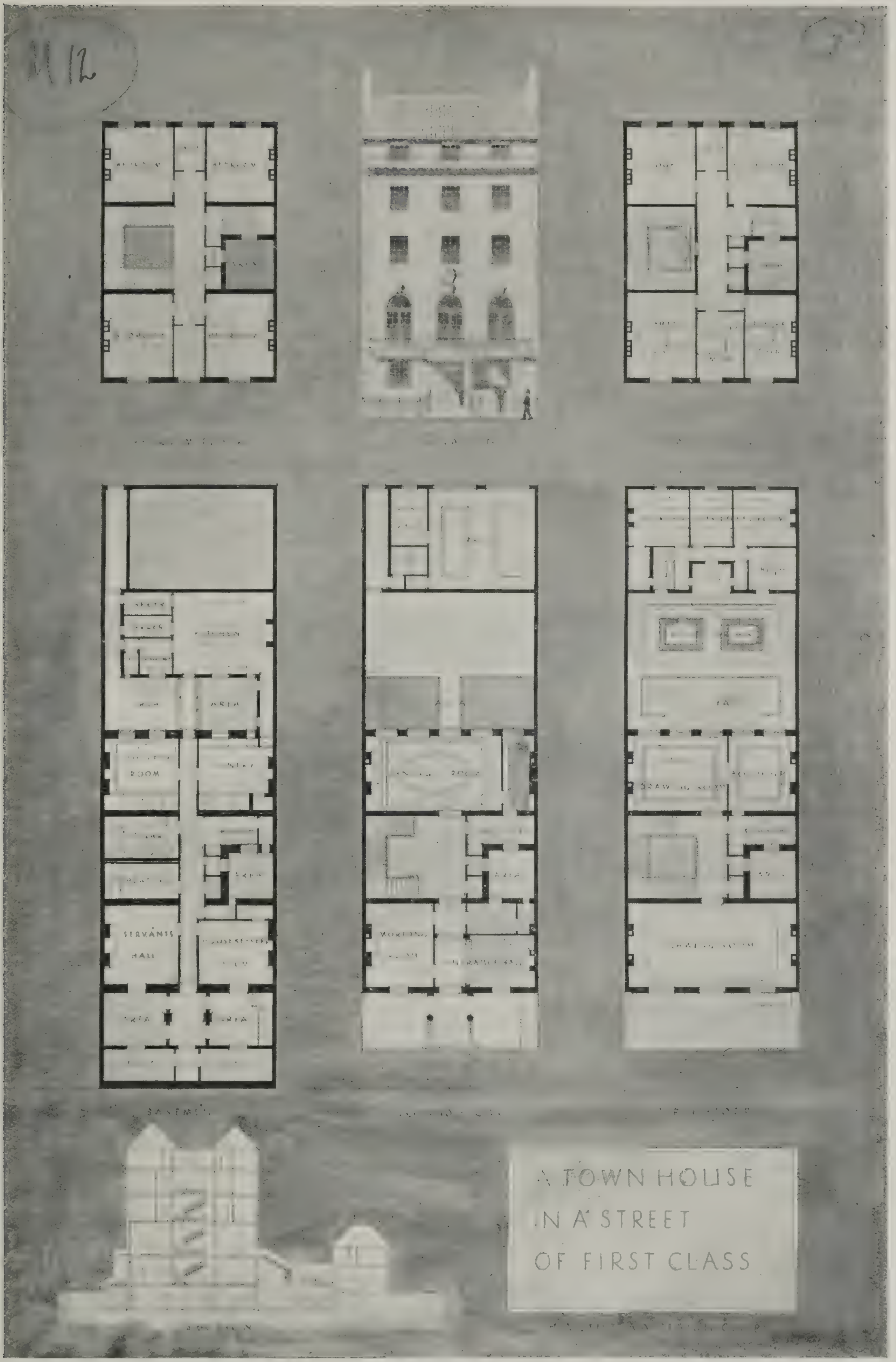
A Newspaper Office.—This subject was set as a straightforward planning problem. Light, ventilation, construction, and decoration had to be considered. At the beginning of the subject a lecture was given by a representative of one of the large newspapers who explained the method of producing a paper and the requirements of the various departments. Working-drawings were made and the steelwork designed; later the decoration of the main entrance hall was set as a subject.

The importance of town-planning has been engaging the attention of the schools for some years. The town-planning course really begins in the third year when subjects dealing with small "lay-outs," monuments, street lighting, and finger posts, etc., are set as two-week subjects or twelve-hour sketches.

Remodelling the approach to Victoria Station was a very practical problem. The site had to be studied and the volume of traffic in the main approaches had to be considered.



'THE LAY-OUT OF A SEASIDE RESORT." MISS I. CHAMBERS.



'A TOWN HOUSE."
MR H. A. CLIST (A.A. DESIGN CLUB).

The Architectural Association Design Club

The programme of work for the session, which extends from September to April, has already been published in THE ARCHITECTS' JOURNAL for September 27.

Schemes submitted for the first three weeks' subject "A Town House," and for the twelve-hours' sketch for "A Garden Room," were discussed by the jury, and subsequently criticized before a full attendance of members on October 24. The programme for "A Town House" on a frontage of 40 ft. in a London square, fully and clearly written, forms a useful detailed record of the typical requirements of an "entertaining" house in London. The working out of the subject was supervised by Mr. H. S. Goodhart-Rendel and Mr. V. O. Rees. In tackling the problems arising in the evolution of the town house and the adaptation of the traditional plan to meet modern requirements, members were fortunate in having the advice and criticism of an architect with an intimate knowledge of the subject from a practical standpoint, and the benefit of the teaching experience of a member of the Architectural Association instructional staff. This co-operation showed an ideal scheme working well in practice and should go far to help students to evolve schemes which will stand criticism both in the light of theory and of the cold hard facts of practical design. The experience of the first subject promises success to the new scheme.

The second subject, "A Cinema," is now being worked out under Mr. H. M. Robertson and Mr. J. Anderson, and the third subject commences on November 25.

There are still a few vacancies for new members. Application for membership should be made to the Honorary Secretary, Mr. H. Chalton Bradshaw, the Architectural Association, 35 Bedford Square.

Programme of First Subject.
October 2 to October 23.

A London House in a Street of First-Class Residential Property.

Most of the best London houses have been built by speculators for no particular occupier; they are designed, therefore, for the average purchaser. It is supposed that the speculator has bought a decayed house in some such locality as Grosvenor Square and proposes to rebuild with a view to sale.

The buyer would occupy it probably during the London season, and a few months in the winter, having his real home in the country—in the auctioneer's phrase it would be an "entertaining house." Proper facilities for very easy circulation through the principal rooms would, therefore, be essential, and provision would have to be made for the convenient disposal of cloaks, etc., on the occasion of parties.

The elevation to be in Portland stone. While there would be no restriction as to style, the house would take its place in an ordinary London street, and there has been always a tradition that whatever richness or splendour there may be within, this should be but slightly reflected on the exterior. The site is 120 ft. deep, and 40 ft. centre to centre of party walls, with a garage on a rear street or mews. There is an area of 12 ft. in front of the building line. The depth of the main block should not exceed 60 ft., but i may be assumed that a back addition would be possible up to the second floor.

Accommodation.

Basement.—Kitchen, pantry with safe, scullery, two larders, housekeeper's room, servants' hall, butler's room, boots, tw w.c.'s (preferably one on front and on on back), space for central heating and hot-water supply, coal space, cellarag (small, possibly in sub-basement), garag in rear street, with men servants' quarter over (butler and two footmen).

Ground Floor.—Porch (with room balcony over with iron balustrade), entrance hall, lavatory and w.c., dining-room (capable of seating twenty people), service, morning room (small—probabl in front—it may serve as ladies' cloak-room at receptions).

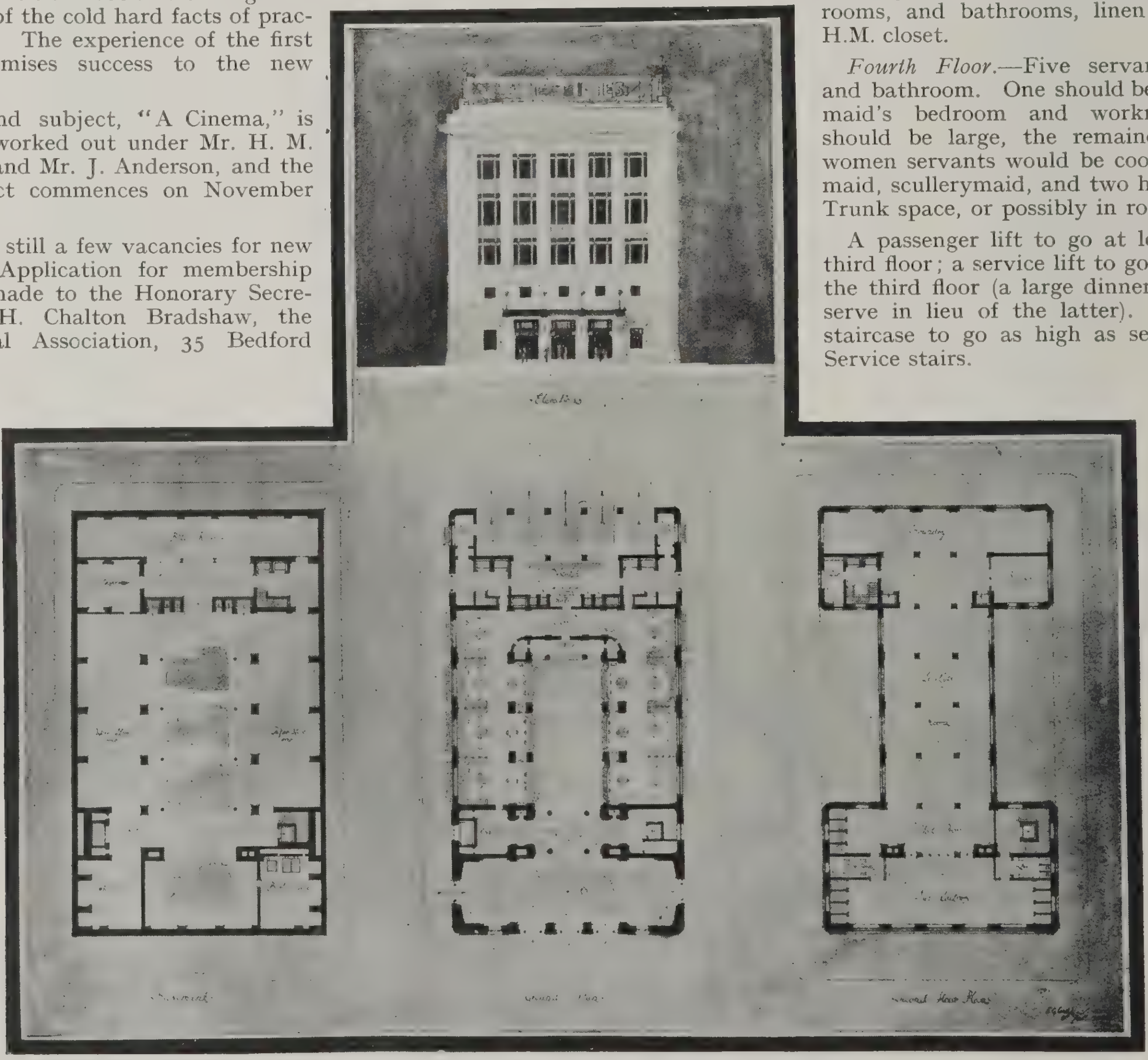
First Floor.—Two drawing - rooms boudoir. The principal drawing-room should be of a suitable shape for dancing The boudoir may also be utilized sometimes in connection with the drawing-rooms.

Second Floor.—Owner's suite consisting of bedroom, dressing-room (capabl of being used as bedroom), bathroom. A second suite of similar accommodation H.M. closet.

Third Floor.—Four bedrooms, or alternatively, two sets of bedrooms, dressing-rooms, and bathrooms, linen cupboard H.M. closet.

Fourth Floor.—Five servants' rooms and bathroom. One should be the lady's maid's bedroom and workroom, an should be large, the remainder of th women servants would be cook, kitchen maid, scullerymaid, and two housemaids Trunk space, or possibly in roof.

A passenger lift to go at least to th third floor; a service lift to go at least t the third floor (a large dinner lift migh serve in lieu of the latter). The mai staircase to go as high as second floor Service stairs.



'A NEWSPAPER OFFICE." MISS E. G. COOKE.

Monthly Subject Programme. Fifth Year.

A NEWSPAPER OFFICE.

This building, which would be the central headquarters of an important daily paper, to be erected upon a rectangular site 160 ft. by 90 ft. The principal façade to be on the main thoroughfare.

Requirements.

Ground Floor.—Entrance hall, staircase, porters', messengers', lifts, and telephones. A large advertisement hall easily accessible to the public, with counter and space for twenty to thirty clerks. Lavatories and cloak rooms for the staff. Service and workmen's entrance with staircase and lift to basement and upper floors, and a timekeeper's office on the ground floor level. Packing and despatching department with easy access to one of the important streets to enable carts to deal rapidly with a large circulation of the paper. Office to be provided for the chief of this department. Cashier's department, comprising a private office and clerks' office (about four clerks).

Basement.—Printing room, about 7,500 sq. ft., for four printing machines and two paper rolling machines. The height of this room must not be less than 20 ft. clear of girders. Large store for paper, and a separate store for printing ink. A lift, 5 ft. by 4 ft. to be provided from the paper store to the street. Engineer's office, boiler house, etc.

Foundry department, approximately 2,400 sq. ft., within easy access of the printing room. Bill room, about 400 sq. ft., for printing posters. Staff lavatories, etc.

First Floor.—Manager's office with secretary's room. Clerks' room, and waiting-rooms near the main staircase. Numerous separate offices for the editor, sub-editors, etc. Lavatories for the occupants of these offices.

Second Floor.—Map room, library, and reporters' rooms.

Third Floor. — Compositors' department, with canteen, lavatories, and cloak room, also a "readers' room."

Note.—The newspaper would be edited on the upper floor, and the news, after being written, sent through pneumatic tubes to the compositors' department, where the type is set up. The type is afterwards sent by special lifts to the foundry, where casts are made of molten lead for the current issue. These casts are then passed into the printing room, where they are placed on a shaping-machine, cooled in water, after which they are ready to be placed on the machines for printing purposes. The printing machines print, paste, and fold the paper in one process.

The papers are sent to the packing and despatching department in bundles, there they are given an extra fold by hand, and then despatched by means of vehicles to their destinations.

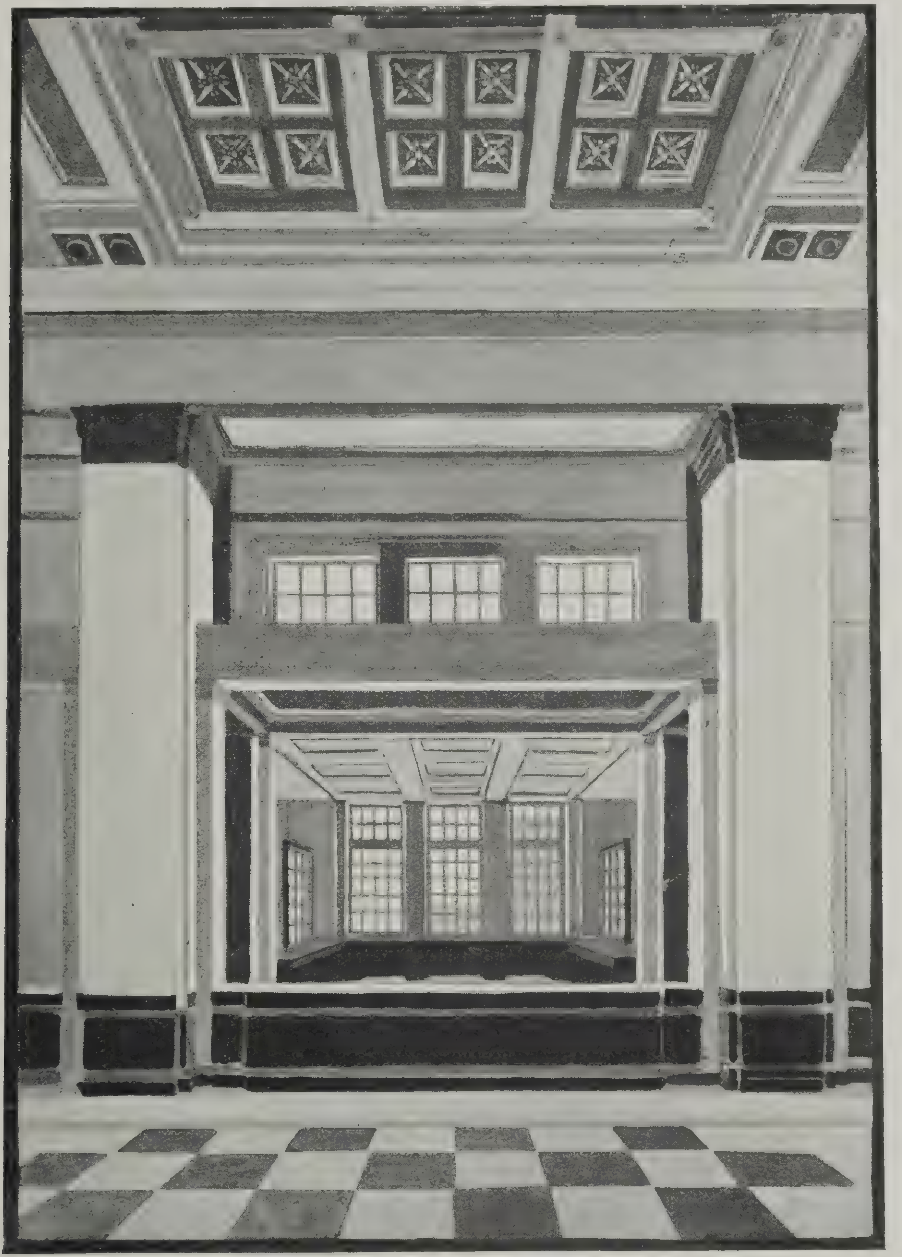
As news comes in at the last moment it is essential that all the departments should be easily accessible to each other by lifts.

Fifth Year.

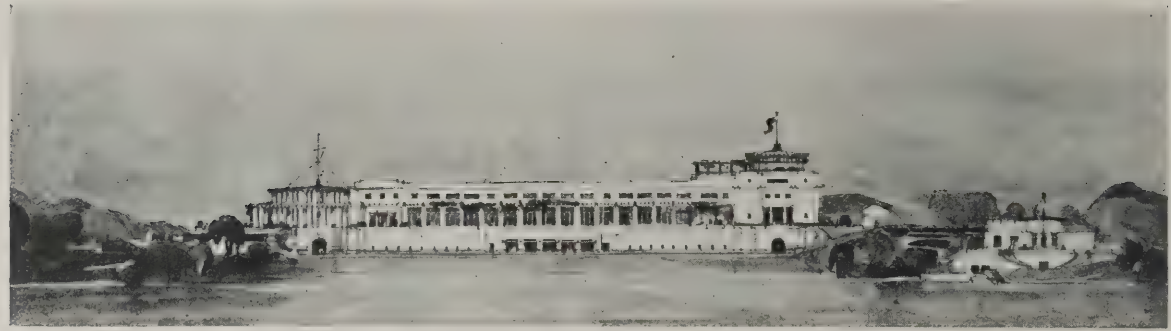
A NEWSPAPER OFFICE (½ in. Detail of Decoration).

Two Weeks.

Prepare ½ in. detail section of the entrance hall, or the advertisement hall, of the newspaper office already designed.



"A NEWSPAPER OFFICE": INTERIOR TREATMENT. MISS E. G. COOKE.



"A PLEASURE ISLAND": FAÇADE. MISS E. G. COOKE.

The scheme must be in colour, and the general lines of the small scale design must be adhered to.

One Month's Programme.

"A Small Seaside Pleasure Resort."

Seaside towns have grown naturally from such sources as fishing, navigation, etc., and have later developed "visitors' quarters" as their suitability to recreative and health purposes became apparent. Others have been built solely for health and recreative purposes; many examples of such places exist on the English coast. This latter type is the subject of the programme.

Situation.—On the south coast of England, with a long and spacious sandy shore.

Contours and Natural Features of Site.—For the purpose of the programme Hampstead Heath is to be taken as the type of country, and the levels and natural features developed as desired, the levels being considered as reduced 50 per cent. The surroundings of the site are downs and heath, and portions of this may be taken for golf, football, etc.

Access.—For the majority of visitors the first impression of the town is obtained in emerging from the station, and a "place" should be provided to give importance to this point and to provide space for traffic. The position of the railway station is to be chosen by the competitor.

Streets and Promenades, and "Places."

The streets should be spacious, and "places" provided for the administrative and other public buildings. It is suggested that the promenade should not be spoiled by traffic, and that the buildings facing the promenade should have a street at the back for access. Facilities for recreation should include concert and dancing halls, swimming baths, theatre, cinema, etc., etc.

The usual municipal services are to be included, also schools, etc., for the resident population. The resident portion of the population is to number 5,000.

The visiting population should be housed in hotels, service, and other flats, and small houses.

This programme is to be taken only as a guide and the competitor is free to elaborate to any extent necessary to produce a fine, though small, pleasure resort of the first class.

Programme: Fifth Year.

"A Pleasure Island."

Four Weeks.

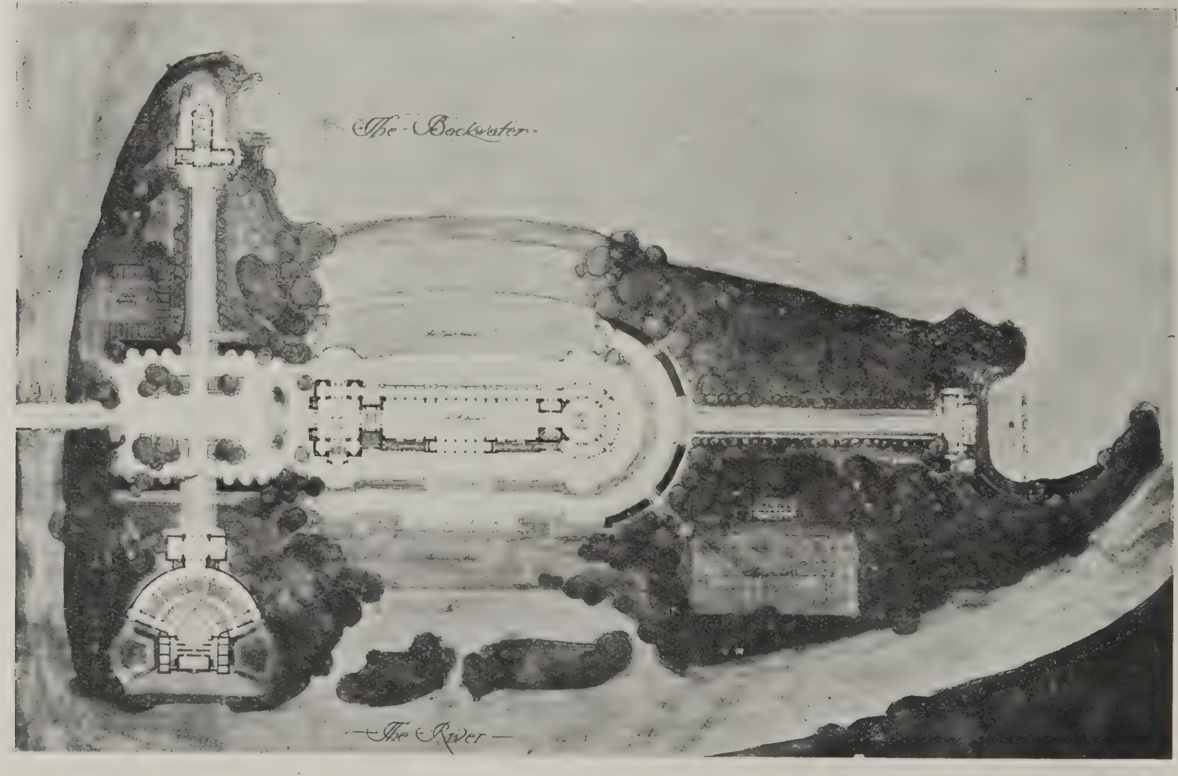
This island lies at the entrance to, and overlooks, a large and beautiful backwater. This backwater has somewhat the character of a lake, and would be a centre for aquatic sports, etc.

The island is to be developed as an important "up river" pleasure resort. Its form is *roughly* triangular, as shown grammatically below, but may be assumed to have creeks and projections as desired. The narrow stream separating the island from the mainland will have a bridge over, which will be the only approach by land. The length of the island parallel to the river should not exceed 1,000 ft. The longest dimension at right angles to this should not exceed 800 ft. The following accommodation is to be provided :—

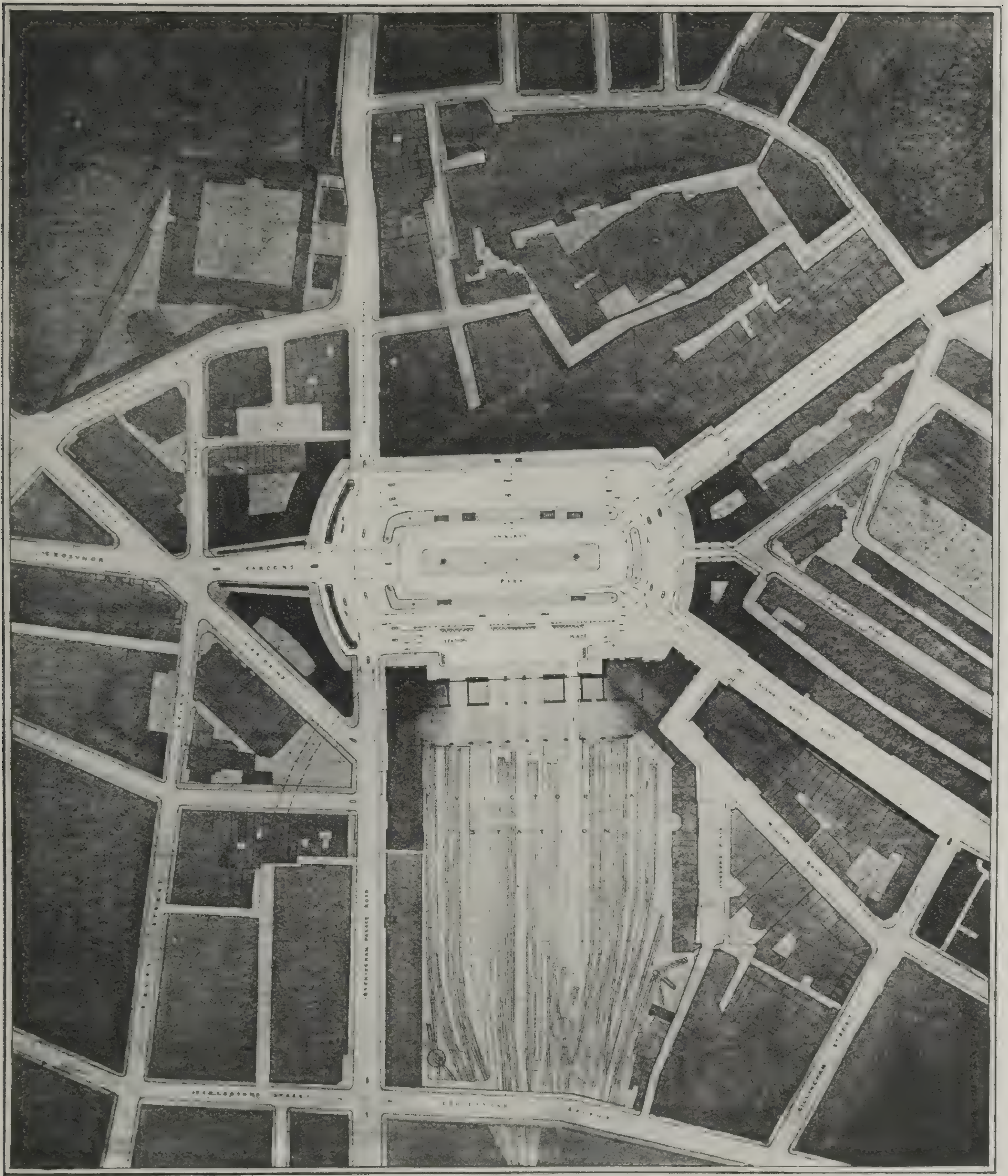
Ample car space and garage for those arriving by land, with accommodation for refreshments for chauffeurs.

Ample boating accommodation, landing stages, etc., for those arriving by water.

Boating.—The island should contain a boating club house, with club rooms,



"A PLEASURE ISLAND" PLAN. MISS E. G. COOKE



"A REMODELLING OF THE APPROACH TO VICTORIA STATION"
MISS E. G. COOKE (A.A. DESIGN CLUB).

changing rooms, refreshment room, boat houses, etc. In connection with this it should be borne in mind that the backwater is sufficiently large for races, regattas, etc.

Bathing.—The island should contain accommodation for bathing, with dressing boxes, etc., for each sex (100 in all).

Café.—The island should contain a really first-class café restaurant with accommodation for 2,000 people.

Dancing.—A "Palais de Dance" should be provided to accommodate 500 dancers. This may be in connection with the café if desired.

Tea Gardens.—Adjoining the café, and served therefrom, should be large and spacious tea-gardens with lawns, pergolas, terraces, etc., if desired.

Theatre.—An open-air theatre is to be provided to accommodate 1,000 people, with the necessary dressing accommo- tion, lavatories, etc.

Tennis.—A pavilion and accommo- tion for five tennis courts.

Gardens.—That part of the island r occupied by buildings is to be laid c with gardens, walks, etc.

The levels may be assumed to be desired, i.e., the island may be hilly comparatively flat.

The Bee Hive; or The Revelations of an A.A. Student

Although you might not suspect it as you go by outside, No. 35 Bedford Square—the A.A. premises—is a veritable bee-hive. That exterior is very deceptive, and were you to step inside for a space you would soon realize it. It is a very self-contained bee-hive with many compartments and a set of standards very much its own, but with the great difference from the ordinary bee-hive that the leading light is a king bee and not a queen bee.

The swarm arrives at or about 10 o'clock each morning for the purpose of preparing the architectural honey, and makes its first settlement at the signing-on register. "Got a pencil, Buster?" This comes from Rooth, who never thinks of owning one. He signs on, bounces up the stairs, bursts into the studio, talks rubbish for one minute, and then gets right down to his drawing-board. Two hours afterwards he emerges. "I've done it! Lutyens couldn't fit up a better plan than that, and what's more, I'm going to have a large red roof on it!" Rooth is very fond of large red roofs, and likes to hear himself shout occasionally; he doesn't think much about feelings or feel much about thoughts, but he knows what he likes and tells you if you'll listen. He is quite a type of the A.A. student, although on the young side.

By saying Rooth is a type I don't mean we all possess his good qualities. Some are middle-aged, some are younger than he, some are colonials, some are dark-skinned, some are foreigners who can hardly talk English, some are English who can hardly understand one another, some are quiet and some never stop talking.

Chu Tsing Chow comes from Japan, Scherotkin from Palestine, Napolitanio from Sicily, and Blinks from Pimlico. And then there are the women—twenty-eight of them.

Here it should be said that it doesn't matter if you come from Balham or Knossos. So long as you say distinctly in a firm voice that you consider it a very fine place and worthy to house your immortal soul you are received with open arms.

With the exception of a few ornamental drones, all these people lead a most strenuous life. First they sort themselves into five different groups, each in its own studio. In the first year are the freshers, resplendent with clean smocks and bright ties, toiling over geometry books and isometric brickbats. It is their privilege to be well dressed, adornment of the person being a senior art to architecture. Below is the second year, a shade more serious, delving for plums in the Græco-Roman pudding. The third year is quite different. They are having a wonderful time, for they are doing *free* design; it's good modern expression now—they are nearly fully-fledged architects. The fourth year are seen, but not heard, and there's no wonder. The sort of problems they have to tackle take an ordinary person weeks to understand. The fifth year is set apart and very exclusive. It is very difficult to know what they do, but they always seem very busy doing it, and emerge with a calm and dignity which fills us with awe.

Most of our time is spent working out problems, for each of which we are allowed several weeks. The process is for us to work a solution; show it to a master who cuts it to pieces; work up another one; show it to a master (a different master) who cuts it to pieces; work up another scheme, and so on. About two days before the end of the period allowed we combine all the worst elements in our various designs, draw them carefully, and then splogg colour all over. These works of art are collected, marked by a jury of masters, and then criticized in public.

Once a week in the second and third years we have to make twelve-hour sketch designs. We like these. They, too, are "crited" in public. ("Crit" comes from the Greek root "to rend," "to tear.") In the crit all our pet fancies and little conceits are broken on the wheel. It's rather like a jumble sale—you never know your luck, for you may get a first mention or a withering broadside.

We all have different times for doing our best work. Some like the morning, some the evening; some like the beginning of the subject, others the end; some never have any time at all. But there are few who don't have to set to pretty fiercely on the last two days of a subject. This means working until very late, and perhaps all night.

Lectures, of course, are given, and you can learn a tremendous lot from them if you don't sleep.

Upstairs is the library, where we can read about Wren, Michelangelo, and others we are going to eclipse, or look pictures of Roman temples. Or agai we can sleep on the couches if we a brave enough to incur the displeasure the librarian.

But as to the other side of affairs- sometimes rashly called the lighter side- there are many ramifications. There the buffet and the restaurant, whic despite its rather stilted atmosphere, has most elastic menu. Over in the corner a large table sit a varied group of you and wide-awake men. These are o masters. Most of us eat our fill 1 o'clock, but those who come down lat have the privilege of gazing on the re architects who now commence to arri from their offices around.

The social and athletic affairs are under the direction of the "Student Committee." These words you have utter with bated breath, for it is a prou and dignified committee administerin a profound and wise rule. Nothing to with students takes place without direct or indirect consent. While tackles with ease and grace the weightie problems, nothing is too humble for attention.

As regards athletics, there is a spor ground at Elstree with rugger, socce and hockey pitches, where on Saturday we take our weary and worn souls, colle a few scars, and come back like roarin lions. Sometimes some of the wome play lacrosse on another ground, an although they don't say much, we alway know when they have by the way the hobble into the studio next mornin In the summer we all join forces and pla tennis. On Wednesday nights we have dance.

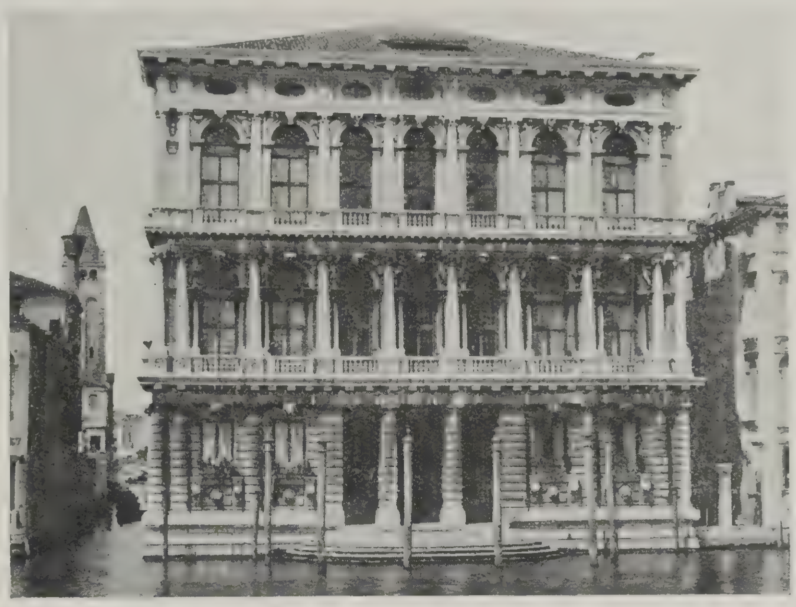
The social *tour de force* is the annua pantomime. If you haven't been to on you should go to the very next. You' hear a lot of things you won't understand but that doesn't matter—in fact, that' half the point. However the fellows wh run it make it such a good show I can' understand. It seems as if they pour ou a wealth of stored-up art and subtlet accumulated during the whole of th year. You mustn't mind the noise fro the gallery—that's where visitors don' sit. The next panto is in preparation but as yet only the authors know wha it is going to be, but you can count on being a good show. We hope you will al turn up in force to see it.

F. E. BENNETT.

he Orders and their Application by the Italian Masters

CHARLES GOURLAY, B.Sc., F.S.A. (Scot.), Professor of Architecture and Building, The Royal Technical College, Glasgow

(*Concluded from November* 1, *page* 620.)



REZZONICO-BROWNING PALACE, GRAND CANAL, VENICE (1650). LONGHENA, ARCHITECT.

HE north portico of the church of St. John Lateran, Rome, by Domenico Fontana, erected in 1586, sists of two arcaded loggias, one above other, the lower being Doric and the er Corinthian. It is a very fine aca- ic composition. The adjoining Palace, the same architect, is an example of Florentine style in Rome, no Order g employed, but the sense of an er permeates the whole design.

he courtyard of the Borghese Palace, ne, was begun in 1590 by Flaminio zio. Its arcade is charmingly treated wo stories with coupled Doric columns w and coupled Ionic ones above. s design shows how freely a Master can the Orders; that he is in no way nd by their proportions, but uses e nevertheless to enable a good design e produced.

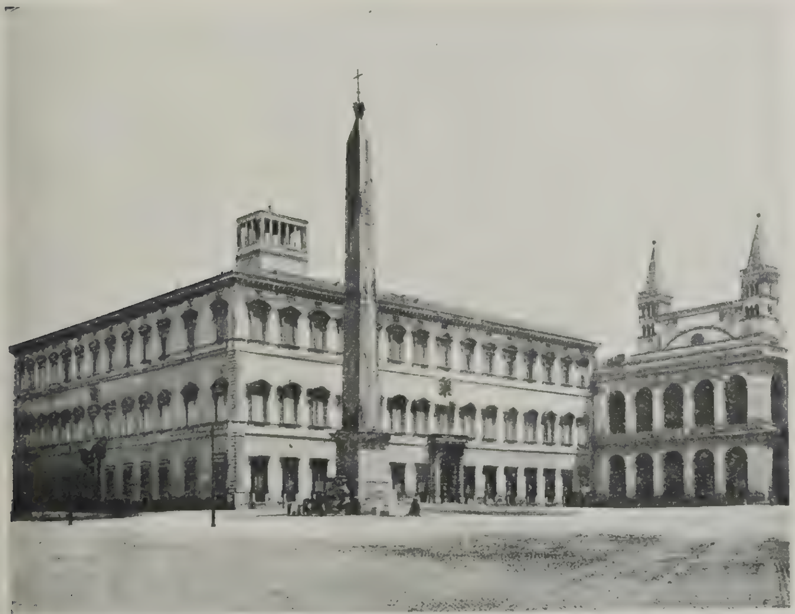
he west façade of the Duomo Nuovo, scia, begun in 1604, by Giovanni tista Lantana, has two Corinthian ers placed one above the other, and is ssed in the centre while its pediment fine example of one being broken back.

n the façade of St. Peter's, Rome, by o Maderna, dating from 1605–12, the nthian Order is applied as attached mns and as pilasters combining two ies of openings, and it has a high attic y. The magnificent dome, by Michel- elo, has coupled columns surrounding drum. The Piazza colonnade by nini, dating from 1629–67, is a well- wn instance of the omission of triglyphs in the frieze of the Doric Order owing to the difficulty of spacing them to suit the distance apart of the columns and to obtain square metopes.

The Rezzonico-Browning Palace, on the Grand Canal, Venice, which was erected by Longhena about 1650, is a perfect specimen of the late Italian Renaissance. The Doric Order employed in the lowest story has rusticated shafts, and is placed in a rusticated wall. The upper Order is Ionic, with round-headed windows between the columns, and the uppermost is similar except that the Order is Corinthian. The whole elevation is a fine illustration of the superposition of Orders and arcades. The fine staircase with its balustrades, forming part of the interior of the Monastery of San Giorgio Maggiore, Venice, by Longhena, dating before 1675, is placed in a large hall having an Ionic Order arcade below, with columns coupled in the thickness of the wall, and above, a wall treatment in the Corinthian Order.

The exterior of the church of Sant' Agnese, Rome, is considered by some authorities to be the greatest work of the architect Borromini, but the campanili are by Carlo Rainaldi. In this fine composition, dating from the middle of the seventeenth century, the Orders are largely used. The Venetian windows in the wings are rather distinctively treated.

There are two churches on the Piazza del Popolo, Rome, dating from 1662, both designed by Rainaldi, but completed by Bernini and Carlo Fontana. The one is dedicated to Santa Maria di Monte Santo, and the other to Santa Maria dé Miracoli. These churches are not quite similar to one another, although they appear so. They are well designed for their situation, and their bell turrets balance happily on each side of the Via del Corso, which is one of the chief streets in Rome.



THE NORTH PORCH, ST. JOHN LATERAN, AND THE LATERAN PALACE, ROME (1586). DOMENICO FONTANA, ARCHITECT.

The Trevi fountain, the most magnificent in Rome, is a very fine composition in the Italian Orders, probably by Ferdinando Fuga, and dates from 1735–62. It is erected against the south side of the Palazzo Poli. Attached Corinthian columns are employed in the central mass, and the same Order is used as pilasters in the wings. The whole elevation is an excellently proportioned design.

The importance of the study of the Italian Orders of Architecture at the present day to all engaged in the design of buildings can hardly be over-estimated. A thorough knowledge of them enables everyone to understand architectural design better, to appreciate their application in modern architecture, and, beyond practical reasons, enables all to find a source of great interest and pleasure in observing when travelling the great variation in proportion and details in the Orders employed in the buildings which line the traveller's path. Further, by study of selected examples of the Orders an excellent architectural taste may be developed, and this is the most valuable educational advantage to be gained by a study of the Italian Orders.

COURTYARD OF THE BORGHESE PALACE, ROME (1590). FLAMINIO PONZIO, ARCHITECT

Notes from the Schools

The Glasgow School of Art.

The Henry Jarvis R.I.B.A. ex-Service studentship has been transferred from Mr. W. McCrea (who has finished his day course) to Mr. G. G. Howard.

New Appointment.

Mr. G. D. Gordon Hake, A.R.I.B.A., has left the Architectural Association School to take up the Headmastership of the Royal West of England Academy School of Architecture, Bristol. His new address is 1 The Paragon, Clifton, Bristol.

Royal Academy Schools of Painting, Sculpture, and Architecture.

Lectures on painting, sculpture, etc., are given by members of the Royal Academy and other authorities on special subjects; and the visitors who assist the keeper, Mr. Charles Sims, R.A., are appointed from among the Academicians and Associates. Scholarships and prizes amounting to £1,000 per annum are offered in all the three arts, including travelling studentships of £200 each per annum tenable for one year. Students are admitted at any time and at any age, but only those under twenty-eight years may compete for scholarships, prizes, or medals in painting, and those under thirty years in sculpture and architecture.

Applications for admission must be accompanied by specimens of work selected at the discretion of the applicant. If the work shows a high standard of merit, the applicant will be admitted as a probationer for a period not exceeding three months, and thereafter, if approved, as a student for a term of years. Arrangements are made for intermixing the studies in painting, sculpture, and architecture, and there is a studio for decorative work on a large scale. No fees of any kind are charged.

The works required are: In painting, any specimens of work in drawing and painting; in sculpture, at least one model in the round, some drawings of any kind, and any other work at the applicant's discretion; in architecture, a portfolio of drawings, designs, and sketches.

Forms of application for admission may be obtained from the Secretary, Royal Academy, Piccadilly, London, W.1, to whom all communications should be addressed.

TREVI FOUNTAIN, ROME (1735-62). PROBABLY BY FERDINANDO FUGA, ARCHITECT.

University of London.

The University Extension Board of the University of London have arranged six courses of lectures on the history and architecture of London, to be delivered *in situ*, and conducted by Mr. Allen S. Walker. They will take place at fortnightly intervals on Saturday mornings and afternoons, and on Wednesday and Thursday afternoons. The places to be visited include many of the City churches, Canonbury Tower, Greenwich Palace, etc. In view of the bicentenary of the death of Sir Christopher Wren, a special course has been arranged to visit places connected with this architect, including Morden College, Blackheath; St. James's Church, Piccadilly; Hampton Court Palace, etc. Further particulars can be obtained from the University Extension Registrar, University of London, South Kensington.

Liverpool Architectural Society (Incorporated).

The Honan Scholarship—a travelling scholarship of the value of £50, for one year, open to members of the Liverpool Architectural Society (Incorporated) under the age of thirty years—will be awarded for the best design for rebuilding St. Luke's Church, Bold Street, Liverpool

Little Things that Matter. XVIII—Pavings and Steps

By EDWIN GUNN, A.R.I.B.A.

RED quarry pavings are improved immensely in appearance when they are laid with joints of ¼ in. and upwards. This is done easily if ordinary plasterers' sawn laths are laid temporarily n the joints when the tiles are bedded, the open spaces afterwards being flushed up with mortar after removal of the aths. I have seen a hotel courtyard which had been paved with 9 in. quarries, and where the hardwood strips used in this way had been allowed to remain. Even this gave quite a good effect as well as a very sure grip for walking.

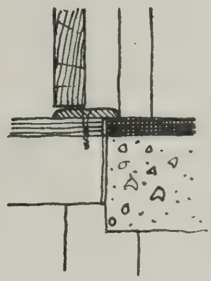


FIG 61

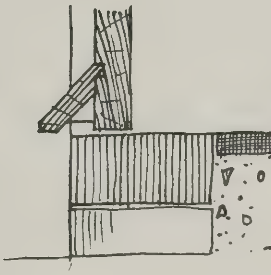


FIG 62

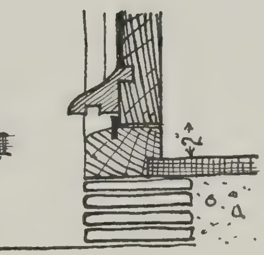


FIG 63

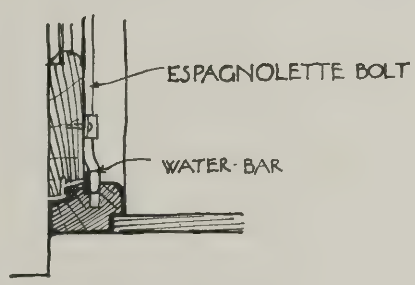


FIG 64

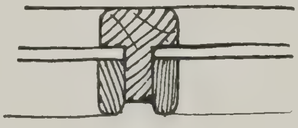


FIG 65

The wide joint has two advantages other than those with regard to appearance. The tiles that are not quite true to size can be used without their irregularity being apparent; and a space which does not exactly coincide with a definite number of tile-widths can be covered without cutting the tiles by an adjustment of the joints. Perhaps it is needless to insist on the superior look of quarries "laid square" and unbonded over the methods (once current) of 'diagonal" laying, or bonding, which necessitated the use of half tiles of triangular or oblong form.

The fearsome arrangements of checker n red and buff or red and blue which once graced the suburban forecourt happily no longer please. What is true of paving tiles is true also of wall tiling, especially if the latter is not laid with the finest possible joints, and arranged checkerwise without "bond," i.e., with joints continuous both ways. Where it is desired to finish glazed wall tiling with a rounded edge it is better to use tiles of the ordinary size and shape upon which the edge is formed rather than a separate strip. Dutch and Belgian tiles are commonly obtainable in this form, but in English tiles usually I have had to accept the separate "bullnose." It seems unlikely, however, that the round-edged tile is not made by someone in this country, too.

Brick floors are still used in many parts of the country, but I am convinced that it is a mistake to bed these down on cement. Even when they are laid on concrete I much prefer them in a bed of sand, as this permits the hollow-worn portions readily to be replaced. Where concrete or cement paving is laid, it still seems necessary to insist on the wisdom of dividing the surface by joints or "controlled cracks," rather than to allow the inevitable cracks to follow their own sweet will. *In situ* paving subject to temperature changes should not be laid in larger areas than, say, 6 ft. square without joints. The sections should be of convenient size, and should be laid alternately between guides or forms made up of wood strips. On removal of the strips, tarred paper should be placed against the free edges of the sections first formed, and the intervening spaces filled in.

At certain doorways in most houses a change in flooring material, say, from quarries to boards, occurs. A satisfactory junction is not made easily, as the edge-line of the quarries is rarely absolutely true, and the wood floor will most likely shrink away so as to leave a more or less open crack. I prefer to cover the junctions with a ½ in. oak threshold of the same width as the thickness of the door plus its stop. This threshold is fully rounded on both edges, screwed to the wood floor, and lapped over the tiles as Fig. 61. It enables the door to fit close at the bottom, and still pass a carpet or mat.

One of the most ineffective things in use is the weathermold or board, as commonly applied to external doors. Only too often it delivers the water which runs down the door just where it is not wanted —on a projecting step level with the floor, ready to be blown under the door, as it is. After this has happened until it cannot be tolerated longer, a water-bar probably is inserted in a groove cut in the step, and over this the occupants trip in moments of forgetfulness.

The important thing to rectify is the relation of the step cr threshold to the weatherboard. Fig. 62 gives a satisfactory arrangement for a brick step which is flush with the floor, and Fig. 63 shows a frame with an oak threshold raised to clear a doormat. It is noteworthy that few people will trip over a substantial threshold, though many fail to notice an independent water-bar. Incidentally I much prefer a raised threshold to a mat sinking.

Fig. 64 shows the construction of a cell of a French casement which is made to open outwards (as, of course, no properly "French" casement would do), as in the case of a room opening on a loggia. I have found this arrangement reasonably draught-proof. A good way of fastening is by an espagnolette bolt, fixed to the last-closed of the pair of rebated doors, wedging over the weather-bar. Trouble will be saved if the bolt is actuated by a lever handle having an up-and-down motion; the ordinary oval turning-handle is apt to jamb the fingers of an incautious user against the opposite half of the door.

With regard to glazing, there is not much to say; two little points, however, are important. First, be very careful about introducing bullions on a south aspect. I have known of cases where curtains have been ignited by these acting as burning-glasses focusing the sun's rays; second, where glazing is fixed with loose beads a better effect than usual is obtained if the ordinary bead is fixed projecting beyond the centre fillet as Fig. 65.

Hot Water Troubles.—I am obliged to Mr. E. C. Tasker, A.R.I.B.A., of Scarborough, for directing my attention to an error which crept into Fig. 58A in Number XVII of this series. I most stupidly drew the diagram showing a stopcock on the *by-pass* return from the hot tank, whereas it should have been on the normal return. Probably others noticed this slip also—to make matters quite clear, the diagrams sent by Mr. Tasker are reproduced—No. 2 being the correct arrangement.

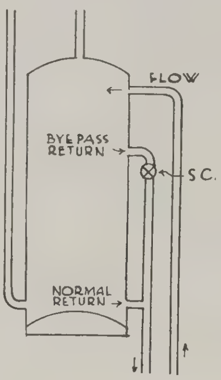


FIG. 1.

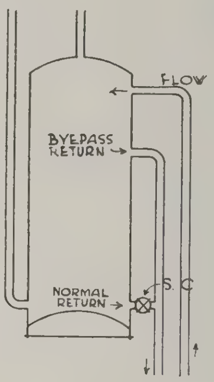


FIG. 2.

Reinforced Concrete Calculations for Beginners. III

By Prof. HENRY ADAMS, M.Inst.C.E.

(*Continued from October* 18, *page* 524.)

THE next most important matter is to be able to calculate the maximum stresses in any simple reinforced concrete beam under a given load. This involves a preliminary understanding of what is meant by bending moment and resistance moment. Any moment consists of a force multiplied by a leverage, and is measured usually in lb. inches, that is, the product of the force in lbs. by the leverage in inches. The bending moment on a beam supported at the ends and carrying a uniformly distributed load is $\frac{WL}{8}$ where W is the total load in lbs., including the weight of the beam itself and what it carries; L the span in inches from centre to centre of the bearing surfaces. The resistance moment is the ability of the beam to resist a bending moment, and the two must therefore be equal. Suppose we consider the beam previously used in illustration, with a breadth of 12 in., an effective depth of 22·625 in., and reinforcement of four $\frac{3}{4}$ in. rods. If the beam has an effective span of 20 ft=240 in., its weight in lbs. will be found by multiplying the span in feet by the full sectional area in sq. in., viz. 20×24×12=5760 lb. Suppose we want this beam to carry a superimposed load of 6 tons=13,440 lb. Then the total load will be 19,200 lb., and the maximum bending moment

$$\frac{WL}{8} = \frac{19200 \times 240}{8} = 576{,}000 \text{ lb. ins.}$$

The formula for maximum tensile stress lb. per sq. in. is $t = \frac{B}{p.b.d^2\,(1 - \frac{1}{3}k)}$ where B=bending moment in lb. ins., p=ratio of steel to concrete, b=breadth in ins., d=effective depth in ins., k=fraction of depth at which NA occurs. These values have already been found, so that we can now substitute them for the letters and say,

$$t = \frac{576{,}000}{\cdot0065 \times 12 \times 22{\cdot}625^2\,(1 - \frac{1}{3} \times \cdot355)}$$

$$= \frac{576{,}000}{35{\cdot}205} = 16{,}361 \text{ lb. sq. in.}$$

The formula for maximum compressive stress is $c = \frac{2.B}{k.b.d^2\,(1 - \frac{1}{3}k)}$; substituting figures for the letters we have

$$c = \frac{2 \times 576{,}000}{\cdot355 \times 12 \times 22{\cdot}625^2\,(1 - \frac{1}{3} \times \cdot355)}$$

$$= \frac{1{,}152{,}000}{1922{\cdot}7} = 599 \text{ lb. sq. in.}$$

The usual limits are 16,000 lb. sq. in. for the steel, and 600 lb. sq. in. for the concrete, but when the L.C.C. Regulations are revised the allowance on the steel will certainly be raised, and the above stress will then be within the limit.

Seeing that there is no direct means of arriving at the size of a reinforced concrete beam, it is necessary to assume the dimensions and then calculate the sufficiency. For this reason it is most desirable to know how to find an approximate size, and then to know which part of the dimensions to modify.

When the concrete is to be stressed to 600 lb. sq. in., and the steel 16,000 lb. sq. in. the moment of resistance will be given by $95.bd^2$, whence the required beam can be determined and exact calculations made..

For instance, in the above case we wanted to carry a distributed load of 6 tons over a span of 20 ft. which would give a bending moment of

$$\frac{WL}{8} = \frac{6 \times 2240 \times 20 \times 12}{8} = 403{,}200 \text{ lb. in.}$$

Assume the beam itself to weigh half as much as the external load, then the total bending moment will be $403{,}200 \times 1\frac{1}{2} =$ 604,800 lb. in., i.e. $bd^2 = \frac{604{,}800}{95} = 6366$ sq. in. Trying a width of

$$12 \text{ in.,}\ \frac{6{,}366}{12} = 530, \text{ and } \sqrt{530} = 23{\cdot}022 \text{ in.}$$

for the effective depth, and the beam might be designed on this basis, with ·675 per cent. reinforcement.

The average strength of 1 : 2 : 4 concrete is

	TENSION. lb. sq. in.	COMPRESSION. lb. sq. in.
1 month	160	1,600
3 months	240	2,400
Working stress	60	600

(*To be continued.*)

Exhibition of Working Drawings at the R.I.B.A.

ON Friday last a students' meeting was held at the R.I.B.A. to view the exhibition of working drawings. here were a fair number of students resent, but not so many as one would have ked to have seen. These meetings are of reat interest and value to the student, not o much for what they teach, but for the pportunity they give of free intercourse etween the students and the responible architects who so kindly come to peak of their drawings. These meetings appily are of an informal nature; the peakers are not armchaired upon a ostrum, neither are the audience regimented in rows, but both speaker and udience are free to talk to each other—o explain and to inquire. It is not often hat the student has an opportunity of sking the well-known architect why he id this or that and of receiving an nswer first hand. It is ignorance which makes us so harsh in our judgments.

The young architect in his slow up-sing from oblivion to prosperity may be aid to begin architecture by finishing it. or is it not true that when the young man begins in an office after his school raining his first work is "Full sizing"—he "Finishing" state of a building? fter a while (if he is industrious) he will ork down to half-inches—the elastic state f a building—and so gradually, after many years, back again to eighth-scale rawings, the nebulous state of a building. When he is his own master he may o still farther; he can scribble on the ack of an envelope a whole building no igger than a postage stamp. So it is hen, the smaller the man the bigger he orks; the bigger the man the smaller e works.

The present exhibition included the drawings of the following works: Eyford Park, Gloucestershire, by Mr. Guy Dawber, an interesting country house of the larger kind. The Chapel of the Knights of the Thistle, by Sir Robert Lorimer, A.R.A., showing the "setting out" of the ribbed vaulting. The Royal Automobile Club, Pall Mall, by Messrs. Mewès and Davis and Keynes Purchase. Working eighth-scale drawings of some houses in Hampstead Garden Suburb. Drawings of bungalows and other work at Delhi, by Sir Edwin Lutyens, R.A. The New Catholic Church, Northfleet, and the Memorial Chapel, Chester Cathedral, by Mr. Gilbert Scott, R.A.

Both Mr. Gilbert Scott and Mr. Gage, of Messrs. Mewès and Davis, were there to explain their respective works. Mr. Gage, speaking of the Royal Automobile Club, and pointing out the original sixteenth-scale drawings, remarked that there was very little departure from the original scheme in the final drawings. He said that the plan was the outcome of one or two definite requirements, such as the large swimming-bath in the basement and the large dining-room. The plan is too well known to need description, but it should be of particular interest to students, for it has all that quality of fine design and silhouette of the so-called "Academic" plan, yet it is a most logical and straightforward solution of a modern programme.

There are certain features in the lower basement that are interesting, such as the Turkish bath and its ventilation, and the racquet courts. This basement is below the sewer level, and it contains not only the swimming-bath and the Turkish bath, but lavatories besides, so all the drainage is pumped up to the sewer level.

Mr. Gage spoke of certain customs in his office in the matter of working drawings. One was that a theodolite survey of the site was always taken beforehand to save subsequent alterations in the drawings. Another was that all dimensions were taken from centre lines. One also noticed that the beds were indicated in the bedrooms on plan, a practice which would avoid a good deal of afterthought and unpleasantness.

Mr. Gilbert Scott, speaking of Northfleet Catholic Church, said that strange as it may seem nowadays, the church, when built some years ago, only cost between six and seven thousand pounds. It was, in fact, a very cheap job, and everything had to be cut down to save money. The walls were as thin as they could be, tracery, arches, and stone generally were very sparingly used, and lintels over the window-openings were reinforced concrete stained to a colour in keeping with the brick. The church, although on the Gothic style, was almost entirely in brick, 2 in. bricks, five to the foot, with wide joints. It was interesting to note that the half-inch working drawings had no figured dimensions on them. The explanation was that all the horizontal dimensions were adequately given on the working plans, and as the brick courses were clearly marked, all heights were "so many bricks high."

Turning to the drawings for the Memorial Chapel, Chester Cathedral, which showed the evolution of the design from the original client's sketch to the large, full-size drawing, Mr. Gilbert Scott spoke of the manner in which the drawings are done in his office. He said that with Gothic detail it was difficult to get another to do what was in one's mind, so he himself usually drew out the most important points in the detail.

F. E. T.

Correspondence

Architects and Housing

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With reference to your article in our issue for November 15, on "Archi-cts and Housing," any suggestion which ill further the idea that architects can e usefully employed on designing even e smallest of houses, particularly those be erected by the speculating builder, to be welcomed.

I have before me a volume published 1757 by Abraham Swan, architect, in hich are given many designs, together ith details, for small houses. Judging y the wealth of charming houses of that eriod, which one finds in even remote arts of this country, one must conclude hat the designs for many of these small ouses were taken from, or influenced by, is and other pattern books.

May I give an extract from the preface A. Swan's book? "For I observe e Designs which have been published others, have, for the most part, been rand and pompous; which, though they ay be excellent in their Kind, will but seldom come into Use, as being only proper for very large Buildings." Farther on he says: " . . . and if the Hints which I have here given may be improved by some better Genius, in forming better Designs than any of these, I shall sincerely rejoice in it." Which shows that he had not only the courage of his opinions, but a desire for the improvement of his Art!

A modern pattern book of small—and generally speculative—houses, somewhat as suggested, might be of great value provided that all the designs were by artists qualified by experience in that work. There do exist modern pattern books which in many cases show only too plainly the absence from them of such proviso.

As regards the question as to whether the suggested designs should be signed by individual architects; this is a question which probably does not matter in the least as far as the art of architecture is concerned, but it is generally conceded that to be quite fair it is right to "give the poor devil his due."

Yours faithfully,
ARTHUR WELFORD.

"The Architect's Niche"

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I was interested to read the discussion in your issue for November 8 on Mr. Stanley Hamp's presidential address at the A.A., with regard to the architect and housing. I am in entire agreement with those who urge that, as a body, we should do more to assist in the solution of this vital problem. Mr. Maurice Webb, in the course of the discussion, contrasted the American architects' fees at £4 per house with our own fees, which, he said, amounted to about £30. I do not know on what data Mr. Webb bases this comparison. Unless he is thinking of small schemes carried out two years ago, when prices were at their maximum, few architects can have been paid anything like an average of £30 per house in connection with the recent Government's efforts. For a very large scheme of my own, carried out when the Class A house cost about £900, the fees worked out at just half the figure quoted by Mr. Webb. Since prices have come down so much, if an architect is engaged to carry out a modest project of 40 working-class houses at a cost averaging £400 each, the fees on the Ministry Scale would come to £13 per house. Larger schemes would work out at a lower fee per house. These fees, of course, included full supervision, preparation of working drawings, and details, and settling accounts. Presumably, Mr. Webb has in mind cases where a speculative builder would only require the architect to prepare the plans and obtain the Local Authority's approval of them. In such a case the architect would obviously not expect to get full fees. He would probably charge half fees for such services, amounting in the case of 40 houses to some £6 10s. per house. If the number were more, the amount would be £5, or even as low as the fee charged by our fellow architects in America, which, apparently, is looked upon by Mr. Webb with such favour!

I think we ought to be rather careful as to what line we take with reference to preparing standard plans at a nominal fee for the use of builders in wholesale manner. My experience leads me to believe that standardized plans are seldom satisfactory to the builder or architect, or to the future inhabitants of the houses. Unless the architect has some control, not only over the plans, but of the working drawings during building, his details, and the little matters on which he naturally sets some store, may be frequently departed from, on the score of expense or trouble. Apart from this consideration, is it not an unwise policy to lead our friends in the building trade, and the public generally, to think that an architect's services in the preparation of plans and designs are only worth a casual payment—such, for instance, as the builder might pay for one of the grates he uses? When it comes to other technical matters—legal, for instance—the builder, as a matter of course, pays his ten or fifteen guineas for the preparation of the conveyance or lease, and solicitors would not dream of taking less, although the repetition of deeds entails less trouble than the repetition of plans.

I do think we ought to get down t serious business on this question c assisting in the housing problem, an offer our services to builders on reasonabl terms, but, in the course of doing s let us take great care to ascertain exactl what services we render, and arrang payments for them which are in relatio to the skill involved and to the dignit of our profession. Builders who hav been in the habit of consulting housin architects, usually appreciate, and ar prepared to pay adequately for, lay-ou and house plans, because they know i these days that their customers in tur are prepared to pay the small extra pric for dwellings which are efficiently designe and constructed. The Ministry of Healt Scale, now incorporated in the R.I.B. Schedule of Fees, is certainly not excessiv on present prices for the work involve and I suggest that it would be unfortuna if it were given out that any institutio representing architects was prepared advocate a much lower basis of paymen

T. ALWYN LLOYD.

Contemporary Art

The Ilya Repin Exhibition

Do not expect to see sensationalism at the Leicester Galleries just now; you would be disappointed. Russians, as a rule, provide this fare with ease and abundance, but Repin, whose paintings solicit our attention, is neither a youngster nor a fire-eater. His art, somewhat old fashioned as "movements" go these days, is nevertheless interesting, and greatly so because it explains one side of that most complex and baffling phenomenon, the Russian mentality; the mentality of the "Intelligentzia," which was so stirred after the liberation of the serfs in 1861.

It was at this period that the literary and artistic leaders, turning from Teutonic abstractions to Russian actuality, pronounced the dictum that *Beauty is Life*. Radiant ideas of progress permeated all classes of society. With that passion for absolutism so typical of the Slavic mind, it is scant wonder that the emancipation of art should follow rapidly upon the liberation of the serfs, and Repin reached his early manhood at about that period, when most artists of his age gathered together to air and strengthen their views and their art. Their passionate nationalism assuredly exceeded their artistic sensibility; yet, one must never forget that they came into being during a vigorously realistic and utilitarian epoch, an epoch that witnessed the publication of Piserer's amazing "Annihilation of Æsthetics," and similar diatribes against the formal canons of Abstract Beauty.

Le Beau, c'est la vie was, in fact, by some, amended to read: *Le Beau c'est le laid*, with its unforseen and long-standing codicils still operating mischief with some modern painters. Therefore, in its every accent, the artistic legacy of Repin typifies the man's own particular age and epoch. It definitely incarnates the *signum temporis*, the spirit of the time, in the same manner as does the fiction of Dostoyevsky and Tolstoy.

You will, therefore, not be surprised to see, beside a good many portraits, many pictures with a purpose, what Germans call "Tendenzbilder." These paintings depict scenes of national life. Most of them do take their point of departure from the facts of every-day existence, and to this peculiarity of selection Repin owes both the weakness of a necessarily atrophied artistic impulse and the strength of a forcible, if limited, vision. Rarely does he wander from the realm of specific observation. Face to face with his subject, he, at his best, is a vigorous and ready craftsman, jealous of essentials and indifferent to all that does not directly contribute to the individuality of the sitter. The accessories are always simple and thoroughly in character, and now that I seem to refer to his portraits, nowhere has he succeeded better than in his likeness of Tolstoy, whose troubled features he has limned so often. The example shown at the Leicester Galleries, "Count Leo Tolstoy" (13), is very convincing. Tolstoy stands, both hands slipped behind the belt girdling his white tunic. The sad and dreamy expression of the eyes, the tremendous mouth, the flat, wide-nostrilled nose, the magnificent, if unkempt, spread of beard, all that rough and powerful physiognomy which made the prophet of Yasnaya Polyana so arresting to look at, is here caught and put down, and as a portrait this is as good as it could be. It is certainly far better than the "Alexander Kerinsky" (15), which is marred by too theatrical a display of lights and shades. The "Portrait Drawings and Sketches" betray the craftsman grown a little careless and slipshod at times, but always bent upon obtaining simply and quickly a very adequate likeness.

The Hampstead Society of Architects

One of the pleasantest characteristics of a general exhibition of paintings is its eclecticism, which by bringing into action many contrasts lightens the task of bot eye and mind, but to yield its fulles eclecticism should be checked by watchful sense of selection. This, th Hampstead Society of Artists has faile to set in motion at the autumn exhibitic of its members' work, now held at th Walker Galleries, with unfortunate r sults.

A lot of little water-colours of du tit-bits have been allowed to creep in ar hang themselves on the walls. Most these are obviously the efforts of amateu of all grades.

However, there are fortunately brig exceptions. One does come across con petent pieces of painting. Mr. A. va Aurooy's "Pierrot" (3), for instance, h a winning quaintness of arrangement ar presentation, rendered more evident ar fresh by undoubted skill. Mr. Phil Cornish, in his "Spring in the Haz Coppice" (6), has hit upon a very chas and discreet piece of landscape to whi he has done full justice. There is he displayed an effortless understanding tone-values in lurid contrast to son near-by wall-fellows. In "Castle Roc Lynton" (18), Miss Jessie Mothersole h done justice to a very pleasing rhythm greens and greys. "Halcyon Days," Mr. H. J. Jarman, is so obviously imitation of Russell Flint that it fair hurls itself in the class of vicarious pa tiches.

It is a pity that Miss Amy Squi should have insisted to the bitter end making a sketch of the "Interior of t National Gallery" (25). Mr. Percy Da has a pretty "Motherhood," which tak one back to the mannerisms and suga prettiness of Greuze.

Mr. A. Belcher, A.R.I.B.A., does his be to uphold the dignity of architectu sketching.

His "Doorway off Mark Lane" (3 is a pleasant enough little affair, timi but happily shown. There are ma others, but over most of them broods th spirit of Anecdotes and Strictly Limit Localism.

G. HOLT.

Mr. D. G. Somerville Elected M.P.

MR. D. G. SOMERVILLE, the managing director of Messrs. D. G. Somerville & Co., Ltd., constructional engineers, whose photograph appears on this page, has been elected to represent Barrow-in-Furness in the new Parliament. Mr. Somerville is a native of Edinburgh, where he was born in 1880. He was educated at George Watson's College and at the Heriot-Watt Engineering School — two well-known Edinburgh institutions. On leaving school, he entered the Edinburgh works of Messrs. Redpath, Brown & Co., the well-known constructional engineers, where he received the training which was to be the foundation of the business he subsequently established later on in London.

Commencing in a small way as an engineering contractor in Victoria Street, Westminster, he gradually worked up the important and extensive businesses with which he is now connected. On the outbreak of war his firm—D. G. Somerville & Co., Ltd.,— undertook large and important contracts for the British, French, Portuguese, and American Governments in the war areas on the Continent. In England they built the large camps at Sheerness and the Isle of Wight, besides other buildings at Farnborough, Lydd, Didcot and Southampton, also in Ireland. This work was in addition to numerous steel buildings for the Admiralty at various important points.

MR. D. G. SOMERVILLE.

In 1915 branches were opened in France, the first hospital at Wimereux being built by his firm, various works at Calais, Dunkirk, Boulogne, Havre, Paris and other places being subsequently undertaken. One of the largest military hospitals in the world was built for the American Government on a site near Bordeaux.

Through the Entreprises Somerville, a French registered company, important cemetery works for the Imperial War Graves Commission have been undertaken. This firm, of which Mr. Somerville is a managing director, is also responsible for a great amount of reconstruction work, notably the rebuilding of the municipal buildings, and large factories and private houses in St. Quentin.

On the visit of the King and Queen to the British war cemeteries in May last, Mr. Somerville was presented to their Majesties.

The general contracting works in England are too numerous to detail, but mention may be made to the Mappin Terrace for the Zoological Society, and various wharves on the Thames and elsewhere, and numerous large housing schemes and factory premises. His firm is now engaged on two important building sites in Regent Street. He is also the managing director of the Somerville-Barnard Construction Company. Mr. Somerville is a member of the London School Board Lodge of Freemasons.

In Praise of Terra-Cotta

NOWADAYS it seems almost incredible that once upon a time terra-cotta was looked upon askance by architects. That was partly the effect of insidiously propagated prejudice, but was more often the result of a genuine mistrust of the material, because the art and science of producing it had not been perfected in this country. Manufacturers had not then reached the high degree of excellence in form, colour, and finish to which the processes of terra-cotta mixing, moulding, and kilning have since attained.

Architects, as soon as they ascertained that the material had become thoroughly trustworthy in these respects, began, and have continued, to specify it very freely, adopting it fearlessly for some of their most important work. Several architects of the greatest eminence have become quite enthusiastic advocates of terra-cotta. Its essential characteristics had long been perfectly familiar to them. They were well aware how much more durable it is than wood and stone, both of which, as crude natural products, are subject to natural decay, from which it is often necessary to preserve them artificially with protective washes.

Architects knew very well also that terra-cotta has the valuable advantage of being much lighter than stone; of being, as a fundamentally plastic material, more easily moulded to beautiful shapes; and, further, of being procurable in many delicate shades of colour—not applied with washes, as they would have to be in the case of either wood or stone, but colour integral with the material itself, and varying with the district from which the clay was obtained. "'Tis in grain, sir," as that beautiful lady in Shakespeare said in answer to a bantering remark that the colouring of her face was too lovely to be natural.

It is a valuable advantage that the colouring of terra-cotta—again like that of the beautiful lady—has not to be renewed at short intervals.

As to shape, clay being plastic and mouldable beyond all things else, whereas the softest of stone is rigid to the chisel, there is no need to stress the point as to the superior docility with which terra-cotta obeys the hand and will of the artist, nor to insist on the superior economy of terra-cotta in repetitive work. A few yards of egg-and-dart moulding, for instance, would obviously be much less expensive to cast than to carve; if the "repeats" were of terra-cotta, they would be modelled once for all, with considerable saving on the cost of labour.

That terra-cotta is enormously more durable than stone is not mere assertion, based on the theory that terra-cotta, being non-absorbent and impervious to the acids which penetrate stone, will not, like stone, crumble, flake, and disintegrate. Terra-cotta's immunity from decay is an established fact, fully confirmed by the examples of terra-cotta objects of enormous antiquity to be found in almost every museum. More to the purpose as proofs not only of the longevity and durability of terra-cotta, but of its having commended itself to architects for adoption in notable buildings of indisputable dignity and repute, even as it had commended itself to the Romans of old, are the examples of terra-cotta incorporated in the building at Hampton Court Palace, Sutton Place, Guildford, Layer Marney, Essex.

Each of these monumental buildings being a standard and criterion of good taste in architecture, the free use of terra-cotta in them is a splendid testimonial to the architectural respectability of the material, as well as a conspicuous proof that the esteem in which it is held by architects of repute is no new or passing fad, but a classical tradition. Terra-cotta, therefore, is not only of venerable antiquity, but of highly respectable æsthetic associations, which sanction its use in the best buildings.

Many eminent architects of recent times have been glad to recognize in terra-cotta a valuable addition to their resources, whether as an adjunct to other materials or as superseding them—in a façade, for example, in which terra-cotta may be seen in bands or patterns that afford relief to the monotony of a stone, brick, or stucco front; or as an entire facing, either showing a single colour throughout, or diversified with various harmonizing tints, brilliant or subdued, matt or glossy in surface.

It may be confidently assumed that no great city, no considerable town in the kingdom is without more or less numerous, more or less handsome terra-cotta façades. Certainly London is rich in notable examples, among the most conspicuous of them being the Natural History Museum at South Kensington, designed by the late Mr. Alfred Waterhouse, R.A.;

the huge Constitutional Club in Northumberland Avenue; and, equally impressive by its tremendous size, the enormous Prudential Assurance building in Holborn; and, indeed, the metropolis abounds in notable examples of terra-cotta work.

Cinemas, terra-cotta faced or terra-cotta decorated, some of them of a real beauty less easily attainable in any other material, are to be found not only all over London, but throughout the kingdom, and their almost invariable and sometimes quite delightful use of the material, inside or outside, structurally or decoratively, must have done much to popularize it.

Then, to mention at random a few noteworthy provincial buildings in which terra-cotta is conspicuous, Sheffield may well be proud of its fine "Sheffield Telegraph" Office; Sir Aston Webb's Victoria Law Courts in Birmingham are an adornment to that city, even as the Y.M.C.A. building is to Manchester, the Royal Technical Schools are to Salford, and several well-known buildings are to Leeds.

Of course there are others, but there is no need to multiply examples of the tremendous popularity of terra-cotta everywhere to-day. The reason of this popularity should be obvious. The love of colour is a natural instinct in human beings, and so far as the exteriors of buildings are concerned terra-cotta is the only practicable means of satisfying that innate craving.

In "brightening" our cities, terra-cotta is the only building material that is competent to render that honourable service. Its colours or tints are so numerous that the architect may make it the vehicle of delightfully harmonious colour-effects, which will not fade or fail from excess of sunlight, nor shall the soot-laden rain permanently bedim them; for they are "fast colours," and will withstand the most assiduous attentions of any "Gentleman with a Duster," or even with a mop and a hose-pipe.

Not to be ignored is the question of sculptured ornaments. One calls them "sculptured" for want of a better term. They are, of course, not sculptured in the same sense as the work that comes direct from the chisel. Yet when still in the plastic state they must have been modelled and moulded sculpturesquely; and when they have passed successfully through the several processes by which modern terra-cotta is brought to perfection, the sculptor's skill emerges triumphant through ordeals by fire and by water with effects not inferior to those of the best executed stone-carving—in some respects, indeed, heresy though it be to say it, superior to them, because got in a material over which the artist has more complete control.

The plain fact is that terra-cotta gives the artist one of his most free, facile, and fertile modes of expression. Shaping his design—be it monumental group, swag, or small detail of ornament, in the most plastic of all materials—clay—rectifying mistakes as he proceeds he gives it its final shape before it leaves his hands; whereas the final product, were it in stone, would be but a translation of the original model, would be carved in a different medium, perhaps by another hand. Terra-cotta comes out finally just what it was when it left the artist's hands, except that the material is no longer plastic, but so hard, indeed, that neither the weather nor the acid-laden atmosphere of a smoky town would affect it as stone statuary would be affected.

This is not intended as a complete statement of the case for terra-cotta as a material for the adornment of buildings. For the sake of that "artistic reticence of statement" which good architects are so careful to observe in all their works, the claims of terra-cotta to rank as a thoroughly architectural material have not been exhausted in this article. Terra-cotta, however, has one other distinctive merit which cannot with justice be entirely ignored, though one may not dwell on it at adequate length. Terra-cotta seems to possess a positive affinity with reinforced concrete. The two materials are homogeneous and complementary to each other, to a remarkable degree.

The Cathedral of Rheims

Sir Isambard Owen, who for many years before the war, made a study of the history and architecture of Rheims Cathedral, lectured before a large audience at the Royal Institute of British Architects on November 16, a collection amounting to £16 2s. resulting for the benefit of the British Empire Fund to wards the restoration of Rheims Cathedral (the office of which is at 39 St. James's Street).

Speaking without notes, the lecturer traced the history of the great church from the time of the baptism of Clovis, the first Christian king of France, down the centuries to the last terrible onslaught on the cathedral. Details both of the structure and its decoration were shown in more than a hundred magnificent slides, and so vividly did Sir Isambard describe the meaning of the statuary and the manner in which the original architect, whose name has only recently been discovered, planned the structure as a whole and carried out the design without alteration of plan, as was the case in hardly any other great building of early times, that he held the close attention of his audience for nearly two hours.

The lecture was so completely interwoven with its illustrations that it would be impossible to report it verbatim, even did space permit.

The chair was taken by Sir Aston Webb, and the French Ambassador was present.

At the commencement of the proceedings, the hon. sec. of the fund read a letter from the president, the Duke of Portland, regretting his inability to attend and thanking Sir Isambard and the Council of the Royal Institute of British Architects for their kind help.

Competition News

An Economic Competition.

Douglas Town Council have not set an example of lavish liberality in the terms on which they invite " competitive plans, designs, and estimates of cost " for the laying-out the Hills estate. They offer £50 as first prize, and a second prize of £20, and the plans and designs are to become the absolute property of the Council. Moreover, the Council do not engage the successful competitor to carry out the work. One cannot imagine that the competition will be overwhelmingly keen.

(*For List of Competitions Open see our issue for November* 8.)

Mr. W. Haywood on Renaissance Towns

Mr. William Haywood, F.R.I.B.A., delivered the sixth lecture on Town Planning, at Birmingham, " Renaissance Towns " being the subject. The lecturer said :—

The Renaissance may be regarded as a period of transition between the Mediæval and the Modern Worlds, when ecclesiastical and feudal control were loosened, and new ideals were formed.

A revived interest in classic literature in the fifteenth century is closely followed by the architectural researches of Brunelleschi in Rome, and a new manner of design appears in certain units of town planning.

Two great secular buildings, the " Riccardi " and " Pitti " Palaces (1430 and 1440), are among the first of many similar structures built throughout Europe during this period which indicate a condition of society no longer dominated by the Church, and many of these palaces play an important part in town conditions, the building itself being designed in definite relation to its particular neighbourhood.

Radial roads appear for the first time in plans for the development of Rome, made for Pope Sixtus V by Fontana, who constructed the Piazza del Popolo, and from the piazza cut three main arteries giving direct access to widely separated sections of the town. These roads diverge from the great northern gate of the city, and, in association with the Via Flaminia beyond the walls, form a perfect example of what the road entrance to a great city should be.

While Roman roads of this period (1585-9) constitute a departure in town planning by reason of their new method of alignment, and also display a marked axial emphasis and definite architectural composition, they by no means form a complete road system, and it is not until some 75 years later that the schemes prepared by Wren and Evelyn for the rebuilding of London after the fire give us a full assemblage of town-planning elements. No better plan for the same conditions could be prepared to-day than that made by Sir Christopher Wren; rectangular planning is used selectively; radial avenues fan out from the bridgehead into the heart of the city, and the open " place " is for the first time used systematically as a focal point for traffic, yet with concentric relief roads to lessen the danger of congestion and to facilitate distribution.

These relief roads in Wren's plan serve, in a secondary manner, the same function as the great ring roads now advocated for all big cities, the best examples of which have resulted from the conversion of great military zones, imposed upon many Continental cities during the Renaissance. Earlier forms of defence—the simple wall and tower—can usually be traced in the plans of cities which have at any time possessed them, but the highly elaborate triangulated bastion and glacis of the sixteenth and seventeenth centuries when they in turn became obsolete provided perfect conditions for the construction of tree lined avenues, which now serve as ideal ring roads in such cities as Paris and Vienna.

Book Notices

Manual of Decoration

Let it be frankly acknowledged--but e fact is patent—that as a rule our iglish domestic interiors are not arming. Neither to the details nor to e ensemble is sufficient thought given. rniture is chosen, or arranged, without e 'attention to harmony and unity. the decoration, the wrong patterns, the ong colours, the wrong positions and xtapositions are selected instinc- ely, with deplorable results on the neral effect, which is seldom visualised forehand as a predetermined scheme. e sage counsels of that old-time school ssic, " Right Lines in their Right aces," seem to have passed into oblivion. r modern artless, if not fadless, folk em obsessed with an ineradicable ndness for Wrong Lines in the Wrong aces. Chairs and tables, pictures and nels, wall coverings and floor coverings oclaim aloud their owner's incompe- nce to " take thought " in such matters; to parody the poet, æsthetic " evil is ought from want of thought as well as m want of art."

Mr. John Gloag has written, and Mr. J. Warne has illustrated, a book that capable of excellent service in guiding e taste of those householders—a con- ntly increasing number — who aspire get their furnishing and decorating ne decently and in order. That the thor's prime object is to render this vice is clearly expressed in his opening ragraph. " Decoration," he says, newhat tritely, " may be divided into o classes : Period Decoration, which is nded on Historic Style, and general mestic Decoration, which is concerned th the problem of making everyday roundings pleasant and attractive. is with the latter section that this book concerned chiefly, although a chapter aling with studies in period decoration included." The object of the book ld not be defined more tersely, and thing further need be said in praise of e manual than that this object is fulfilled; those who have collaborated in its production—author, illustrator, publishers and printers—having performed their work very creditably.

From this manual the architect and the professional decorator, as well as the householder, may derive useful information and sound guidance, whether or not they admire in every instance the taste shown in the examples illustrated. In such matters, unanimity is proverbially impossible, and, indeed, undesirable. But simplicity being the keynote of the volume the occasions of difference are likely to be infrequent.

"Simple Schemes for Decoration." By John Gloag. Illustrated by E. J. Warne. London: Duckworth & Co., 3 Henrietta Street, Covent Garden, W.C. Price 7s. 6d. net.

A Guide to the Profession

There is surely no other profession to and in which guidance is so necessary to the neophyte as it is in that of architecture; for there is none in which details of the means of preliminary training are so numerous, and so diverse, forming a bewildering maze, hardly less easy to thread without guidance than that at Hampton Court.

How shall the young man, or the young woman, set about entering the profession? But even to this question there are vital questions precedent. Is the candidate " a fit and proper person," as they used to say in election resolutions, to enter and adorn the profession and to prosper in it? Need one undergo a course of training for it? And what exactly is the nature of that training? How long does it last, and what does it cost? Can the candidate, or his or her parents and guardians, afford the expense? Has the candidate the necessary accomplishments and proclivities, the right temperament and ambition? As a career, what are the rewards, risks, pitfalls, disadvantages, of the profession of architecture?

All these important questions, and many more, are either answered, or at least discussed, with knowledge and acumen in this " Guide to the Profession." Its author, Mr. F. R. Yerbury, as Secretary to the Architectural Association, is in a position peculiarly favourable to the collection of all the necessary data for sound guidance, and he is well qualified to state them concisely yet comprehensively, and to marshal them (as he has done) in orderly and disciplined array. His guide safely conducts the neophyte to the threshold of the profession, and beyond it a little, in the assumption that the auspices are there found to be favourable and the prospects satisfactory.

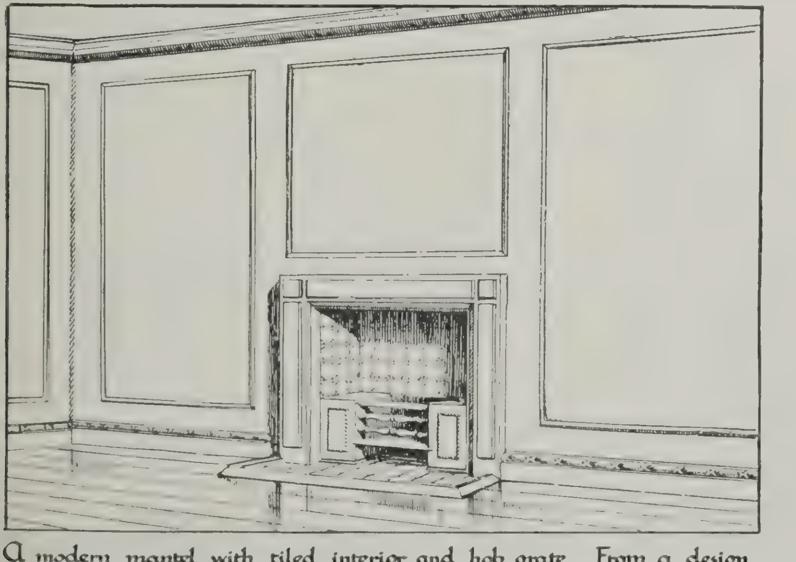
For the book not only discusses the various methods of training for the profession—by pupilage or in one of the many schools of architecture (of which a complete list is given)—but it imparts invaluable hints on turning the training to account on really " commencing architect "—whether as assistant, or as partner, or as principal: whether staying at home or even adventuring abroad Far East or Far West.

What items should be included in the student's outfit; what books he should select as the nucleus for his library; the conditions of training in France; and of study in Italy; all such " preliminaries " are enumerated, and the recital is followed by three most important chapters, dealing respectively with employment for the architectural assistant; and with the various means of setting up in practice, whether independently, or in partnership; and on architectural competitions.

Then, to make his survey of the architectural field as comprehensive and complete as possible, the author includes a chapter on draughtsmanship and rendering, one on architectural etching, and one on architectural photography, the subject last named being, of course, one in which Mr. Yerbury is an acknowledged master. With characteristic thoroughness and practicality, he appends a dozen illustrations of various types of the graphic arts ordinarily employed by architects. These illustrations, admirably reproduced, greatly enhance the value, as well as the appearance, of a volume that is in every respect—in format, typography, paper, and binding—an excellent example of modern book production.

There is, further, a particularly useful chapter on " The Student's London," giving definite information on the whereabouts of architectural objects, including of course, and principally, the famous buildings in and around the metropolis, that may be profitably studied, measured and drawn. In fact, every item that could possibly be of assistance to the inquirer—to the youth seeking to enter, or having already entered the profession, or to his mentors anxious to obtain accurate information as to the prospects it offers as a career for their protégé or protégée, is included in a guide that is altogether a most important addition to the sum total of books that are of unquestionable and perennial utility. The guide is furnished with an excellent index.

"Architectural Students' Handbook." A Guide to the Profession of Architecture. By F. R. Yerbury, Secretary to the Architectural Association. Illustrated. London: The Architectural Press (Technical Journals, Ltd.), 27–29 Tothill Street, Westminster, S.W.1. Price 10s. 6d. net.



A modern mantel with tiled interior and hob grate. From a design by Leslie Mansfield F.R.I.B.A.

(*From "Simple Schemes for Decoration."*)

Business Premises in Castle Street, Dundee

FRANK THOMSON, Architect

IN designing this building—for Messrs. Alex. Stewart & Son, of Dundee—the architect encountered many difficulties owing to the limited space available for the street front and the entrance hall. The building is situated between two existing buildings, and the fact that the "whole-height" entrance hall and staircase, and the attached offices were being treated in a decorative manner, made it necessary that the façade should be endowed with some features of interest and distinction. With this in view the front has been carried out in fine axed Persley granite enriched with bronze wreaths, and the entrance gates and the large window over are of ornamental wrought-iron work enriched with solid cast bronze. The gates are glazed with clear plate glass, and the large window is filled with cathedral glass with the border and the firm's crest at the top in stained glass.

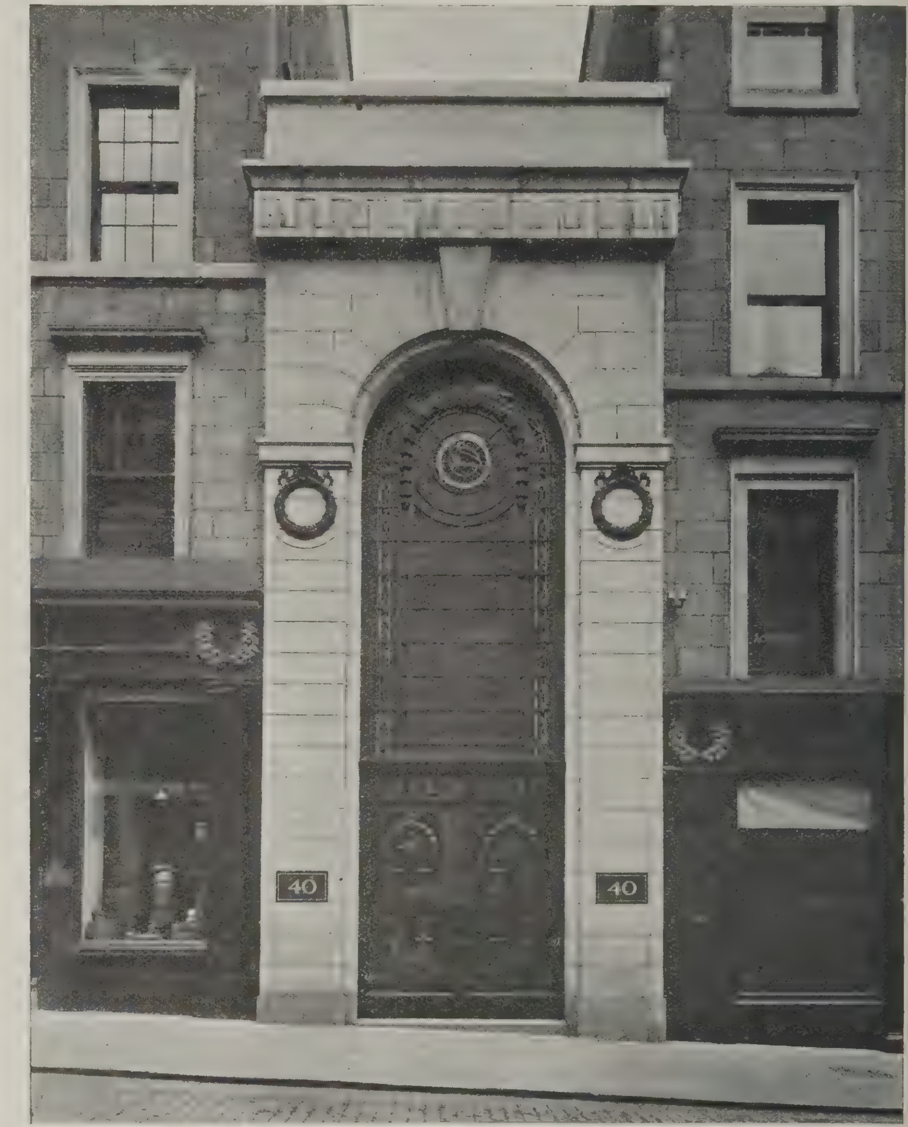
The entrance hall is 52 ft. long, 15 ft. wide, and 29 ft. 6 in. high. The floor is of marble, the octagons, which are 2 ft. across, are of Napoleon marble, and the small squares and borders are of black Belgian marble. In the centre is a representation of a nautical compass carried out in bronze and inlaid enamel.

The panelling, the vestibule screen and the wide staircase are carried out in wainscot oak. The raking balustrade, and the level balustrade on both sides of the landing—which crosses the whole width of the hall—are panelled with ornamental wrought-iron work, with a modelled and solid cast bronze coat of arms in the centre of each panel. These panels vary in every instance and represent the countries and governments with which the firm do business. Each coat of arms is shown the same on both sides of the panel. The ceiling is barrel vaulted and richly treated with specially modelled fibrous plaster. The electric light bowls are of alabaster, and those in the hall are specially large, being 3 ft. in diameter. In the entrance hall is the Roll of Honour, which is of cast bronze with cream-enamel letters inlaid, and the company's trade mark in blue enamel.

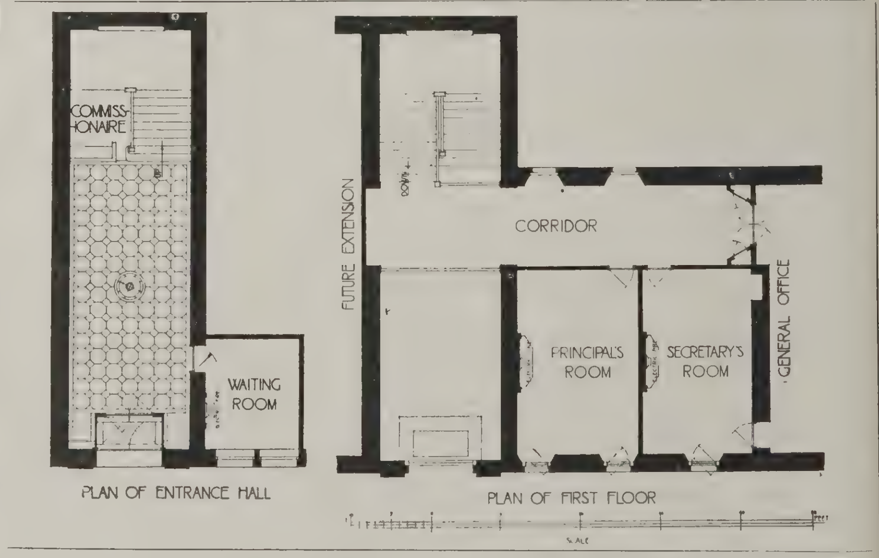
The corridor leading to the office premises is enriched with fibrous plaster and oak work, with two stained glass windows in the side wall. A waiting-room on the ground floor level has also a representative stained glass panel, and is treated in enriched fibrous plaster. The principal's room and the secretary's room are panelled with wainscot oak, the ceilings being of enriched fibrous plaster, and the bowls of the electric light fittings are of alabaster.

The contractors were as follows: John Nicoll & Son (mason work); M'Tavish, Ramsay & Co. (joiner work); R. Melville (plumber work); Alexander McRitchie (plain plaster work); D. & G. Law (slater work); Lindsay and Scott (plain glazier work); Joseph Thompson (painter work); Thomas Russell & Son (steel work); A. L. Peacock & Co. (heating installation); A. Westwood & Son (electric lighting); George Carnegie (granite and marble work); Alexander Fair (wood carving); David Dickie & Son (ironmongery), and Richard Buist & Sons (furniture and furnishings), all of Dundee.

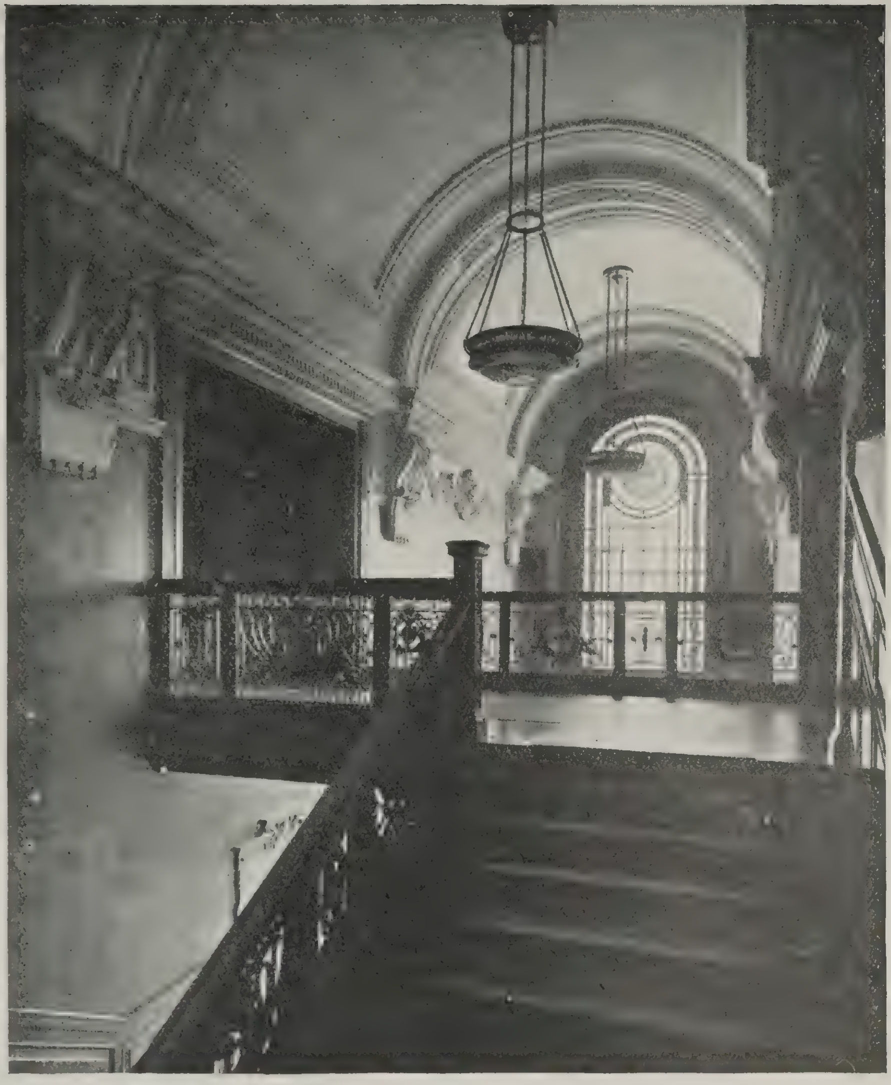
Other contracts were:—H. H. Martyn & Co., Ltd., Cheltenham (fibrous plaster work, ornamental wrought-iron work, bronze, and stained glass); Messrs. F. & C. Osler, Ltd., London (electric light fittings); Messrs. Henry Hope & Sons, Ltd., Birmingham (steel casements). The Napoleon marble in the entrance hall was supplied by the Hopton Wood Quarries.



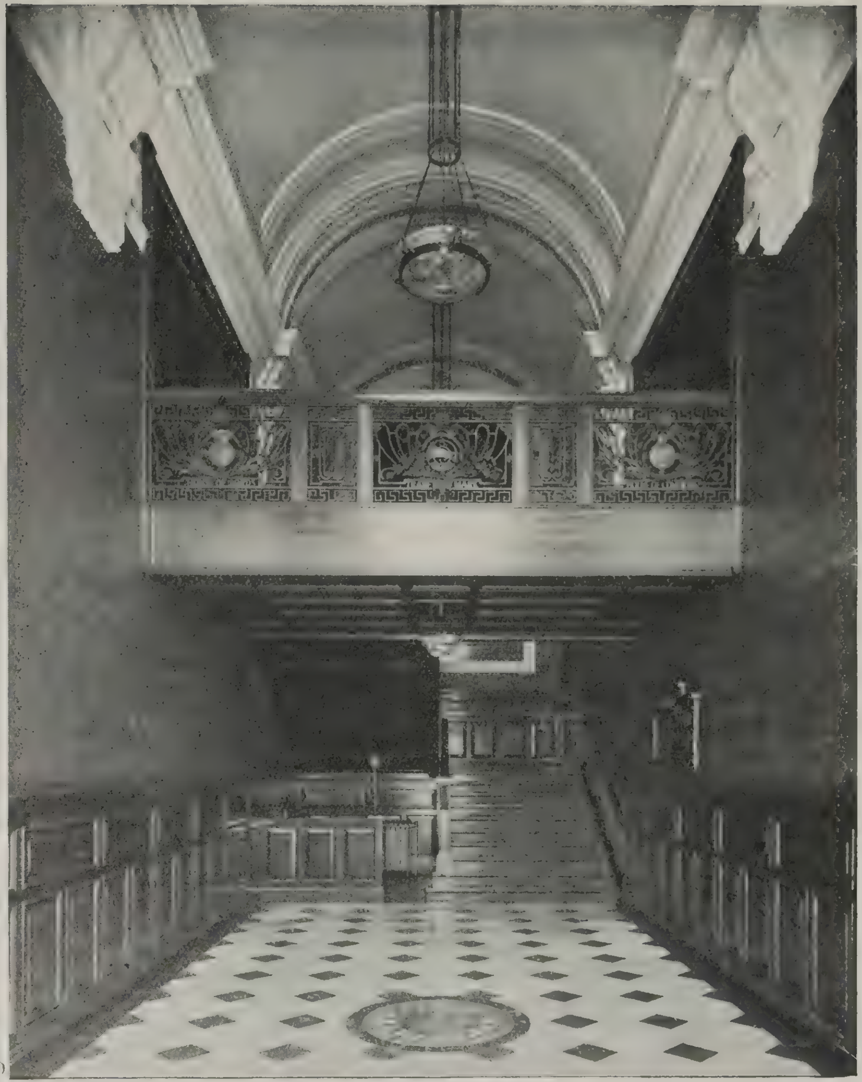
THE MAIN ENTRANCE.



PLAN OF ENTRANCE HALL AND FIRST FLOOR.



VIEW FROM THE STAIRCASE.



VIEW FROM THE ENTRANCE DOORS.

BUSINESS PREMISES IN CASTLE STREET, DUNDEE: THE ENTRANCE HALL
FRANK THOMSON, ARCHITECT.

The Week's News

East Ham Town Hall.

A proposal for the extension of the East Ham Town Hall buildings, at a cost of £7,500, is under consideration.

New Church at Scarborough.

A tender of £7,900 has been accepted for the building of the new church of St. Columba in the North Ward.

£10,000 *for St. Paul's.*

The Ecclesiastical Commissioners have promised a contribution of £10,000 to the Preservation Fund of St. Paul's Cathedral.

No Memorials on "Village Green."

At Offerton, Cheshire, the council have refused to allow the local War Memorial Committee to erect a village institute as a war memorial on the village green.

The Late Mr. H. T. Gordon.

The news of the death of Mr. Henry Thomas Gordon, F.R.I.B.A., at his residence, Parkfield, in his seventy-seventh year, was received with great regret last week.

Mexico's New Bridge.

The sum of 300,000 pesos (£30,000) is to be expended upon the construction of a new international bridge between Mexico and the United States at Piedra Negras, in the State of Coahuila.

Metropolitan Railway Extension.

The successful tenderers for the extension of the Metropolitan Railway to Watford are Messrs. Logan and Hemingway, of Doncaster. The new line will cost about £300,000.

Pottery Village Unearthed.

During sewerage development work at Wisley, not far from the Royal Horticultural Society's gardens, a complete pottery village of the Stone Age has been unearthed, together with pottery.

The New Ironmongers' Hall.

Mr. Sydney Tatchell, F.R.I.B.A., surveyor to the Ironmongers' Company, has been appointed architect for the design and erection of the company's new hall in Aldersgate.

London County Hall Extension.

The L.C.C. have decided to proceed with the "raft" foundation of the County Hall extension, so that later on the new wing can be constructed at a total cost of £800,000.

New Assembly Hall for Chislehurst.

Mr. T. R. Ferens, of Hull, has given £15,000 to defray the cost of a new assembly hall and class-rooms for Farrington's Girls' School, Chislehurst. It is proposed to raise another £15,000 in order also to erect an additional residential house.

Memorial Chapel at Durham.

The Dean and Chapter of Durham have instructed their architect, Mr. Caroe, to proceed with the construction of a Military Memorial Chapel in the south transept of Durham Cathedral.

Architect Lord Mayor.

Mr. W. C. Fenton, F.R.I.B.A., was installed as Lord Mayor of Sheffield on November 9. He is the first architect who has ever filled that position in Sheffield.

Restoration of St. Mary's, Shrewsbury.

The work of repairing and restoring the ancient spire of St. Mary's Church, Shrewsbury, has been begun by Messrs. Thompson, church-builders, of Peterborough. It is estimated that £5,000 will be required to complete the work.

Lincoln Cathedral Repairs.

To Lincoln Cathedral repair fund, which now amounts to £15,200, the Ecclesiastical Commissioners, who own considerable property in the county, have promised £2,500 on condition that £50,000 is raised.

Extensions to Church at Askern.

Work has been begun on extensions to St. Peter's Church at Askern, Yorkshire. There will be a new choir vestry, sacristy and organ chamber, and a heating system will be installed. The architect is Mr. E. T. Fox, of Barnby Dun, near Doncaster.

Inigo Jones Gateway.

The Inigo Jones gateway, which once formed part of a palace at Oatlands Park, built by Henry VIII, is to embellish a public-house. The gateway was discovered when the Pelican, an old inn near Weybridge, was being pulled down for rebuilding. The owners of the Pelican are rebuilding it on their own premises.

A New Building Society.

Delegates from over fifty London building societies meeting at Holborn Restaurant, decided to form a Metropolitan Building Societies' Association, and appointed Mr. Harold Bellman, of the Abbey Road Society, to act as hon. secretary.

Professional Practice.

Mr. H. E. Rolley, A.R.I.B.A., A.R.C.A., has taken over the practice of Messrs. Gething and Son at Kingsley Hall, Kidderminster. Mr. J. Morris Gething died recently. The practice was commenced by the late Mr. Gething's father in 1853. The firm will be carried on under the name of Gething and Rolley.

Change of Address.

Mr. G. Alan Fortescue, A.R.I.B.A., has removed his office to 41 Glasshouse Street, Piccadilly, and will be glad to receive trade catalogues.

Mr. Ellis F. White, architect and surveyor, of Carnarvon, who previous to 1914 carried on his practice at 17 Bridge Street, has removed to St. Paul's Chambers, Colwyn Bay, where all communications should be addressed.

Memorial to Mr. Temple Moore.

A faculty has been granted in the York Consistory Court to the Vicar of Goodmanham Church to remove from its present position in the north-west window a figure representative of St. Paulinus, and to reset it in the eastern window in the north wall of the chancel, and to add the following inscription: "A.M.D.G. This Window commemorates the work of (or help given by) Mr. Temple Moore, Architect, during the restoration of the Church 1894 to 1920."

The Egyptian Houses of Parliament.

Considerable progress has been made on the new Egyptian Parliament House in Cairo. Preliminary plans were not approved until August last, and the buildings are to be completed by March 1, 1923. The cost will be approximately £75,000. The architect is Mr. B. R. Hebblethwaite, A.R.I.B.A., and the drawings have been entirely prepared in the architectural office of the State Building Department.

St. Paul's Bridge.

Further arguments in support of the proposed new bridge across the Thames to relieve congested traffic in the City are given in a report issued by the Bridge House Estates Committee. Their proposal to proceed with the building of St. Paul's Bridge at a cost of £1,050,000 was rejected in July by the City Corporation. In their new report letters from the Ministry of Transport, the police and others in favour of the bridge are quoted.

National Building Guild.

An application came before Vice-Chancellor Lawrence, K.C., at the Lancashire Chancery Court, at Manchester last week, for the appointment of a receiver in the matter of the National Building Guild (Limited), Upper Brook Street, Manchester. Numerous building contracts in the North of England are connected with the Guild. The application was on behalf of the Union Bank of Manchester, that Mr. H. Terras, chartered accountant, be appointed receiver and manager of the Guild. The Vice-Chancellor made the order as asked for.

Shropshire and Gateshead War Memorials.

In connection with the Shropshire war memorial—illustrated on the title-page—the contractors were Messrs. Kirkpatrick, and the bronze railings were executed by the Birmingham Guild.

For the Gateshead war memorial—illustrated on page 708—Messrs. Tate, Brown & Co., Heworth-on-Tyne, supplied the Heworth Burn Blue Stone, and the stone carving was executed by Mr. J. W. Ogleby, of Newcastle; the sculptor for the bronze panel was Mr. Richard R. Goulden, by whom it was designed and modelled, and cast at the foundry of Mr. A. B. Burton, at Thames Ditton, Surrey; and the electric light wiring was carried out by Messrs. Embleton and Barker, of Gateshead. Messrs. Alexander Pringle, Ltd., were the contractors.

A Correction

We much regret that, in an Editorial note in our last issue, it was inadvertently stated that Mr. E. J. Partridge, the new President of the Society of Architects, was a Fellow of the R.I.B.A., and that he was articled to Mr. M. E. Macartney. These errors arose through a misreading of biographical data. Mr. Partridge served his pupilage with Mr. W. E. MacCarthy, and became an Associate of the Surveyors' Institution in 1890, and a Fellow of that body in 1894.

The Strand and the Adelphi

Mr. John Slater, F.R.I.B.A., in the course of a paper read before a meeting of the Royal Society of Arts last week, said: We are concerned with a very narrow strip of London between the city boundary at Temple Bar and Charing Cross, about half-a-mile in length and 250 yards in width from the north bank of the river up to Covent Garden, and in telling the story of this little piece my remarks will have to be much condensed to bring them within the reasonable limits of an evening lecture.

We all know the Strand—the busy thoroughfare between the City and Westminster—which Charles Lamb loved so much. Originally, as its name implies, the Strand was simply the river-bank from which the foreshore sloped down to the lapping waters of the Thames, but in old times the level of the road was much lower than now and the foreshore was very different. I can show you a portion of one of the ordnance maps on which I have indicated the old foreshore, and you can see where the various landing stairs were situated. In those days the river was the great highway, and the road—so badly was it kept up—was nothing but a by-way, the earliest houses that were built all having their fronts to the river, and their backyards and stables towards the road. We have it recorded in 1315 that "the way from Temple Bar to Westminster was so bad that the feet of horses and of rich and poor alike received constant damage, particularly in rainy seasons, and the footway was interrupted by thickets and bushes." In 1353 the roadway was well-nigh impassable so deep and muddy was it—*profunda et lutosa*, as the old chronicles say. In 1532 an Act was passed "for sufficiently paving the streetway between Charing Cross and Strand Cross," and even as late as the reign of George III the channel which ran along the middle of the road was often so deep and slippery as to be a constant danger to carriages and horses. So lonely and dangerous was the locality in early times that no one thought of living there, and it was not till the end of the thirteenth century that there were any dwelling-houses in the Strand.

Originally nearly all the south side of the Strand was occupied by the Inns, as they were called, of the various Bishops.

Although the majority of the streets leading out of the Strand are post-Reformation, there are three of very great antiquity. They are Milford Lane, which probably commemorates the existence of an old windmill; Strand Lane, where there is still existing an old Roman bath, the water flowing uninterruptedly; and Ivy Bridge Lane. All these led down to landing-stairs.

Having finished our peregrination of the Strand, we must now return to Durham House, on the site of which we are assembled this evening. Pennant says it was originally built by Anthony de Beck, Bishop of Durham, in Edward the First's reign, and if so it must have been almost contemporaneous with the Savoy Palace, but, at any rate, it was enlarged and almost rebuilt by Thomas Hatfield in 1353, and continued to be the London residence of those prelates till the reign of Henry VIII.

In the eighteenth century there appeared upon the scene four brothers, Robert, John, James, and William Adam, sons of a Scotch architect, the author of the "Vitruvius Senticus," who had influential friends, and soon got a large practice in London. They promoted a very ambitious scheme, which was no less than doing away with the sloping ground from the Strand to the river for the whole distance between York Buildings and the Savoy, and raising the area to the Strand level, laying out new streets and forming a fine terrace facing the Thames. The property had passed into the hands of the Duke of St. Albans, from whom it has descended to Mr. Drummond, the present holder, and the brothers negotiated a lease for ninety-nine years from Lady Day 1768 at a ground rent of £1,200 a year. One cannot believe that any of the brothers in the slightest degree appreciated the gigantic magnitude of the task they had undertaken. The total area of the site was over 140,000 sq. ft., and the Strand level was about 40 ft. higher than the old wharves just above high water-mark. Thus it was necessary to construct a series of enormous arches, springing from huge brick piers, the foundations of which had to be taken down to a solid bottom. The whole of John Street and Adam Street are on arches built over other streets at a lower level, and under these again are arched vaults. The houses on each side of John Street and Adam Street, the Adelphi Terrace and Robert Street, are all constructed in this way. The Adams seem to have hoped that the Government would occupy all these subterranean arches for storing ordnance and other things, but they were disappointed. Much of their financial difficulties arose from this. The arches are now used as wine stores, and they constitute one of the most curious and interesting sights of London, reminding one of much of the work of Imperial Rome. The arches are all groined and the work was splendidly executed, much of the brickwork being now as good as ever.

This is not the occasion to discuss the work of the Brothers Adam: this has been done very efficiently by Mr. Arthur Bolton in his recently published monumental work. They have left their mark not only in the Adelphi, with which their names will be for ever associated, but in many other parts of London and all over the country, and there can be no doubt that their work stands out as the predominant architectural feature of the eighteenth century. Robert and John were the principal designers, but William Adam has left us in London one charming little bit of building. I have mentioned Coutts' Bank in the Strand. These premises ran down to William Street (now a part of Durham House Street), and Thos. Coutts wanted to connect them with another house on the south side of the street, which he also occupied. Accordingly he got an Act passed by Parliament (39 Geo. III, c. 1) authorizing him to throw a bridge across the street to connect the two buildings. This was designed by William Adam, and, fortunately, it still exists, but only by sufferance of the London County Council. I wonder how many Londoners have ever seen it. The interior of Coutts' house was also enriched by the Adams, and Coutts had sufficient influence with them to stipulate that in their lay-out of the Adelphi buildings a gap should be left through which Coutts from his parlour could get a view of the river.

Mr. Milburn on Topical Matters

Mr. T. R. Milburn, F.R.I.B.A., in the course of his presidential address to the Northern Architectural Association, said: I read a few days ago that every man is endowed with sixty qualities. These were not detailed, but I gathered that if you nourished and used your qualities you would develop efficiency; and to be able, you must think right and remember, and, surely, one of the most difficult faculties to cultivate is remembering what is important and losing hold of what is of little value.

These thoughts come to me as I address you for the second time as your president. I feel the responsible position that you have elected me to. I hear the views of the foremost members of the profession, with whom, owing to my position as your president, I come in contact, and am tremendously impressed with their earnestness and ability I see as I go over the country the wonderful works now being erected in London and our other large cities, and self-examination should make us say: "Am I doing in proportion to my talents as well as others?" I assure you that this office of president of your association offers great facilities for broadening of views and directs thoughts to the serious problems of our profession.

Unification and registration must in the coming year engage our earnest attention, and I would ask: "Is not our aim something more than to shut up the unqualified man who calls himself an architect?" That is only a phase of our profession and a circumstance of the hour. Our aim should be to qualify him to be an architect, to make him fit to be one of us, and if this is not possible, to aim at his successor becoming one of us and a unit of a united profession. My idea of unification and registration is to *unite* first, and I have already put my views before the Institute through the Council of Allied Presidents—that all is not done that might be done by the Institute. I consider that a roll call should be made by the Institute and Allied Societies of all practising architects and their staffs, and that all pupils and assistants should be approached and appealed to by the Institute officially to qualify for membership. I know a great deal is done in this way by principals, but not always, and a continued movement by the Institute would be bound to be attended by good results. I think if this were done we should get so much larger a membership that registration would follow easily. This appeal, I may say, has attracted the notice of the Cape Institute of Architects, whose secretary has written to say that the Cape Institute has been particularly interested in the scheme to further the inducement for every young architect to qualify for the Institute.

The elections, however, have overturned the policy of the Council of the Institute, and we, as members, must be loyal to a majority. If 50 per cent. of voting members returned a majority for the present registration proposals for the

Institute, and 50 per cent. of the members did not trouble to vote, then it is clearly the duty of the governing body to frame a policy to conform with the majority voting. This is being done, and no doubt we shall shortly have laid before us a Registration Bill for consideration. But I still maintain that a united profession is the higher aim. Meeting as we have to-night means unification; every little help we give to each other means unification; the friendly acceptance of our little defeats one over another helps unification; the encouragement and help extended to those under our care means unification; the aid we give to our local associations, our loyalty to the Institute, and the care we take with our daily work all make for unification and registration, or registration and unification, whichever you prefer.

One of the dangers that I see in our profession is overcrowding. The avenues leading up to the practising architect are now inviting and alluring; the various schools now well established in all centres, the lure of scholarships, the attractiveness of the profession, growing public interest, housing, fair and open competition, all tend to attract more men to follow the art. We are rather worse off than doctors and lawyers, because the overcrowding tends to encourage public authorities to run their own architects' departments, to the disadvantage of the practising architect. However, there is always room for the industrious, as well as the best; and, after all, what a really interesting, clean, and wholesome profession it is! None of us, I suppose, are really ever dull or bored with our work—always change, half in and half out, always new problems to be overcome, and the joy of our visits to old buildings, and our ability to trace the history and age from a pillar or two, a bit of foundation or a base, and, in our imagination, reconstruct them.

And now I would like to give an account of my stewardship during the past year. I must confess to making a bold bid to be relieved of my office at the end of the first year in favour of a younger man, but I was over-ruled, and so address you for the second time.

I think the Allied Societies should turn their serious attention to the nomination of a provincial president. I am sure such a move ought to be possible without offending the susceptibilities of the London men. There are talented, well-known, and capable men of our profession in the provinces, and providing you select a candidate not too far removed from town, there ought to be no serious objection to working arrangements. Surveyors, medical associations, and other professions all at times choose provincial men, and I think the example might be followed occasionally. The suggestion would, however, need the whole-hearted support of the Allied Societies and the benevolent approval of the London men.

Viewing local affairs, we in this district are still labouring under severe industrial depression, and we should, as an association, watch closely our interests. A great amount of the housing work that should have come our way has passed over our heads in favour of local surveyors, and some corporations and local authorities are apt to ignore the claims of the architect. I may instance a war memorial committee (closely allied to the corporation of a northern town, when four to five thousand pounds was collected) inviting two corporation officials and the art master to submit designs for the war memorial in a competition limited to the three, and the memorial is now being erected to one of the designs. My point is that some architects have made a deep study of memorials, and the best results are obtained by employing architects who are versed in form, detail, grouping, sculpture, and style, which go to make up a beautiful composition, and at any rate they might be invited to compete. When town councillors, in their November struggle to be re-elected, boast of money saved through the employment of their own staff to carry out important work, their statements should be analyzed and account given of establishment charges, a very important item if it is missed out of the calculation.

Progress in Lighting

The opening meeting of the Illuminating Engineering Society was, by custom, devoted to reports of progress and the exhibit of various novelties in lighting. Mr. W. R. Rawlings (past-president of the Electrical Contractors' Association) presided.

Mr. L. Gaster (hon. secretary) in presenting his "Report of Progress during the Vacation" made special reference to the third report recently issued by the Home Office Departmental Committee on Lighting in Factories and Workshops, the aims of which would, it was hoped, be dealt with in various forthcoming papers before scientific societies and trade associations. He mentioned that a summary of the discussion before the Society on "The Lighting of Public Buildings" had appeared in the journal of the R.I.B.A., and drew attention to the paper on "Illuminating Engineering in relation to the Architect" (read before the R.I.B.A. by Mr. L. M. Tye). Much attention was devoted to various aspects of lighting at the recent convention of the Illuminating Engineering Society in the United States. A specially interesting recent installation in that country had been the use of "artificial daylight" in the Milwaukee Art Gallery, the distribution of light being so devised as to avoid troublesome reflections from the glass of pictures. The great importance of precise scientific measurements of light in connection with ancient light cases, etc., had been illustrated by a recent important access of light judgment in Bradford, which was fully reported in THE ARCHITECTS' JOURNAL.

A report was submitted from the committee on progress in electric lamps and lighting appliances. Attention was drawn to the diminution in price of lamps, and to the recent introduction of 100/130 volt 30-watt and 200/260 volt 40-watt gas-filled lamps. Other developments included the extended use of gas-filled lamps with opal bulbs in small sizes; the lamps with tinted glass bulbs furnishing light of a colour closely resembling daylight, and, therefore, suitable for colour-matching operations; and improvements in projector types of lamps for kinematograph and floodlighting applications.

The exhibits at the meeting covered a wide range. Captain Stroud exhibited the Tuck illumination photometer, a portable instrument from the United States, which appears very simple and convenient, and described the Holophane "Filterlite," a form of prismatic glass lighting unit of a pleasing and decorative pattern. Mr. Hobson showed a very compact form of inspection lamp for use in hospitals, which could be conveniently carried in the hand and would yield a spot of light of uniform brilliancy, such as was needed in examining patients in ophthalmic hospitals. Mr. W. Plummer showed the latest form of Ceag miner's lamp, the chief feature of which is the elimination of pillars with consequent elimination of troublesome shadows and improved distribution of light in practice. Mr. S. O. Pearson demonstrated a very interesting phenomenon that occurs when the new neon lamps are shunted with a condenser under suitable conditions. By adjusting the electric circuit the lamps can be caused to "blink" at regular intervals, and the period of the flashes can be varied within very wide limits.

Captain W. J. Liberty gave a description of the lighting arrangements at the new Port of London building, illustrated by photographs taken by Mr. J. S. Dow exclusively by the artificial light available. The lighting is throughout of the semi-indirect type, alabaster bowls of variegated pattern, forming a pleasing contrast with the wood-panelled walls, being used. Captain Liberty also showed a view of the latest high-pressure gas-lighting at the covered tennis courts at Dulwich.

After Mr. J. W. Elliott had briefly exhibited some of the small "Fullolite" (opal bulb) gas-filled lamps in "Astro" metal reflectors, Mr. W. J. Jones showed some new semi-indirect fittings. These consist of a bowl fitting having a clear glass canopy, all moulded into one, so that the fittings are practically dustproof, thus eliminating one of the chief objections to the use of open bowls.

A very charming exhibit was that by Mr. E. T. Ruthven Murray, comprising a series of illuminated signs based on total internal reflection in glass. A glass plate may have any appropriate lettering or design engraved on its back, and the pattern stands out brilliantly lighted when screened tubular metal filament lamps are fitted along the top or bottom of the plate. Some effective designs for use in lifts were included. Finally Mr. Chas. Selz demonstrated the effect of his method of impregnating silk lampshades so as to render them substantially non-inflammable and at the same time improve the diffusion of light. Fabrics so treated are claimed to be much less subject to the prejudicial effect of dust.

The gathering was also of interest for the fact that it was the first meeting of the Society held in the redecorated hall of the Royal Society of Arts, where a white upper ceiling with four semi-indirect alabaster bowls has now been provided.

In terminating the proceedings the chairman mentioned that the next meeting would take place on Tuesday, December 12, when a discussion on "Street Lighting" would be opened by Mr. Haydn T. Harrison.

ednesday, November 29, 1922

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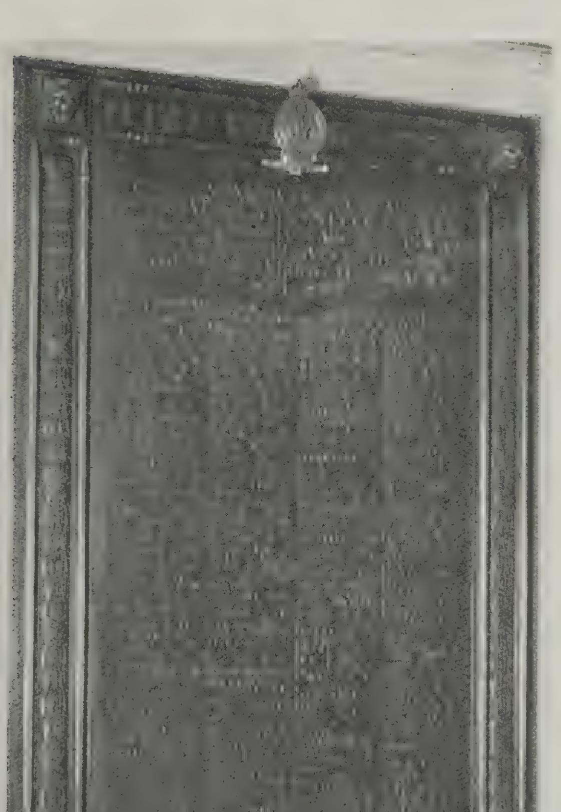
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

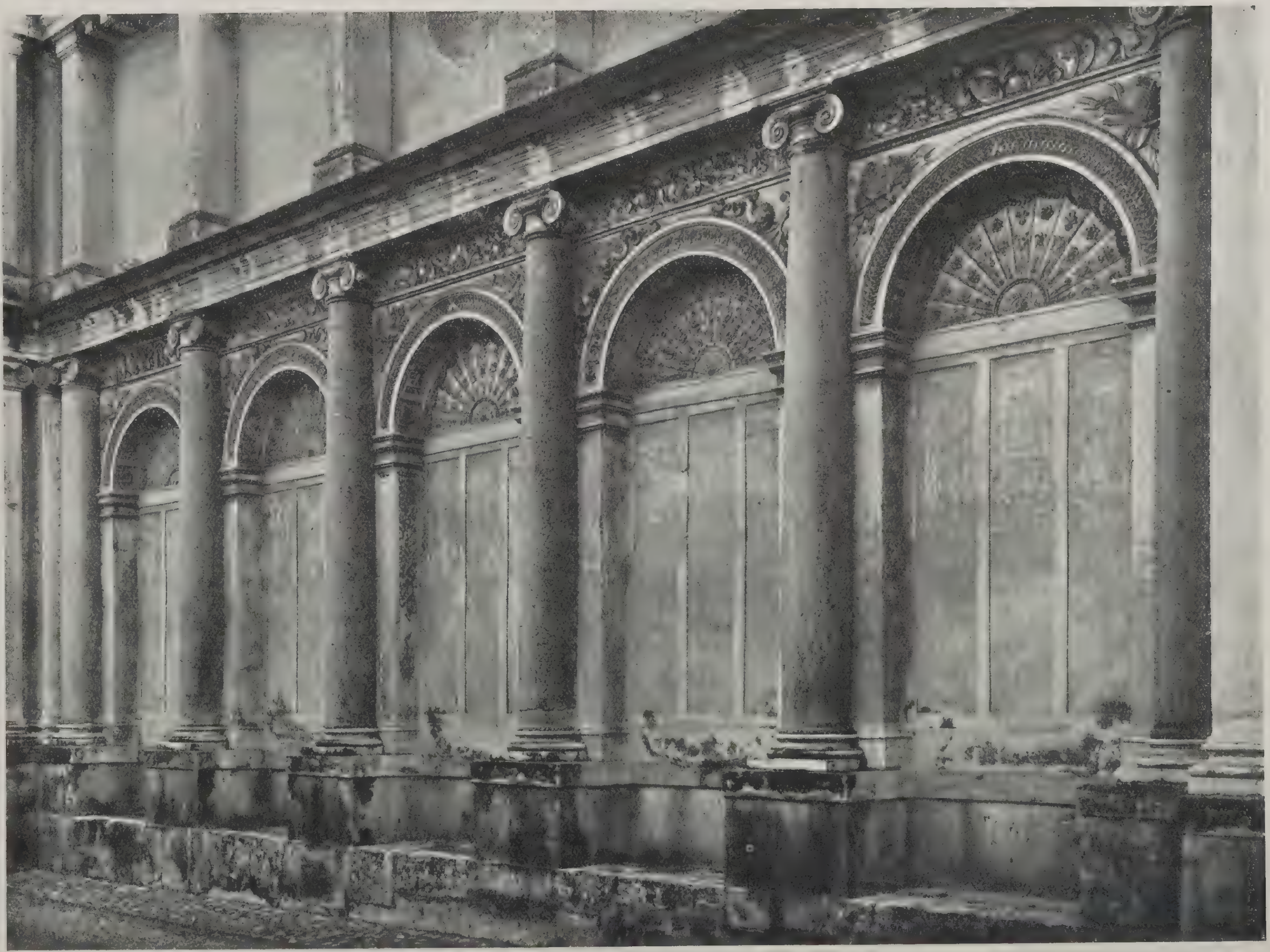


THE R.I.B.A. WAR MEMORIAL TABLET
TRENWITH WILLS, A.R.I.B.A., ARCHITECT

(*See also page* 765.)

27-29 Tothill Street, Westminster, S.W.1.

Architectural Details. 37.—Loggia in the Garden of the Villa of Papa Giulio, Rome



The Villa of Papa Giulio, Rome, is a sixteenth-century building, and lies in a charming site about a mile beyond the Porta di Popolo, with a full view of Rome and the windings of the Tiber. It was erected by Julius III at great expense, and most of the talent of Rome was engaged in its erection. The main facade and the inner court are almost certainly of Vignola's design. It is now fitted up as a museum of antiquities

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The Organization of Acoustical Research

THE Press has been full of comments on the defective acoustical properties of the new London County Hall, and much severe criticism has been passed on architects for not knowing more of the ject of architectural acoustics. Whether this criticism s justified or not does not matter so much as the fact t public opinion now demands that an architect should able to provide an auditorium which shall be acoustically rect for any given purpose.

he attitude of the Press constitutes a challenge to the resentative architectural bodies to move in the matter, l it would appear that the gage has yet to be taken up cially. This seems a great pity, as the absence of any horitative statement is being interpreted as indifference. sibly the subject is not interesting enough to the general of architects, but if more publicity could be given to at has been and is being done, interest would no doubt n be aroused.

he Schools of the Architectural Association provide a ure course on the subject by Mr. Hope Bagenal, who been an enthusiastic student of acoustical matters in tion to architecture for some time past now and may be rded as an authority on the subject. A very able paper, tled, "Acoustics applied to Buildings," was read by Bagenal before the Society of Architects in April 1921, for some unknown reason, very little prominence was n to it, although it contained a splendid resumé of ting knowledge on the subject.

The Times," in July last, in an editorial column, made suggestion that the R.I.B.A. and the National Physical oratory might combine in carrying out some large- e observations and experiments. Commenting on the cle a few days later in a letter to "The Times," Professor liam J. Pope, of Cambridge University, said that "a e small expenditure of time, money, and intelligence ld suffice to provide architects with knowledge which ld render every hall acoustically perfect." Unfortun- y, the phrase "quite small expenditure" is most vague, the inference that for a few hundred pounds the re- ed knowledge can be obtained is misleading.

eginning in 1895, the late Professor W. C. Sabine, who perhaps, contributed more knowledge of the subject n any other individual of the present century, took more n twenty years of laborious, painstaking research to g even a portion of his programme of investigations to nclusion. A wealthy admirer, Colonel George Fabyan, t for him an elaborate laboratory at Riverbank, Geneva, ois, some thirty odd miles west of Chicago. The con- ction of this laboratory, which contains an absolutely nd-proof chamber, was described in "The American hitect" of July 30, 1919, and is most interesting. The ding, where the researches begun by Professor W. C. ine are being continued by his cousin, Dr. Paul E. Sabine and others, with its equipment must have cost many thousands of pounds. It will therefore be seen that any scheme of research in this country will need a substantial sum of money to place it on a secure financial basis.

"The Times," on July 31, after comments on their first article had appeared, printed another editorial note urging the R.I.B.A. to lose no time in doing something, and again on October 13 another leader, commencing with the accusing sentence : "Architects are still unable to predict with certainty the acoustic properties of the halls and chambers they design," appeared. This last article calls attention to a scheme which is on foot in America to establish an American Institute for Acoustic Research, and goes on to describe the considerable amount of work that is already being done in America. The article concludes most significantly, "We wish well to the American scheme and would give a still more hearty welcome to a similar British scheme."

Evidently, as a national organ of public opinion, "The Times" expresses a feeling of wounded national pride in that this country which has in the past always given a lead in scientific matters should be dropping behind.

Primarily, of course, the matter is not one for architects, but scientists; as Sir William Pope says in his letter "the concern of the architect is to apply all available knowledge to the production of a pleasing and useful building; since no knowledge is available concerning the acoustical properties of a chamber, the blame for faulty acoustics is not his." All the same, architects are not without some responsibility in the matter, and it is up to them to at least make some attempts to ensure that the knowledge they require is being sought after in this country.

There are many qualified persons in this country who should be able to say how and by what means this desired result may best be attained, but in the hope that some suggestions might be acceptable, the following brief outline of a scheme is offered as a basis for forming a research association.

To obtain the best practical results it is essential that the research programme should be drawn up and directed by architects and scientists working in collaboration. The architects to formulate the problems requiring solution, and the scientists to decide on the lines of investigation.

A meeting should be convened at which the scheme might be broadly discussed, and a small committee chosen to report quickly with draft proposals. This first meeting should obviously be as representative as possible, and it is suggested that invitations should be sent to the following :—

Architects.—R.I.B.A., Society of Architects, Architectural Association.

Scientists.—Royal Society, Royal Institution, London University, Cambridge University, Physical Society, Institute of Physics.

Engineers.—Institute of Civil Engineers, Institute of Electrical Engineers.

Government.—Department of Scientific and Industrial Research, National Physical Laboratory.

As someone must take the lead, and the need for the research is to provide architects with information, it is suggested that the Council of the R.I.B.A. shall call the first meeting. When the first meeting has taken place and a committee formed, the scheme will undoubtedly commence to move ahead, but as time is a most important factor, the committee should have an experienced organizer to speed up the administrative routine.

Architecture and Engineering

A writer in "The Times Literary Supplement" sets himself the ancient task of distinguishing between science and art. In addressing himself to it he achieves some interesting *obiter dicta*, some of which it is difficult to follow. When he says that "experience, unlike inspiration, can be handed from one artist to another," there is no denying it, but when he adds, "Architecture, for instance, could not exist without engineering, which tells the architect what he may venture to do and what he may not," the question of fact seems to be in some slight need of elucidation. No doubt the writer means that, to invest his building with stability, the architect must have some knowledge of mechanics; but it is a pity that the essayist seems to confuse the very distinct functions of the architect and the engineer. Of course, the architect must learn in his callow youth how to make his building stand up; but he does not call his knowledge of stresses and strains by the dignified title of engineering. Wren was the most accomplished engineer of his time, yet his reputation is that of an architect; and to say that engineering tells the architect what he may and may not do is needlessly to create confusion in the lay mind. This intercommunication between the professions is only true in the sense of "Says I to myself, says I"; the architect telling himself what he may and may not do. And it is impossible to conceive of his having any occasion to say, like Pooh Bah, "Come over here where the engineer can't hear you."

Converting Houses into Flats

A point of some importance to architects, as well as to builders and property-owners, was determined in the King's Bench Division of the High Court of Justice last week by Mr. Justice Roche. The question at issue was, what constitutes sufficient alteration to comply with section 12, subsection 9, of the Increase of Rent and Mortgage Interest (Restriction) Act? The owner of certain premises at Hornsey sought to get possession from a tenant who claimed protection under the Act. A private dwelling-house had been converted into flats, and the issue that the judge was required to determine was whether or not the premises had been really converted into two or more flats, as required by the Act, and the line taken by the defence was that the conversion was merely colourable, and that partitioning with asbestos sheets, which could easily be removed, made it quite practicable to restore the house to its former condition simply and inexpensively. Mr. Justice Roche, however, in delivering his judgment, seemed to give weight to the fact that "a great deal had been done in the way of providing additional lavatories, sinks, and so forth which was really substantial. These premises had, in his opinion, lost their identity, and although outwardly presenting the same appearance—considering the amount spent upon the reconstruction—it was quite inconceivable that the house would ever be restored to its former state," and he gave judgment for the plaintiff. It is useful to infer, from the terms of this judgment, that cost so largely affects the question of conversion!

Timber and Traction

There is a widespread opinion that slippery road-surfac are nowadays of much less consequence than they we before horse traffic was so largely superseded by motoı The president of the Federated Home-grown Timb Merchants' Association writes to correct or modify this ve natural misconception. He urges that, as we all kno horses are still very largely used in the hauling of timb grown in this country, and still fulfils many other service Horses will not become extinct while, as Mr. Horton say "it is impossible to get timber out of some places witho them." He adds that "there is a general tendency return to the use of horses, as under certain conditio they are a more economical proposition" than mot traction in the timber trade. In constructing roac therefore, it is wise to remember that horses will st traverse them, and do not like them of a degree of glaci like slipperiness that motorists willingly tolerate.

Damage from Pile-driving Vibrations

Once again the legal liabilities that lie in wait for t contractor who undertakes the operations of pile-drivi have been exemplified in the courts. Where formeı stood the premises of the Pearl Insurance Company London Bridge, a large new building is to be erected. give it good foundations, a concrete raft is to be constructe necessitating much pile-driving. As many as 671 pi have already been driven, and many more are wanted. four-story public-house in Thames Street, about 40 away from the pile-driving operations, was, it was alleg so shaken by them that it had to be taken down to t first floor, and the owners and the tenant sought an junction and damages against the contractors who co ducted the pile-driving. The injunction had beco superfluous, but the judge awarded damages, the amou of which was to be left to the decision of the Senior Offic Referee. Commenting on one of the arguments for t defence, Mr. Justice Astbury made an observation that probably destined to be cited as a precedent. "T defendants contended," he said, "that their action w lawful, and that the damage arose in consequence of t weak and unstable condition of the house. They cited fo cases in which judgments had been given which, they sa bore out their contention that the special condition of t house deprived the plaintiffs of a right to damages, but did not think they applied in the present case. In 19 the house was not a delicate instrument which, as su gested by the defendants, would be easily damaged by justifiable action. It was old, and built in an old fashi but on proper lines, and had been repaired in 1919 to t satisfaction of the district surveyor. There was no jus fication for its being shaken down in its declining age an adventurous and powerful neighbour. It was alarming proposition that one should have to consi such a question as, 'When did an old building lose right to protection?'" As the case seems likely to go appeal, we refrain from comment; but the facts speak themselves, and are sufficiently eloquent to warrant th citation here. A full report of the action is given page 774.

Building Guild Difficulties

The National Building Guild is realizing that the mu despised "capitalist system" has some virtue in it, af all. The Guild is badly in need of capital, and would glad to have had in reserve some of the £30,000 or m which it has paid out "for wet times, holidays, and si ness." We sincerely trust that the movement will not extinguished for want of the £50,000 loan that would it going again; if only because its continued existen would probably serve to correct other economic fallaci with respect to capital and labour.

Architects and Housing

By STANLEY HAMP, F.R.I.B.A., President of the Architectural Association

IT was with much interest that I read Mr. Maurice E. Webb's article on "Architects and Housing," which appeared in the issue of the Journal for November 15, and I should like to be allowed to add a few com- ents upon the subject, particularly as Mr. Webb has ferred to a remark I made in my address at the chitectural Association recently.

The subject, as we all know, has been discussed in its any and varied aspects by architects and builders, not mention Government officials, but Mr. Maurice Webb's ggestion is, I feel, the first practical step towards the only d right solution of the difficult problem. He quotes in pport of his views what architects have done in America, d it is a very strong argument indeed, and one which I pe will, even at this late hour, produce satisfactory sults.

In the first place, I think it of the greatest importance at we admit and agree the following premises :—

1. That trained architects are the right persons to design uses, large or small.

2. That the experienced builder is the right and only rson who should be entrusted with the building.

3. That the general public should be taught to recognize e wisdom of employing only the architect and the builder r the erection of their dwellings.

4. That only by the successful collaboration of the three terested parties can a satisfactory solution be found to e all-important housing problem.

I mean by the satisfactory collaboration the full recog- tion by all concerned of that appreciation of the funda- ental principle that we live not for ourselves but for the mmunity. That there is a meeting-ground where, with e desire to help and the desire to give one's best to a good use, the ultimate gain to be derived therefrom is of ite secondary importance.

We, as architects, must be prepared to give in the same y as the builder must be prepared to help, if we are to rive at a solution which will produce the goods, and pro- ice them not only on a sound economic foundation, but th, and in, a true architectural manner, upon which ture generations can look back with pleasure and gratitude those who have honestly tried to meet the needs of their ne.

The need for houses would by now have been much more ccessfully met if the architects and builders had been owed to work together without any form of Government terference. If the enormous capital which has been ovided by the Government and public bodies had been provided by them as an advance at a low interest for ivate enterprise, there is every reason to believe that full vantage would have been taken of such action on their rt, which would have produced in greater numbers uses where they were really required, and at a very much wer cost.

I am quite sure that the British people are sufficiently blic-spirited to have risen to the occasion. There would t have been a single responsible employer of labour, hether coal-owner, cotton spinner, shipbuilder or, indeed, e employer of the agricultural labourer, who would not ve realized the national need for the better housing of eir workers.

I venture to suggest that there would have been a com- titive spirit among all these employers of labour to show at they recognize that the man who works for their ofit is the better for the due consideration of his needs.

We are, fortunately, living in an age when workpeople e realizing that, if ever they are to rise above the beasts the field, they must have an environment which will stain a more hopeful and a happier condition. We are ld, and most of us from experience have found out, that as yet they do not realize that this improved condition does not, and need not, mean a reduction in their output. It is unfortunate that, through the misguided advice of their leaders, they have not yet realized fundamentals; they will do so in time, but it will be only after a period of tribulation. They have, however, a vision, but have yet to learn that to pass into the sunshine they must dispel the heavy clouds of suspicion; until they are prepared to become public-spirited there can be no mutual satisfaction.

It is, therefore, the duty of all those who employ labour to make an effort, even though at first it be misunderstood, to show and prove the principles for which they stand. It has been said many times, and particularly at a time when the working classes were asked to make the greatest of all sacrifices for their country, that a real effort would be made to make this country "a land fit for heroes to live in."

Let us not forget this, particularly as architects, for after all it would be a poor land indeed that would not provide the necessary buildings. This is a wealthy land even now, but no country is so wealthy that it can afford to erect houses that are economically unsound. There is no need for it—there never has been any need for it. The law of supply and demand is a law which underlies all commercial undertakings. The demand has been recognized by all—the supply has been limited by the unnecessary cost, and is due substantially to the wrong methods employed.

It is common knowledge that the Departments responsible began on wrong lines, causing chaos on all sides. They learnt their lesson half-heartedly, and even now do not understand why failure is written over their well-meant efforts.

It is another instance of "too many cooks," and also "the putting of the square peg into the round hole."

The trained architect became the Government official, the builder became the supervisor of other builders. The whole system was topsy-turvy—what else could one expect ? Each blamed the other, and the consequence has been that only those who knew their jobs least were in any sense the gainers.

Now to come back to Mr. Webb's proposal. As I said, it means to me just this, let the architects, even at this late hour, take their proper place, let them be responsible for the planning and designing of these buildings, and let them so do it that it will be to the advantage, and in fact will become the duty, of every one who builds, to build to a design that has been carefully worked out—worked out with a view and knowledge that these buildings, if they are to be erected, must not cost such a sum that, given a substantial financial contribution, at low interest, from the State, they are uneconomic.

There is no adequate reason, if architects fulfil their duties, why a well-designed house should be any more expensive than a building erected to designs prepared by an untrained man.

With close collaboration between the architect and the builder, it would be possible to arrive at a minimum cost, which has in the past been entirely prevented by expensive Government control.

I believe if the Royal Institute of British Architects, who are now taking this matter up, would do so with the full collaboration of the responsible contractors in this country, that such a book of plans could be produced, as was done in America, which would relieve the country of a great deal of unnecessary expense, and prove that the two important communities to advise best were, after all, those people who should at the first have been allowed to supply the demand.

Would it not be possible for the architects throughout the country to form themselves into groups representing different areas, with the object of collaborating with the local contractors, with a view to arriving at the most suitable and economical building which would justify the erection by private enterprise, supported by a generous advance from a Government or local authority?

If such a step were taken by the profession, and worked out somewhat on the lines adopted in America, it would, I am sure, prove to be the first real step toward solvin what is admitted by all to be a great need.

Such a step should be organized under the auspices o the R.I.B.A., and I feel confident that if the professio expressed any desire to promote any scheme of thi nature, it would receive the full support of its leading an governing body.

Modern German Architecture

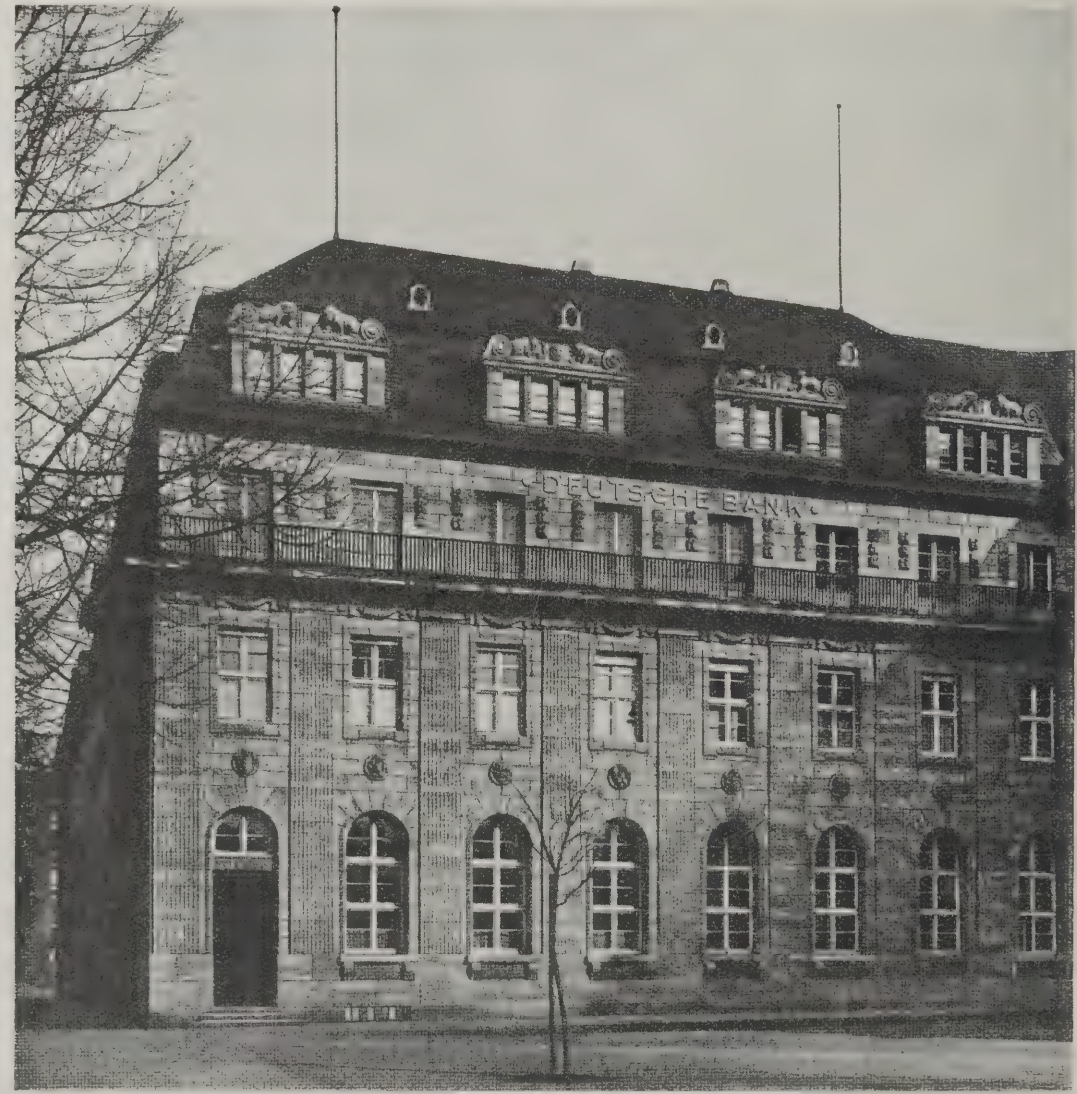
By H. J. BIRNSTINGL, A.R.I.B.A.

ONE of the attendant results of the development of modern scientific discoveries and inventions is the tendency toward the elimination of time and space. The history of the world's past now lies before us for our inspection, and news of any activity upon the world's surface is at our disposal within a few hours of its occurrence. Moreover, the unit for reckoning the length of time required for our own transportation to the ends of the earth has been adjusted from months to minutes.

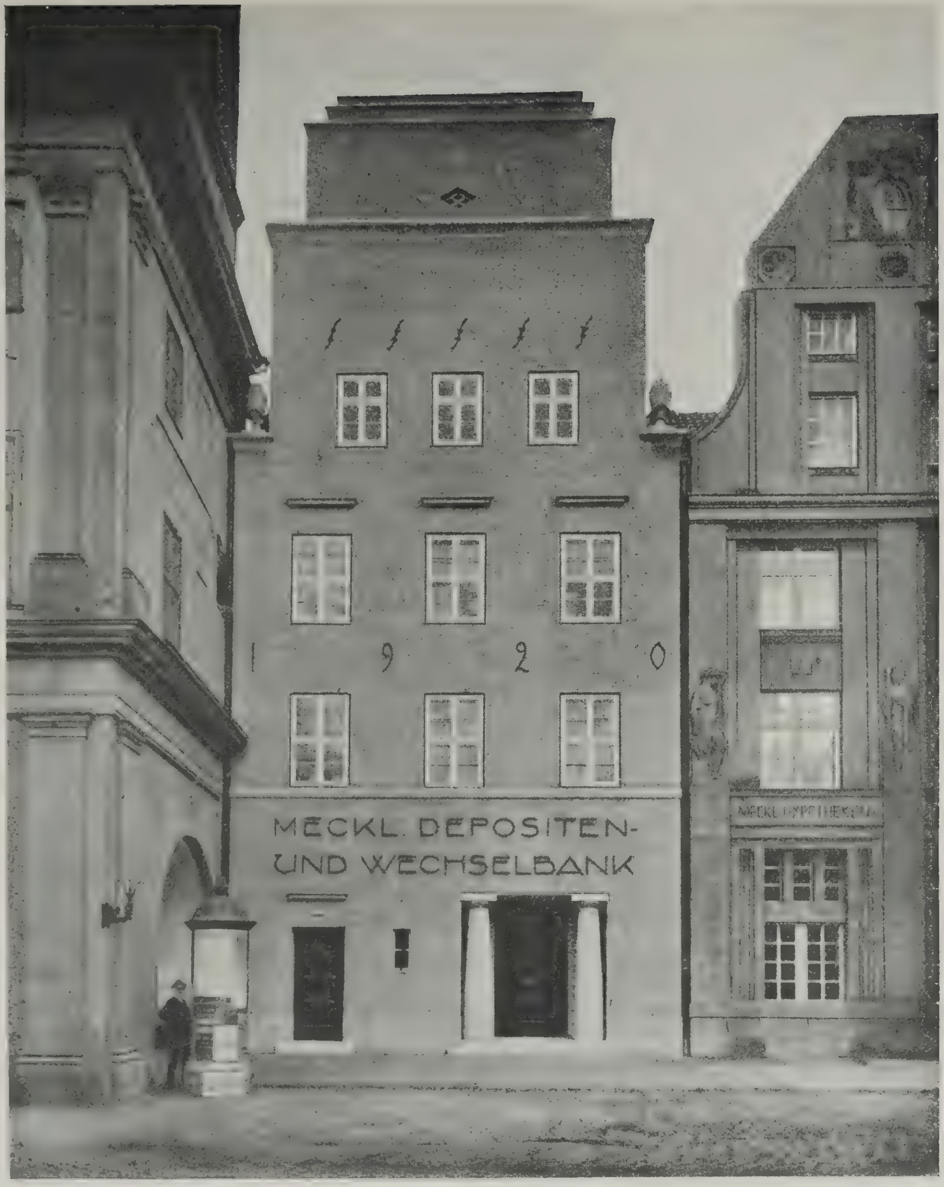
The effect of these developments—which, it must be remembered, have come about with surprising swiftness—must be felt in every branch of human activity; in art no less than in commerce; in literature no less than in politics. Our concern is with art, and here the effects seem to be two-fold. One is a growth of self-consciousness and deliberate selection—both of subject and treatment—resulting in a lack of spontaneity and vitality; the other is a rapid interchange of ideas which breaks down national characteristics In architecture both these effects, with certain strang limitations, are clearly observable.

There is to-day a constant talk about styles and treatment, in contradistinction to inspiration and evolution, an there is an interchange of national idiom, yet for som obscure reason, while the influence of French and America architecture is clearly discernible in our thought and in ou streets, that of Holland and Germany rarely finds its wa across the Channel. And this is all the more strange sinc in these countries architecture is acquiring a vitality tha is elsewhere often lacking.

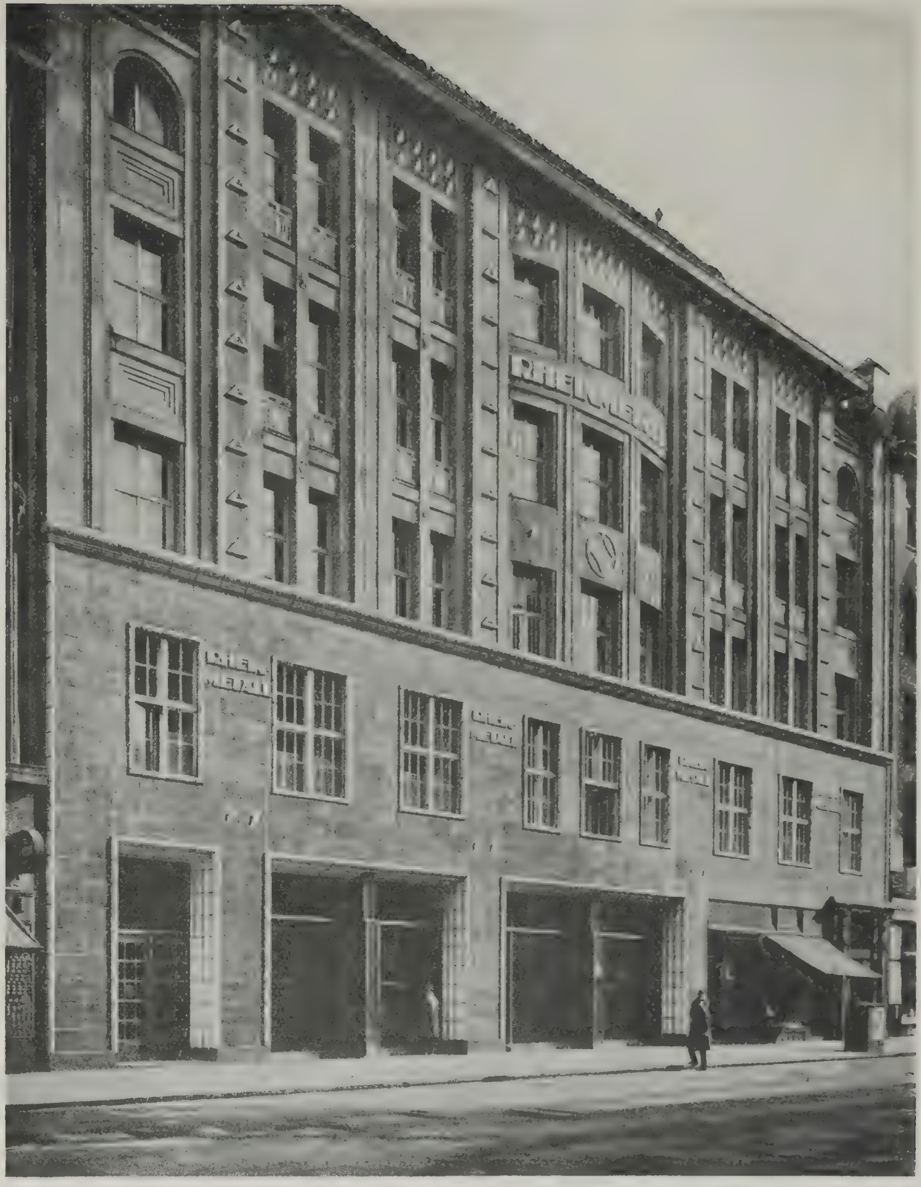
Some fifteen years ago an English traveller in German might have found cause for self-congratulation in thi insularity, since his sense of taste and decorum might hav been subjected to frequent outrage by the presence o certain buildings erected in a style known as *nouveau art*



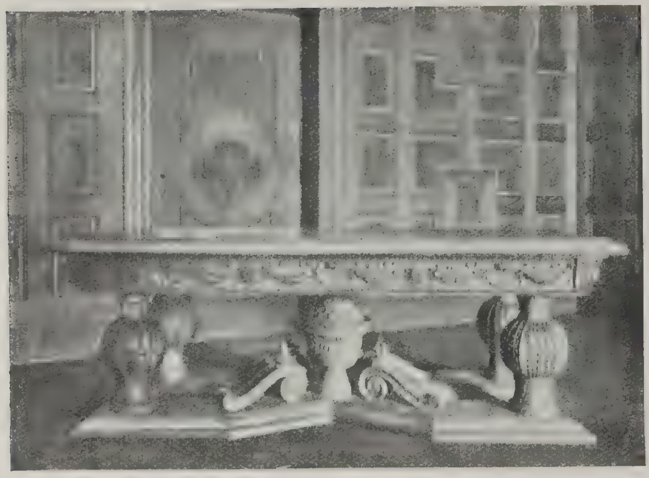
BANK PREMISES AT DARMSTADT. HANS JESSEN, ARCHITECT.



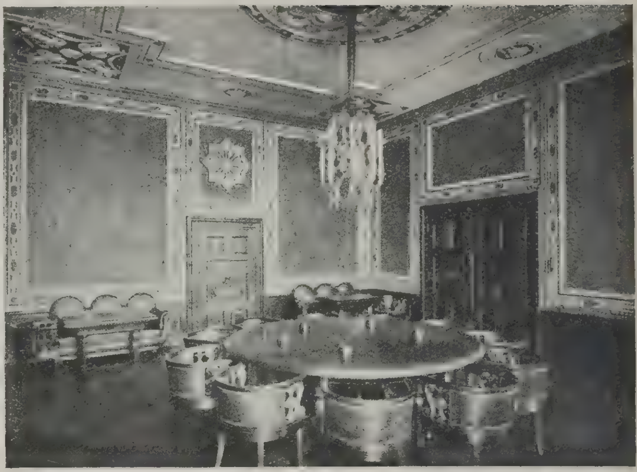
BANK AT ROSTOCK. HANS JESSEN, ARCHITECT.



THE RHEINMETAL COMPANY'S PREMISES, BERLIN. HANS JESSEN, ARCHITECT.



DETAILS OF FURNITURE.



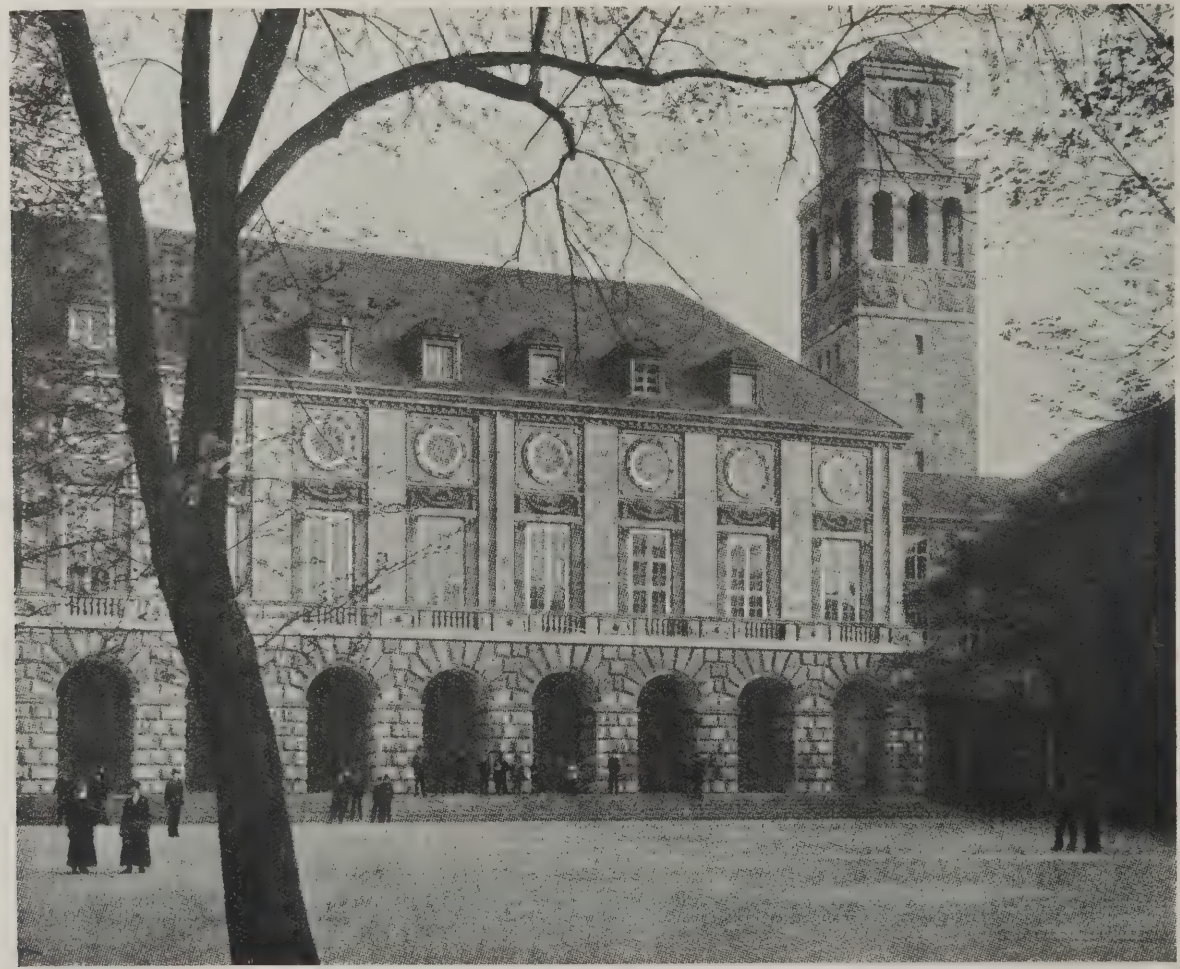
A SMALL COMMITTEE ROOM.

THE TOWN HALL, MÜLHEIM.

These buildings, which seemed to spring up like some miasmic growth, were characterized by a profusion of meandering curves and distortions. The same traveller returning now, however, would find that his congratulations were after all, perhaps, unmerited, for he would see that these erstwhile justly despised abominations have been contributive towards a new and vital epochal style largely purged of its former aggression and vulgarity.

The architecture which Western Europe has for the most part adopted, owes its origin to the Greek Orders, the knowledge of which spread from country to country after the Renaissance. The language of Western European architecture has been expressed in some modification of the classic idiom more or less consistently for the last five hundred years. And to state, as some purists will have it, that the architecture of ancient Greece is unsuited to the environment of a modern manufacturing town in northern latitudes is to ignore the actual sequence of events for the sake of an epigram. To premise the existence of an origin does not preclude development and modification from that origin to suit new conditions and to meet new emergencies. But architecture, like language, if it is to be kept vital must develop spontaneously. A language is kept alive by the introduction of new words and phrases to express the new reactions which arise as the world progresses, and no conscious revival of archaisms, no premeditated selection out of the past—about which we now know so much—would serve the same purpose.

Literature, like architecture, has its purists, who, selecting some period, would fence it in, excluding all growth, addition, or modification, or they would seek to reintroduce certain obsolete words and phrases. And literature, like architecture, has too its iconoclasts, who attempt to ignore the past and to startle by crude novelties. These



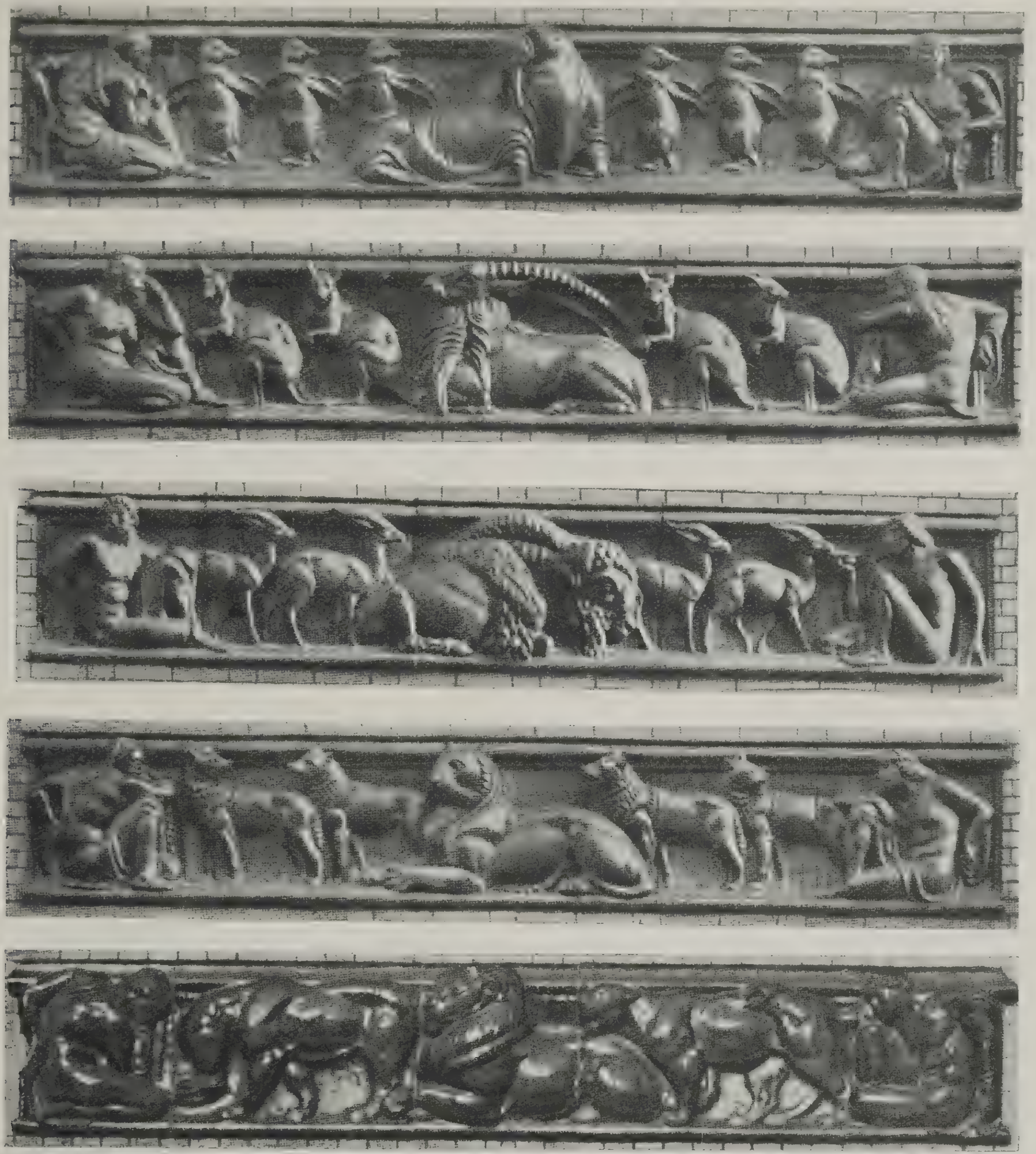
THE TOWN HALL, MÜLHEIM. PFEILER AND GROSYMANN, ARCHITECTS.

re the difficulties which inevitably arise with the growth f our knowledge of the past and our conquest of space.

To such meditations as these it is that an inspection of odern German architecture may well give rise. For the redominating impression, whether or no it be accompanied y æsthetic delight, is that here at least there is a vital rchitecture intimately connected with contemporary re-uirements, conditions, and aspirations; that is unself-onscious, and spontaneous, making full use of modern aterials by treating them according to their particular haracteristics instead of imitating the forms of others. here is, for the most part, about modern German work a rtain completeness and cleanness; there has been no arching through text books—of whatever scholarly igin—for choice bits of detail to be applied to blank aces, as icing sugar is applied to a cake. Each building a problem calling for a particular solution, and this lution is bound up with the purpose of the building and ith the selected material. The past is not ignored, but the esent seems to grow naturally from out of it, so that there an unbroken concatenation.

A matter of particular interest is the extensive use of ncrete, which has certainly influenced modern design. e plasticity of the material, its strength, both in com-ession and in tension, and (what we seem entirely to ore) its beautiful surfaces are all turned to good account. is used on all classes of buildings; on small houses and cottages, where, as with us, it is enlisted as an aid towards the easement of the housing shortage, but where, unlike us, the desire for economy at any price has not been made the ultimate value of success; on larger houses, where in addition to the more usual structural purposes it is cast for balustrades, garden seats and ornaments, chimney pots; on commercial and public buildings, where its particular qualities are employed to give an unusually bold sweep to a staircase or cantilever gallery. In certain buildings, particularly large stores and warehouses, there is a marked growth of verticality, and a kind of Gothic tendency is discernible. Instead of a main or superimposed order, moulded piers run the full height of the building to a widely overhanging but simply moulded cornice surmounted, perhaps, by a pantiled mansard. The position of the floors is indicated by moulded or decorated panels. The decorations themselves are often crude, but at least there is about them a vitality, and they often express the vigour and unrest of modern life with far more accuracy than the most delicate rendering of the correct classic detail.

In most of the buildings their classical descent is easily discernible, the familiar elements are there, but a subservience to archæological correctness has not been allowed to hinder a natural and spontaneous development. There is no obsequious respect for the past, and yet there is no repudiation of it. In judging architecture, by reason of its intimate connection with life, it is impossible to adopt



THE WOLF NEWS AGENCY BUILDINGS, BERLIN: DETAILS OF SCULPTURED PANELS. HANS JESSEN, ARCHITECT.

any absolute standards, and to some extent it must, or should—and its success is to some extent a measure of this—be an indication of national traits and characteristics. In this way we may not only account for, but indeed expect, a certain pomposity and heaviness, and this it is that is so often disagreeable to us who are accustomed to more lightness and humour.

A feature which distinguishes much German architecture is the use it makes of the various subservient art forms, there exists a collaboration with painter and sculptor such as we are now beginning to aim at and rarely achieve. This it is which is largely responsible for the sense of coherence and completeness that emanates from much of the German work. Indeed, architecture is a part of the contemporary art movement; a most important part, and the position of the architect as collator of diverse artistic forces is realized and appreciated. Much of the interior decoration shows a preference for bold polychromatic effects, but these always fit into the general scheme, and suggest not so much an extraneous and subsequent application as an integral part of the original conception.

Germany is rich in baroque and rococo architecture, and its influence is clearly discernible in much of the modern work, particularly in interior decorations where, together with certain traditional forms of geometrical panelling, it is synthesized into new forms. In most of such work a considerable softening can be noticed in comparison with that of the first decade of this century. The crudities of the Wiesbaden Kurhaus are no longer repeated. Architecture is often seen to act in a restraining capacity, keeping the plastic arts within reasonable limits and checking the more unruly spirits whose sole object is to astonish.

A superficial resemblance to Gothic, which has already been noted in the verticality of treatment, is found again in the use which is made in decoration of animal and vegetable forms. It is realized that honeysuckle and acanthus are not the only plants that can be conventionalized into a running ornament; moreover, there is a tendency to reintroduce the habit of varying the capitals and the like, to give each a particular interest instead of relying on endless and perfected repetition of one design. In this way an almost infinite variation is obtainable which gives a new interest to street architecture; an interest which is felt and appreciated by the general public.

This co-operation on the part of the general public—and an intelligent interest certainly amounts to as much—is an important factor in Germany. There is a constant interaction between architects and the public making for a living and human architecture. And this interest is by no means confined to architecture, but concerns itself with the less important matters of daily life; for this reason the general standard of such things as the dust wrappers of books, posters, cigarette packings, and the like, is particularly high. In Germany, indeed, we see the value of an aroused civic consciousness to matters which make for æsthetic amenity. It is another aspect of the subordination of the individual for the benefit of the community, which has been such an essential factor in the production of the various successful town-planning schemes.

No account of the contemporary architecture of any country would be complete without some allusion to housing. Despite intense economic difficulties Germany has made a brave attempt to ease the housing shortage, and much of the work is of a high quality. There does not seem to have been a determination to sacrifice good building for cheapness.

A common practice is to construct the walls up to first-floor level of brickwork or concrete, placing the first floor itself in a mansard roof with timbered gable ends. The houses are often cellared. Sometimes the ground floor is raised about three feet above the ground level, the entrance being on to a half-landing going up to the ground floor and down to the cellars. The bedroom accommodation consists of two or three rooms, but very rarely four as with our B4 type of house. There is ample storage, and the houses generally have an air of spaciousness. Except in very isolated positions, electric light is provided, run on open wiring. In larger schemes there is often very effective grouping, and at times some daring effects are obtained by blank surfaces and a concentration of windows at certain points;—an arrangement which is favoured by both Dutch and German architects, and which has a curious affinity with the wooden German toys which are still the delight of half the world's childhood. There is not the same tradition in the use of brickwork, or in domestic architecture generally, in Germany as in England, so that novel uses of these materials do not surprise and shock, as they might well do in our own richly endowed country.

Æsthetic appreciation is largely a matter of habit and convention, and it must therefore not be allowed entirely to dominate our judgment of architecture. Assessed by broad standards, there is much that is worthy of admiration and emulation in modern German work, notably its completeness and its intimacy with modern contemporary life (that some may see fit to despise and deplore the age in which they live is another consideration, but that in such cases architecture should be exempt from inclusion in such a general condemnation is rather to its discredit than otherwise). Although hitherto its influence has not been felt in England, there are signs of a change. The recent International Theatre Exhibition showed the alert attitude of German architects towards the theatre, and the exhibition of English students' work in Holland is indicative of an interchange of ideas between the two countries, and architecturally, as geographically, Holland and Germany are not far removed.

Whalley Abbey

When abbeys are bought and sold there seems something almost sacrilegious in the transaction. One does not like to see such buildings turned to secular or vulgar uses, as too commonly they are. It may be safely assumed that Whalley Abbey, though bought and sold, has escaped all degradation save that which over-fastidious minds may choose to see in the process of barter; for it has become the property of the Church of England, who contemplate using it as a conference house, a small theological college, or a home for the Bishop of Blackburn (for the housing question is acute even among Church dignitaries), and surely none of these uses would cause its venerable stones to cry out aloud against profanation. It is said that the earliest parts of the abbey date from 1330, and that the main abbey buildings and the cloisters are, in auctioneering language, "in an excellent state of preservation." Even if they were not, the grouting machine would soon make them sound.

Houses on Bridges

Mr. Thomas E. Collcutt, P.P.R.I.B.A., revives in "The Daily Telegraph" a proposition he made in 1906 for building houses on bridges. In that year his suggestion had special reference to proposed new bridges at Charing Cross. His objective now is the proposed new St. Paul's Bridge, which, he urges, should be constructed 50 ft. wider than at present contemplated, and should be built upon with business premises. The objection that the building of houses on a Thames bridge would spoil the beauty of the river by obstructing the view he meets with the contention that, "looking either from Blackfriars or Southwark Bridge, a new St. Paul's Bridge could be treated so as to produce a magnificent architectural picture," and that "a bridge with houses cannot spoil the view of the river, but, on the contrary, would add to its beauty by a feature of architectural magnificence, adding, also, to the wealth of a great city." Of course, Mr. Collcutt does not claim originality for the substantive idea. The London Bridge which was begun about 1176 by Peter of Colechurch, and completed in 1209, had houses on each side, connected together by large arches of timber, which crossed the street. In 1212 it was destroyed by fire, and later London Bridges were destroyed, respectively, in 1471, 1632, and 1725, and the houses that were on the bridge in 1756 were then pulled down.

The Point of View in the Study of Architecture

By EDWARD WARREN, F.R.I.B.A.

THE first of a course of lectures on architecture, in connection with the Oxfordshire Society of Architects, was given in the Town Hall on Friday, November 17th, under the chairmanship of the President of Magdalen.

Mr. Edward Warren, F.R.I.B.A., who dealt with "The Point of View in the Study of Architecture," said that at a moment like this, when we were faced with national and social considerations of an order considered by many to outweigh even the claims of Art, the inauguration of a series of lectures upon Architecture, the Mistress of the Arts, might seem ill timed.

But Art was long and her needs were permanent. One of the most pressing of those needs was the serious and well directed study of them, and this must go on though governments changed and general elections supervened. For the rest, the Scheme of Architectural Lectures, which, as President of an Association embracing the Architectural Societies of Oxfordshire, Berkshire, and Buckinghamshire, he had been called upon to inaugurate, was evolved, and the date of that inauguration fixed, before the political barometer showed any signs of immediate disturbance.

A group of architects, many of them Oxford men, others more or less intimately connected with Oxford, and all keenly interested in the furtherance of architecture through he training of the present, and future, generations of architects, and the widening and deepening of the sympahetic knowledge of the art of architecture in the minds of educated men, had, for several years, looked to Oxford as a great educational centre peculiarly endowed, morally and materially, for the study of that art.

Others of the great Universities of Europe and America were teaching, and had long taught, architecture. Some of them, though relatively few, were situated in beautiful owns. Was there one that, within so condensed a compass, ould outrival Oxford in local charm and architectural haracter?

The one rival to Oxford in these islands, in so many ields intellectual and athletic, and possessing, it must be admitted even there, *some* rival claims to Architectural distinction, Cambridge, had for several years devoted very erious attention to the teaching of architecture, and had gone so far as to grant degrees in that art—farther, he might ay in parenthesis, than we would venture to suggest to Oxford.

To the world in general, he asked, what mental image did he name of Oxford evoke? To those even who merely knew the city by pictorial presentment, as a town of towers and spires, of colleges and quadrangles, and of dominant nd dignified university buildings divided by ancient treets and ways, interspersed with trees and gardens, girt by little rivers and entered over ancient bridges.

To those who intimately knew and loved the city —and the terms in this case were almost synonymous —especially to those who had passed some of the most mpressionable years of their youth within her walls, he image was an architectural image. The instinct o which the beauty and dignity of these buildings were due was a sure instinct, that of expressing the nobility of "true religion" by noble architecture, and the dignity of "sound earning" by the dignified housing of scholarship. Oxford eing what Oxford is, could they doubt for a moment hat she had unconscious influence on all receptive minds, which rendered her pre-eminently fit for the conscious and arefully ordained training of students of the great art f which she was so conspicuous an exemplar? She umbered amongst her sons the great name, the greatest ndeed amongst British architects, of Christopher Wren, as well as such names as John Ruskin and William Morris. The influence of the latter had been revolutionary, or rather revivifying, and had spread throughout the civilized world. He was, perhaps, trying to convince the already convinced as to the pre-eminent fitness of Oxford for a school of Architecture. Their lectures then were, they hoped, forerunners of such a school, and they had the immediate hope that they might be accompanied by classes in architecture, construction, and design, primarily intended for young men studying architecture with a view to its practice, whether members of the University, or pupils, or assistants in the offices of Oxford architects, but open to all serious students who would follow a definite course of training. The lecturer then dealt with the style, or manner, of buildings in different countries, and went on to say that style, or manner, of building had arisen, naturally, from building necessities and materials, and this he held to be strictly true of all real styles or constructive manners, but it did not, of course, cover adopted, or half adopted, fashions in architecture, or attempted revivals of ancient manners. In England, and markedly in Oxford, the native, local style of building lingered long after the half-hearted adoption of a foreign manner, known as that of the Renaissance, and derived from the French, the Flemings, and the Germans, who were copying the Italians, who were copying, more or less, the remains of Roman buildings and Greek statuary, which they were rediscovering. The acceptation in this country was for a long time slow and half-hearted, and, throughout England, and more particularly in the West, there were many curious and interesting instances of survivals of, and reversions to, the native manner of Gothic architecture, but none, so far as he was aware, more marked than in Oxford, which had been called the "home of lost causes," and had certainly been so in regard to native Gothic architecture, when that was already a lost cause elsewhere. To the student of architecture, continued the lecturer, and especially to those who were studying it with a view to its practice, that deepening of consciousness as to all forms of buildings and their accessories was inevitable and necessary. They must have a point of view and a critical one; they must acquire a fair knowledge of the constructive history of their craft, as well as of the recognized and accepted rules of modern construction. Some knowledge also, not necessarily deep, but accurate as far as it went, of social history and its manifestations in architecture was absolutely necessary. Domestic architecture in especial was the most vivid illustration of social history. Architecture as an illustration of history, and history as an explanation of architecture, were such fascinating studies in themselves, that the true student of either would inevitably be drawn to the other. But no mere historical, or archæological reading, would lead them far in the understanding of architecture without the earnest study of its basic principles, its constructive needs, and their expression in proportion, balance, and harmony, its protective necessities, and their acceptation and treatment as contributive accessories of design.

Architecture throughout all ages was much more influenced by the needs and desires of individual races or human groups, than by borrowed tradition or successive fashions, though superficially it had been greatly influenced by these. The measure of that influence could only be gauged through history, and that most important, highly specialized, and illuminative branch of history which was archæology.

Archæology to the creative architect was, like fire, a good servant but a bad master. It helped him immensely in understanding the form and purport of ancient buildings, and the symbolic or decorative details of their ornament; it might greatly help him towards interpreting their structure, by its teaching as to the ascertained nature, preparation, and use of materials. So far it was an admirable aid, a good servant.

But the misguided man who accepted the dicta of archæology as authoritative rules for the design or ornamentation of his work had got a bad master, and was doomed to artistic slavery and sterile dullness.

Historical and archæological study would never make an architect, but their neglect would deprive him of that note of scholarship in his work which appealed to the scholarship of educated people, and of that immensely increased interest in his own art which so much enhanced the happiness and value of his life.

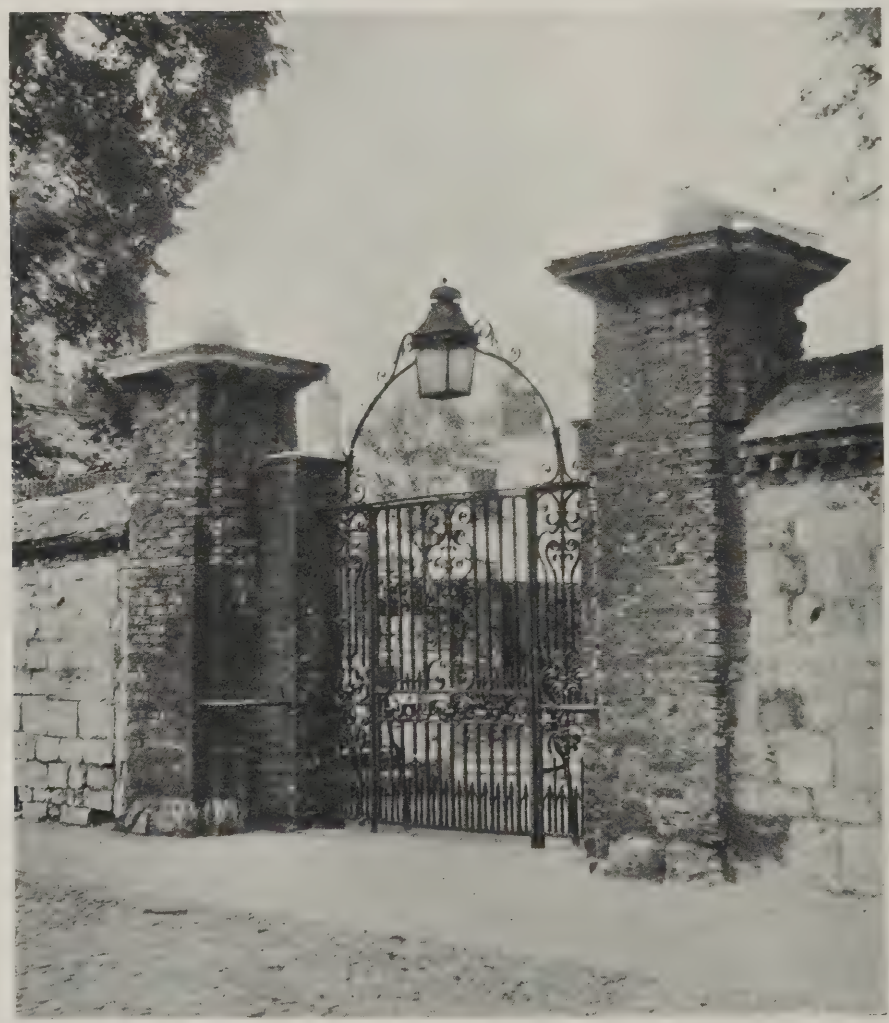
To make full use of the "Open Book," the illustrated sequence of architecture presented by Oxford, one needed some knowledge of general, and a good deal of building, history. That sequence was singularly complete since the date of that inestimable boon to British architecture, the Norman Conquest.

"I do not attempt to describe these buildings," concluded the lecturer, "they are before you, the chief illustrations of the 'Open Book.' I merely desire to draw your attention to their educative sequence and the great and privileged opportunity of study they present to Oxford students of architecture."

Good manners in architecture were at least as important as in anything else, and were especially so in towns and on sites in streets or groups of buildings.

Wrot Iron Gate to the Treasurer's House, York

Measured and Drawn by W. O. NOBLE.

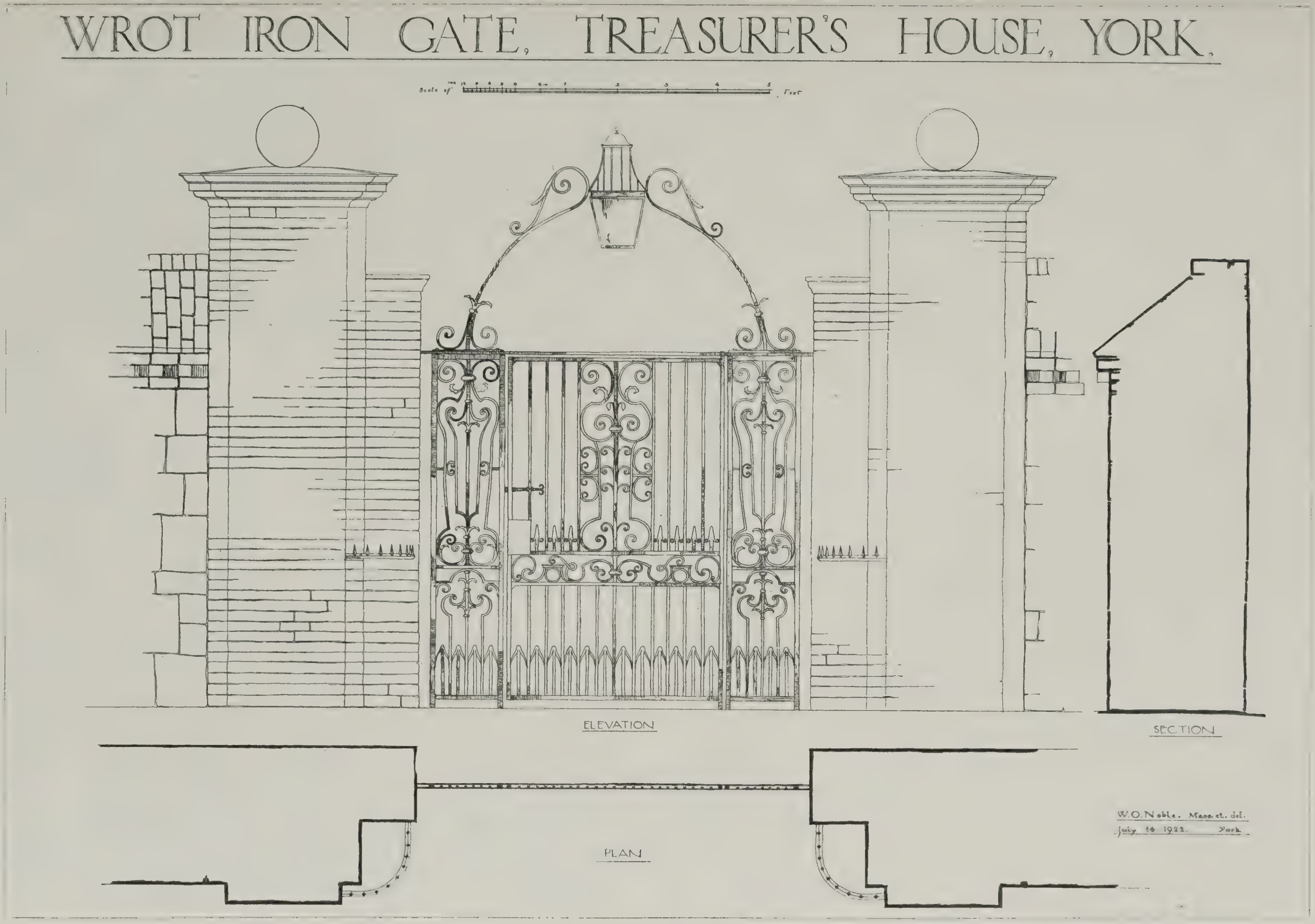


A GENERAL VIEW OF THE GATE.

(See the Measured Drawing on the opposite page.)

Measured Drawings: 10. Wrot Iron Gate, Treasurer's House, York

Measured and Drawn by W. O. Noble


WROT IRON GATE, TREASURER'S HOUSE, YORK.
Scale of Feet
ELEVATION
SECTION
PLAN
W.O.Noble. Meas. et. del.
July 14 1922. York

This gate, together with the piers, was added to the Treasurer's House in the eighteenth century when the front of the building was altered. It is one of the many fine examples of smiths' work in York. Two interesting features of the brick coping are the deep weathering and the dog-tooth course. The Treasurer's House is a mediæval building, the original exterior of which was built by Sir George Young about 1620. Alterations were made to the interior of the building in 1695 to 1700.

Africa House, Kingsway

TREHEARNE and NORMAN, Architects

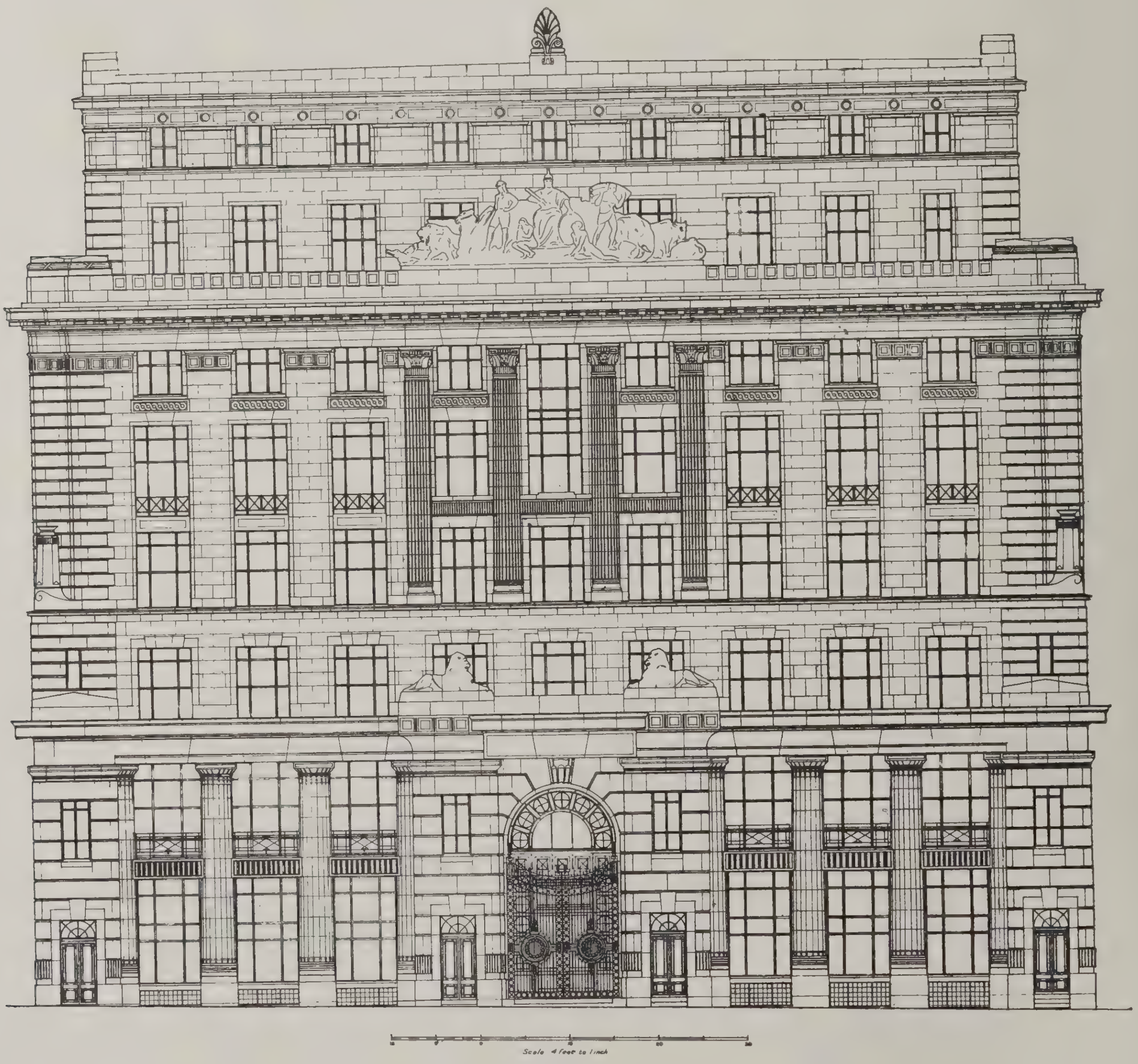
WITH the erection of Africa House the last site in Kingsway is taken up, and the thoroughfare is now completely lined with buildings on both sides. This process of filling in has been proceeding since 1905, when the Kingsway was first opened to traffic. Even now the island site between Aldwych and the Strand is not completely developed, both sides of Bush House still remaining vacant. These, however, are expected to be occupied very shortly by the wing appendages to the main Bush block.

Messrs. Trehearne and Norman, who have designed many of the new buildings of Kingsway, are also responsible for Africa House. This building is undoubtedly the most striking of their designs; it sounds quite a new note in commercial architecture, not only for Kingsway but for London.

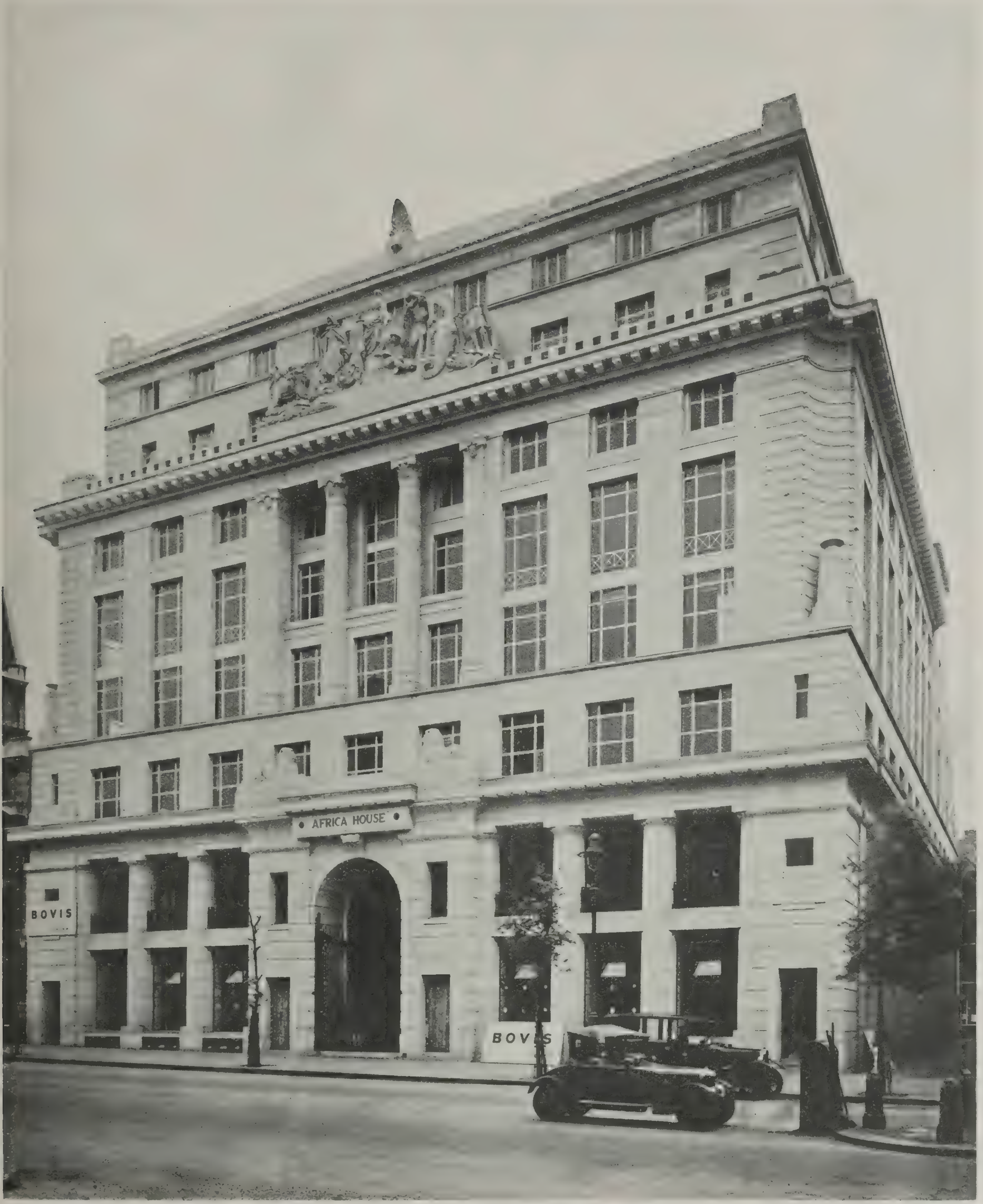
In general conception it has a good deal in common with modern American work; there is the same sense of scale and proportion, the same reticence in elevational treatment. The use of a huge Order embracing the two lowest stories, and the setback of the two topmost floors, are also reminiscent of current Trans-atlantic practice. From Kingsway this setback is very effective; but towards the rear, the building falls by rapidly diminishing stages to the height of only two floors, and the composition loses coherence. This unfortunate "falling-away" is not a wilful declension of the architects, but an unfortunate necessity due to the exigencies of "ancient lights." But unless one has approached the building from Lincoln's Inn its rearward disability is not noticed; towards Kingsway the structure presents a bold imposing front.

Due emphasis has been given to the principal entrance which, occupying the height of two floors, is fitted with some well-designed wrought-iron gates. The architectural surround to this entrance has quite an Egyptian feeling, which is heightened by a pair of sphinxes above the first-floor cornice level. A point about which there may be some difference of opinion is the breaking of the continuity of the façade by the interposition of columns as a central feature between the third and seventh floors. The continuance of the window treatment would possibly have been more effective in the elevational sense, besides providing a more satisfactory support for the mass of sculpture above the main cornice. Whatever small points of criticism may be raised, however, the building remains a notably fine addition to the commercial architecture of the Metropolis.

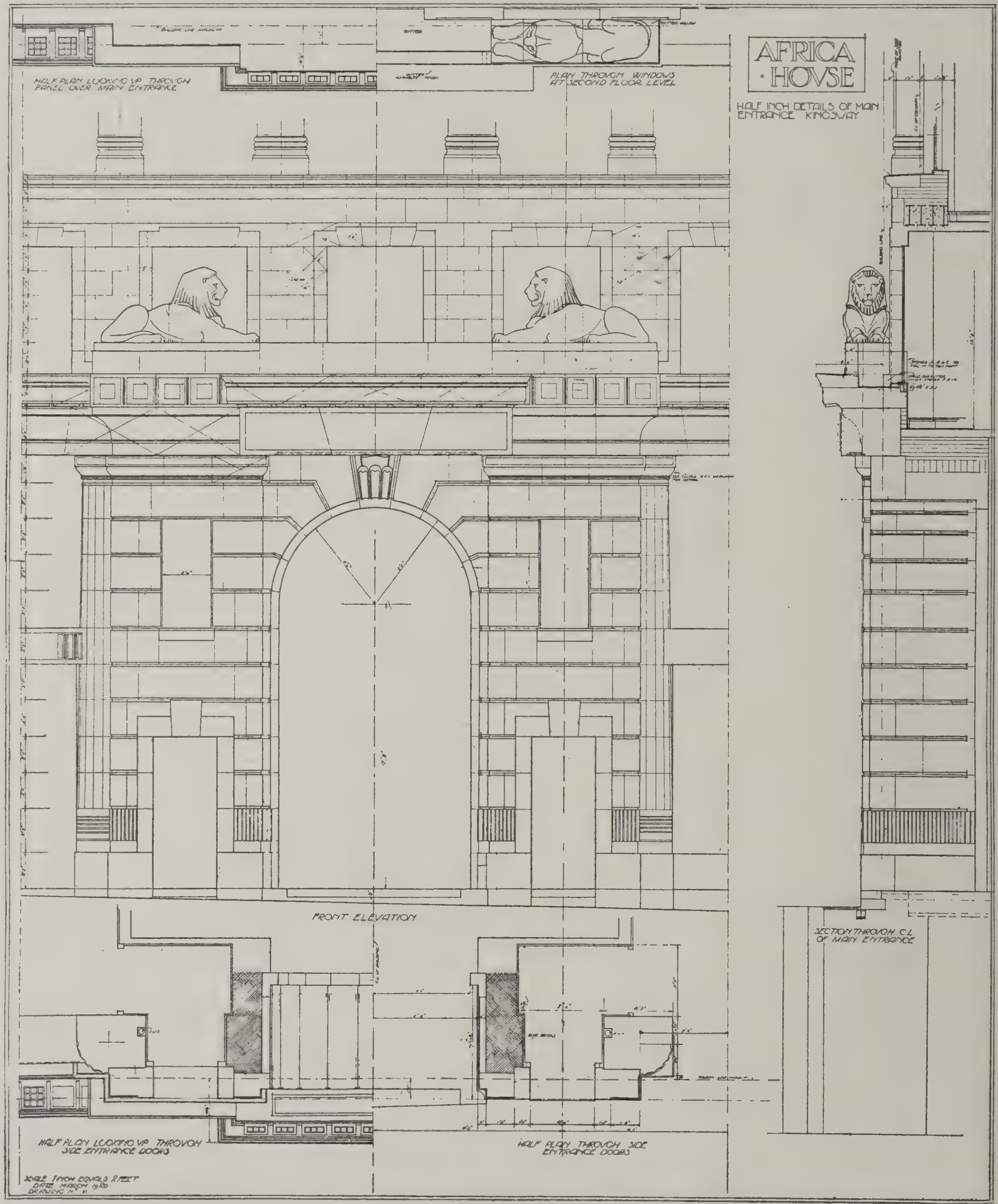
The building was erected during a period of great labour difficulty and anxiety, but, even so, the contract was completed within a time comparable with others carried out in less difficult times. The outer walls of the building are of Portland stone and brickwork, and where



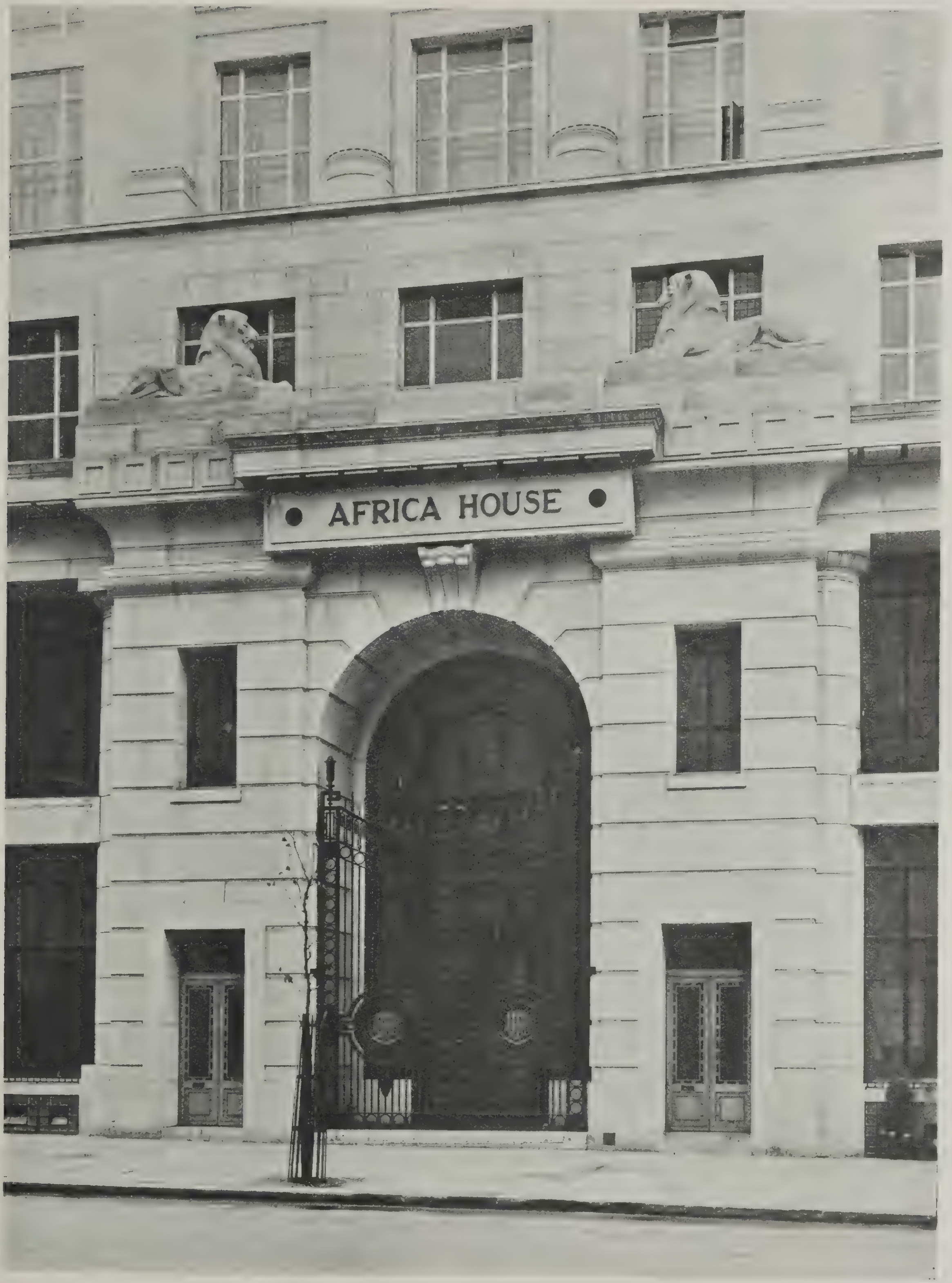
THE PRINCIPAL ELEVATION.



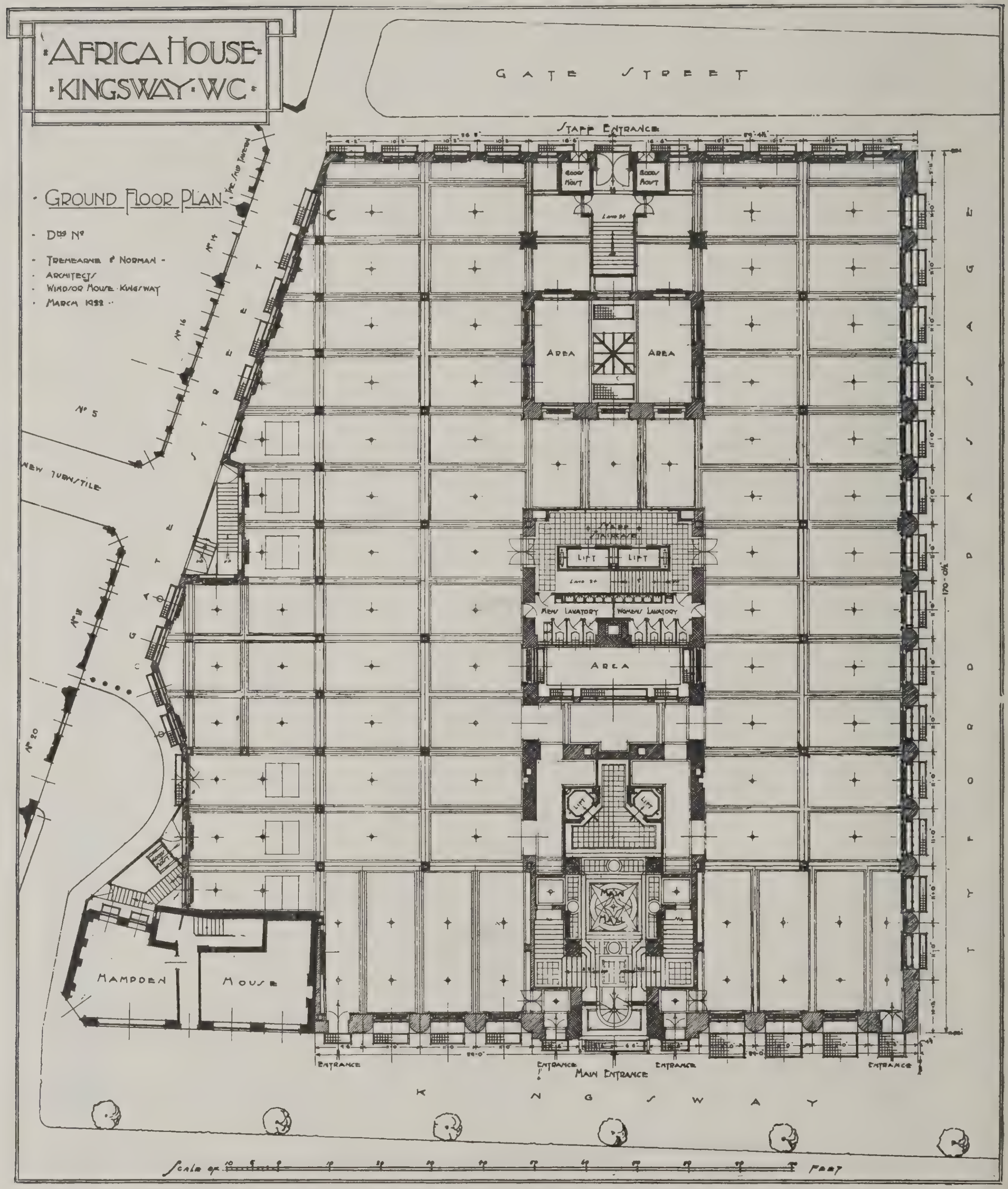
AFRICA HOUSE, KINGSWAY. TREHEARNE AND NORMAN, ARCHITECTS.


AFRICA ·HOVSE
HALF INCH DETAILS OF MAIN ENTRANCE KINGSWAY
HALF PLAN LOOKING VP THROVGH PANEL OVER MAIN ENTRANCE
PLAN THROVGH WINDOWS AT SECOND FLOOR LEVEL
FRONT ELEVATION
SECTION THROVGH C.L. OF MAIN ENTRANCE
HALF PLAN LOOKING VP THROVGH SIDE ENTRANCE DOORS
HALF PLAN THROVGH SIDE ENTRANCE DOORS
SCALE 1 INCH EQUALS 2 FEET
DATE MARCH 1920
DRAWING No 11

AFRICA HOUSE, KINGSWAY: DETAILS OF MAIN ENTRANCE.
TREHEARNE AND NORMAN, ARCHITECTS.

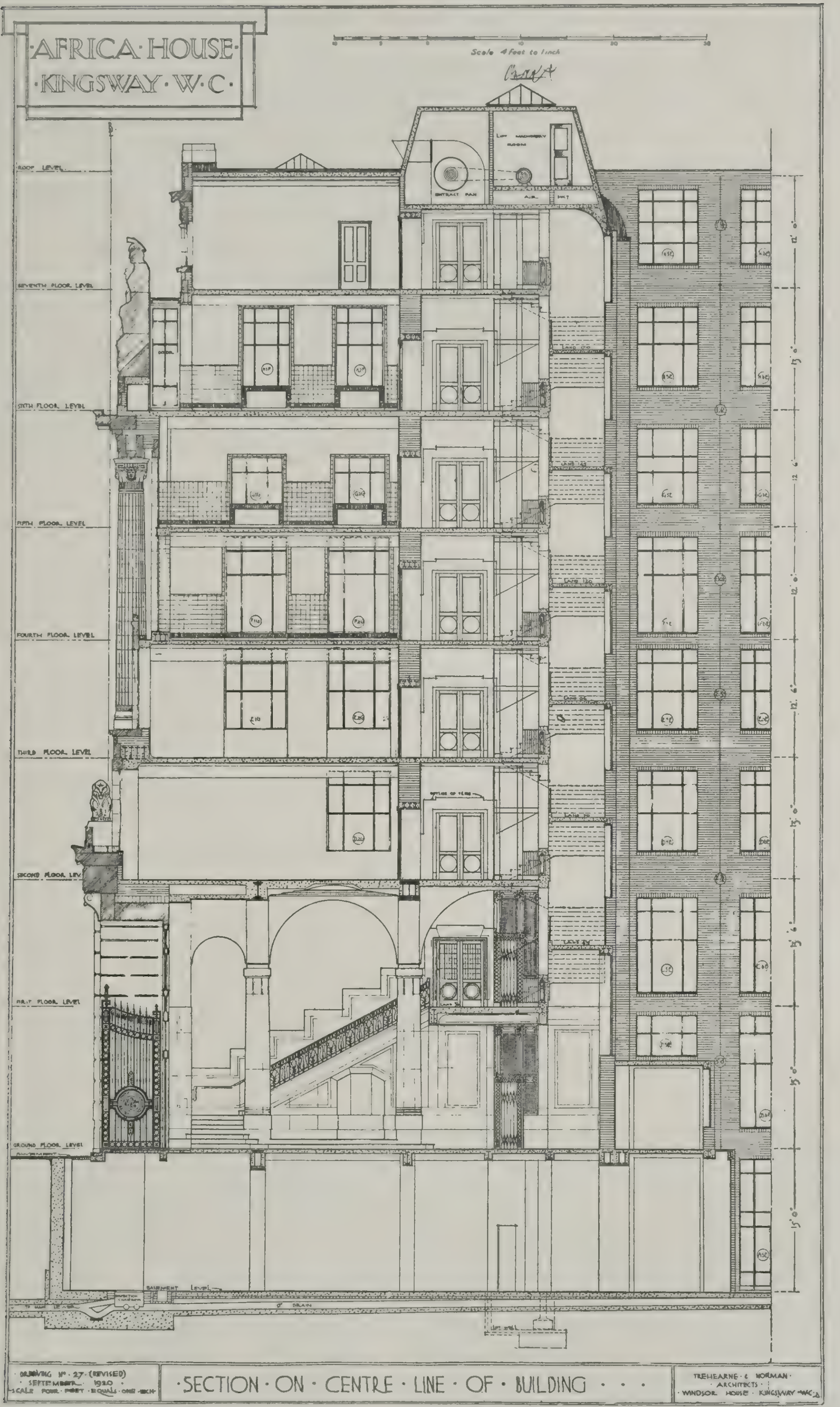


AFRICA HOUSE, KINGSWAY: THE MAIN ENTRANCE.
TREHEARNE AND NORMAN, ARCHITECTS.

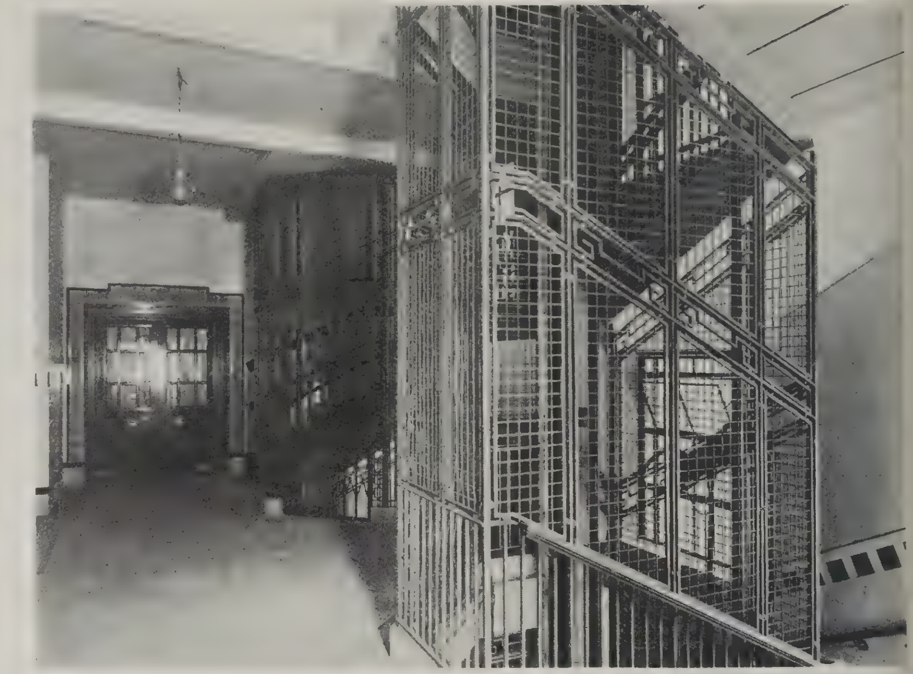


AFRICA HOUSE, KINGSWAY: GROUND FLOOR PLAN.

TREHEARNE AND NORMAN, ARCHITECTS.



AFRICA HOUSE, KINGSWAY: SECTION THROUGH BUILDING.
TREHEARNE AND NORMAN, ARCHITECTS.



THE PASSENGER LIFTS IN AFRICA HOUSE.

it is necessary to carry weight blue bricks have been used. There is no steelwork in these outside walls.

Below the ground floor all the work is in mass concrete piers with B.R.C. reinforced concrete floors and stanchions, and at the ground floor level the supporting columns are of solid stone stressed up to 16 tons per foot.

Inside the building there are two marble staircases each having a bronze cast and chased balustrading from the entrance hall to the first floor. The marblework to the entrance hall is first and second statuary marble with Belgium black and pale sienna with *lapis lazuli* bands and borders to staircase dado, etc. In the directors' offices and boardroom the scheme of panelling has been carried out in selected African mahogany; so maintaining the African atmosphere as stressed by the carving on the front elevation of the building.

Much care and thought were expended by the architects when designing the building, to ensure that the main passenger-lift installation should be the very best obtainable; many new and ingenious features in modern lift practice were decided upon. The result is an excellent lift service. The two main express passenger lifts are situated in the entrance hall, and run at a speed of 300 ft. per minute. Both lifts serve nine floors and travel a distance of 100 ft. approx. They are operated by attendants by means of special switches in the cars. The controllers are fitted with latest improved decelerators, which ensure perfect slowing-down on reaching the floor levels, and eliminate all trace of that objectionable jolting often experienced in most high-speed lifts.

A very pleasing feature is the way in which the threshold at each floor is illuminated. This is automatically done when a passenger rings for the lift, and extinguished as the car leaves the landing.

The indicator system is ingenious. An illuminated indicator is fixed in the car and shows the attendant at which floor his car is required. The great feature of this system is that the attendant cannot tamper with the indicator, and it can only be extinguished when he has gone to the particular floor, taken his passengers aboard, and closed the landing gate.

The indicator is then automatically extinguished on the car leaving the landing. In addition, a special illuminated floor indicator is fixed in the entrance hall which automatically shows the position of both lifts at any time.

A further improvement is the way in which the safety locking apparatus is arranged on the landing gates. In addition to the ordinary safety arrangements (i.e., the lifts cannot be operated until all gates are properly locked, and no gate can be opened until the car is opposite the landing), the lifts are fitted with a special automatic device to do away with all knocking of lock-levers as the car passes the various landings. This is a most necessary improvement where a large number of floors is concerned.

The usual devices to ensure perfect safety—such as safety gear and high-speed governor gear—have also been employed.

The tiling consists of 10 in. squares of buff colour, with 2 in. black lines between. About 5,000 sq. yds. have been covered, and the total weight is approximately 40 tons. The tiling has been laid on a concrete floor, which has proved eminently satisfactory for the purpose, and, of course, the great benefit of such a floor is that not only is it sanitary, but very silent.

Practically the whole of the excavations have been re-used in the foundation after having been washed, crushed, and converted into concrete. About 400 men have been continuously employed on the job, and the value of the builder's plant alone has amounted to about £40,000.

The following quantities of materials were used in the erection of the building over a million and a quarter bricks; over 50,000 cub. ft. of Portland stone; over 40 tons of lead; over 7,500 yd. of rubber flooring; and over 25,000 ft. super. o glass.

Mr. F. B. Nicholson was the consulting engineer for the electric light and power installation, and Mr. A. H. Barker fo the heating and ventilation.

The general contractors were Messrs Bovis, Ltd., and the sub-contractors were as follows: Edw. Wood & Co., Ltd., o Manchester (steelwork); Medways Safety Lift Co. (main passenger lifts and electri goods hoist); Waygood-Otis, Ltd. (stai lifts); Nine Elms Stone Co. (stonework) Luxfer Co., and C. E. Welstead, Ltd., o

TWO INTERIOR VIEWS IN AFRICA HOUSE, KINGSWAY. TREHEARNE AND NORMAN, ARCHITECTS.

Croydon (metal casements); British Reinforced Concrete Co. (reinforced concrete floors); Farmer and Brindley (marble work); W. B. Simpson and Sons, Ltd. (tiles); Leyland and Birmingham Rubber Co. (rubber floors); H. Pontifex and Sons, and Shanks & Co. (sanitary fittings); Strode & Co., Ltd. (electrical work, iron doors, side entrances, and fire-hydrant main); J. W. Singer & Co. (iron entrance gates and doors); Benham and Sons, Ltd. (heating); Empire Stone Co. (staircases); Lion Foundry Co., Ltd. (escape staircases); Stone & Co., of Deptford (fire hydrant fittings); Acme Flooring and Paving Co., Ltd. (wood block-floors); Siemens Bros. & Co., Ltd. (telephones); E. Shipton & Co. (call bells); Pyrene Co., Ltd. (fire extinguishers); F. B. Francis (carving); G. Jackson and Sons (fibrous plaster); James Gibbons, Ltd. (locks and furniture); Milner's Safe Co., Ltd. (strong rooms); Thos. Faldo & Co., Ltd. (asphalte); and Collyer and Son (shop fitting).

The whole of the internal solid plastering was carried out by The Grano-Metallic Paving and Plastering Co., Ltd., the ceilings being executed in ordinary plastering and the walls in Keene's Cement. The "Malcrete" flooring of the Grano-Paving and Plastering Co., Ltd., was put down in the basement. Mr. F. T. Wood acted as clerk of works.

A detail drawing of the centre bays of the principal elevation is reproduced on page 766.

The R.I.B.A. War Memorial

TRENWITH WILLS, A.R.I.B.A., Architect

An impressive ceremony took place at the R.I.B.A. on November 20, when the Earl of Crawford and Balcarres, late First Commissioner of Works, unveiled a war memorial tablet containing the names of 232 members and students of the Royal Institute who laid down their lives during the Great War. The memorial contains the name of Field-Marshal Lord Kitchener, who was an Honorary Fellow of the Royal Institute.

Lord Crawford was received by the President, and by the Past-President, Mr. John W. Simpson, who was the assessor in the competition for the war memorial, and presented to his lordship Mr. Trenwith Wills, A.R.I.B.A., the designer of the memorial.

Addressing those present, Lord Crawford said: We commemorate our brother architects whose paths had seemed to be in peace, whose work was destined to be wrought in harmony, until they heard that great rending cry:—

"Quiet, untroubled soul, awake, awake!
Arm, fight and conquer for fair England's
sake!"

Hearing they answered, and answering
they gave their lives.

Two hundred and thirty Fellows, Associates, and Students of the R.I.B.A. were killed. Here is the list—their honoured names—no mere census sheet, but a roll of honour which records achievement; the same act of sacrifice accomplished by every one of them, but each in its different way, and each with the grandeur of personality in its suffering and abnegation.

On these occasions we are, perhaps, too liable to assess that equilibrium of sorrow; too ready to dwell upon the pathos of young life abruptly cut short. What secrets lie unrevealed in these tragic columns; what hopes and aspirations unfulfilled, alas! what poignant grief in the circles of family and home. Gone they are; dead we must reckon them to be, but though dead we must not look upon them as absent, since they still speak to those who survive, and will ever recall that without their agency all that we value as individuals, all that is most precious to our citizenship, all, indeed, which gives us the freedom of ourselves and of our country, would have been overwhelmed in disaster.

So let us take comfort, since glory is never without its measure of happiness. And who shall say that they missed their chosen career? They were indeed, great architects who built up the stalwart bulwarks of our Empire's defence with the very body of their death. Their creative genius has realized a fuller expression in that their earthly ideals have been translated into terms of spiritual reality, whose souls and sacrifices form even now a part of the great Temple not made with hands.

Nevertheless, our mourning should not be concealed. We shall never know the real extent of our loss, but if, as we hope, there are to-day the stirrings of a Renaissance in the noblest of the arts; if with that coming generation we are to witness the fruits of long and patient enterprise, of growing and more discerning appreciation of that improved organization and equipment on which such earnest effort is being expended, we must weep for much young talent that has been dispersed, lamenting that so many who were born to observe order and comeliness should have saved them for us at the cost of their lives.

Let us be thankful that so many of their comrades were spared. One thousand civilians issued from the peaceable calling of the architectural world, ready to die like the rest of them as soldiers; these are with us to-day. Their names do not appear on the altar stone of the Royal Institute. Upon them must fall the burden of carrying on the traditions of British art; of maintaining the high standard of public spirit, of duty—above all they will hand on to their successors the names of those whose hard lot they were ready to share. They will honour those who died, those for whom the thirst for truth and beauty (the artist's ceaseless quest), must at length have found its satisfaction at the very source of Beauty and Truth, where Eternity affirms the conception of an hour!

Four long years have now passed since upon the high and perilous peaks of victory our brothers laid the foundations of peace. We have still to erect that vast structure through toil and tempest, and through time. With undiminished faithfulness, with hearts which no tribulation can wear down, and which no discouragement shall turn aside, let us go forward and build.

To their victorious memory I have the honour, with deep reverence, to unveil this memorial.

Lord Crawford then unveiled the bronze tablet, and the Rector of St. George's, Hanover Square (The Rev. Prebendary F. N. Thicknesse), performed the dedication ceremony.

Proposing a vote of thanks to Lord Crawford, Mr. Waterhouse expressed his gratitude to Canon Thicknesse for regarding the R.I.B.A. as a corporate parishioner and for dedicating the memorial, and to Mr. Trenwith Wills for the work he had performed in connection with it.

He then said:—The claim that the poets have upon mankind is twofold, represents a double debt. First that they seize, and render into words, thoughts that would otherwise go unexpressed, and further, that they crystallize as thoughts vague aspirations and unformed regrets, or shapeless unsubstantial wonderings, thus—by creative contact with ourselves—making a mental treasure house of what unhelped by them, were chaos of the mind.

Lord Crawford, in his words to us to-day, has been *our* poet. He has framed in speech—beautiful speech—many unspoken thoughts which, even if spoken by us, certainly could not have reached his level of utterance.

Nay more. As a true poet he has left thoughts rising in our hearts, uplifting thoughts, which, if they are our own, are none the less born of the inspiration of his words.

In thanking him for this we thank him also in that this bronze (itself a message bearer) will, to the eyes and memories of those who have been here with us this afternoon, speak, when they look on it from day to day, not merely with the voice of reverent and ever-affectionate homage to the dead, but also with an echo of the words spoken so helpfully by him to-day.

Lord Crawford, in the name of architects who mourn the loss of comrades, brothers, sons, and in the name of parents and of those, whoever they may be, who, standing here, see on this bronze the name of one of those who

"Added love to love by severing
In love's own name some dearest tie
of love"

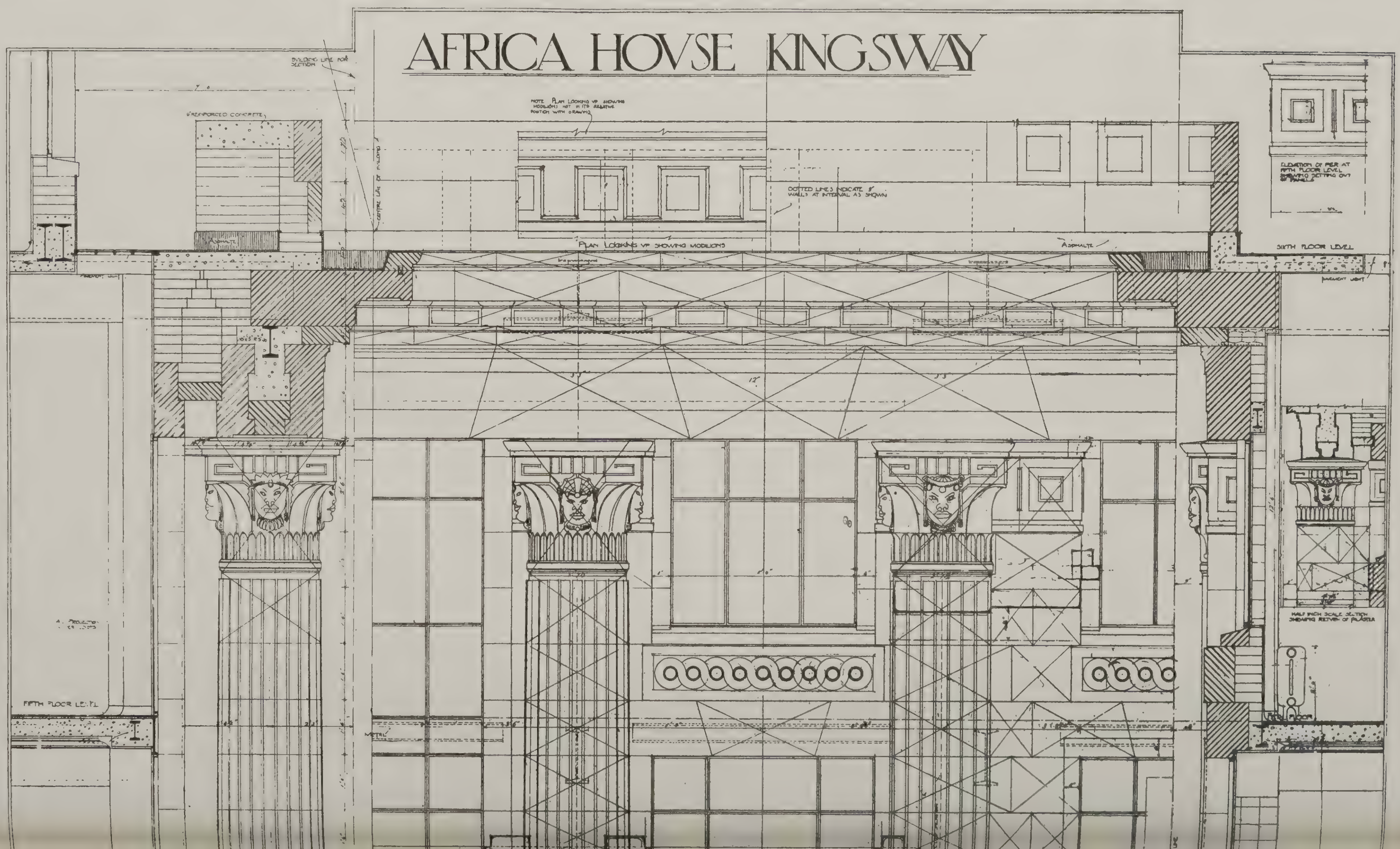
I thank you; and the thanks spring from the heart.

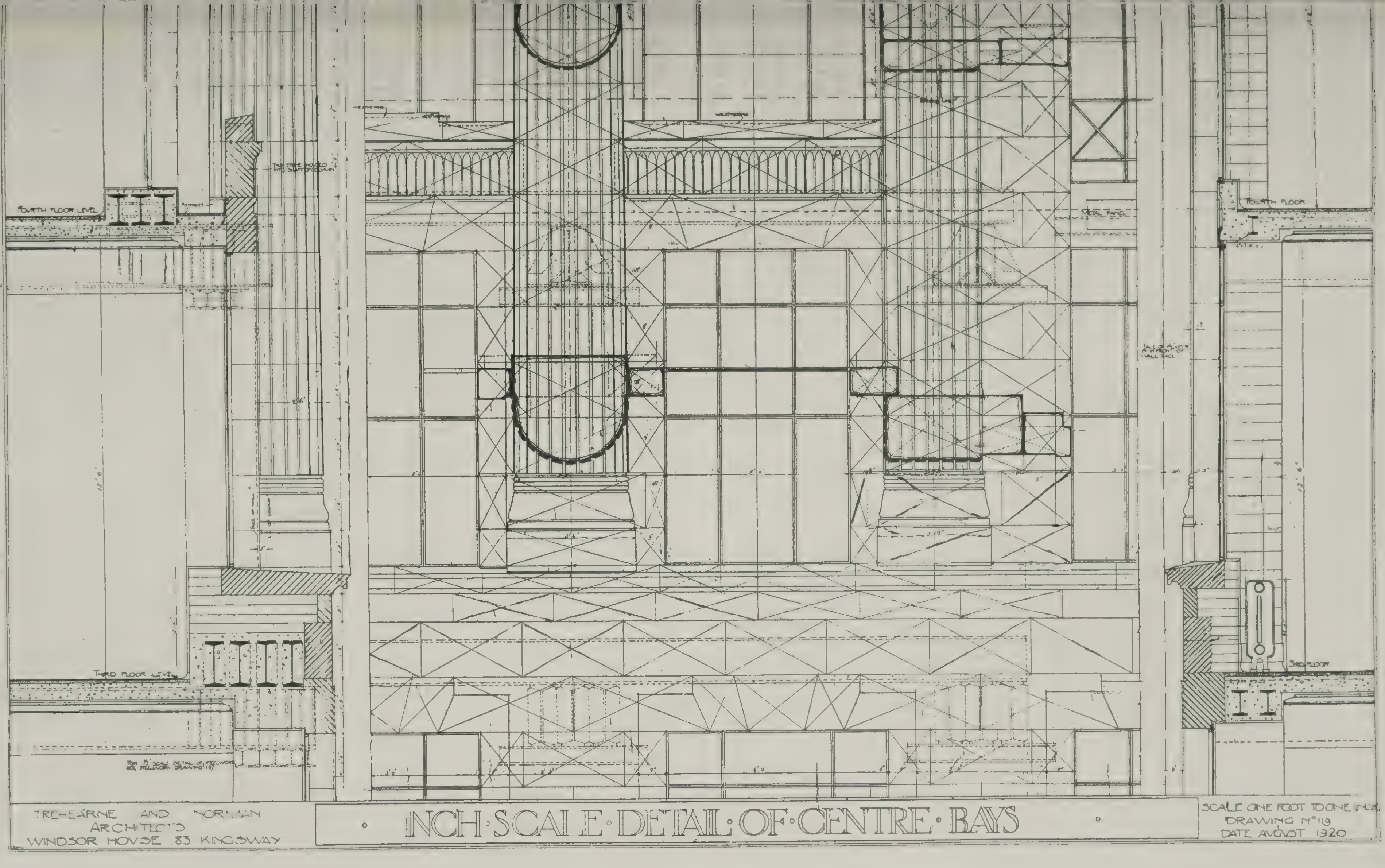
Mr. Keen seconded the vote of thanks, and said that Lord Crawford had identified himself with the Institute, and was always ready to help members, besides sharing in their loss and sorrow.

An illustration of the war memorial tablet is given on page 745.

Architects' Working Drawings. 58.—Africa House, Kingsway: Detail of the Centre Bays

Trehearne and Norman, Architects


AFRICA HOVSE KINGSWAY
BVILDING LINE FOR SECTION
8" REINFORCED CONCRETE
ASPHALTE
CENTRE LINE OF BVILDING
NOTE PLAN LOOKING VP SHOWING MODILIONS NOT IN ITS RELATIVE POSITION WITH DRAWING
PLAN LOOKING VP SHOWING MODILIONS
DOTTED LINES INDICATE 9" WALLS AT INTERVAL AS SHOWN
ASPHALTE
ELEVATION OF PIER AT FIFTH FLOOR LEVEL SHOWING SETTING OUT OF PANELS
SIXTH FLOOR LEVEL
PAVEMENT LIGHT
12'
HALF INCH SCALE SECTION SHOWING RETVRN OF PLASTER
FIFTH FLOOR LEVEL
METAL



Africa House is the most striking of the many buildings erected in Kingsway from the designs of Messrs. Trehearne and Norman. The detail illustrated above is of the centre bays on the principal elevation. Stone and brickwork have been used for the construction of the outer walls, and blue bricks where it is necessary to carry weight. There is no steelwork in the outer walls. A full description of the building is given in the article which begins on page 758.

Illuminating Engineering in Relation to Architecture

By LAWRENCE M. TYE

MR. LAWRENCE M. TYE read before the R.I.B.A. last week a paper on "Illuminating Engineering in Relation to Architecture." The President, Mr. Paul Waterhouse, occupied the chair, and among those present as guests were: Sir John H. Parsons (President of the Illuminating Engineering Society); Mr. W. R. Rawlings (Past President of the Electrical Contractors' Association); Captain E. Stroud (Chief Technical Engineer, Holophane, Ltd.); Mr. L. Gaster (Hon. Secretary, Illuminating Engineering Society); Mr. J. S. Dow (Asst. Hon. Secretary, Illuminating Engineering Society). Mr. Tye said: The success of gas and electricity as illuminants, particularly with subsequent progress in their efficiency, has led to the enormous application of artificial lighting, and installations have been made indiscriminately, in many cases without any regard being paid to physiological requirements or its application to get the best effects.

In the first place this advancement in the efficiency of illuminants has brought with it such high values of intrinsic brilliancy or surface brightness that it becomes positively dangerous, apart from discomfort from the point of view of vision, to employ modern light sources without due precaution being taken to suppress glare, quite apart from matters of light distribution.

As an example, with our early oil lamps the intrinsic brilliancy of the source was in the order of 3-8 candles per sq. in. In the case of the modern gas-filled electric lamp this figure has reached as high a value as 2,000 candles per sq. in. This in contrast to the brightness of average white sky, which is given as in the order of 2.5 candles per sq. in.

This consideration brings us to the fact that there is a correct standard or intensity of illumination for any given class of service: thus by under or over lighting a given area you produce an unnatural condition upon the eye with the result that eye strain and consequent fatigue sets in.

These standards have been carefully collated by illuminating engineers, operators, and specialists on eyesight, and a table is generally to be found in the technical data issued by firms who specialize in illuminating engineering.

To study a light source intelligently it is necessary to have before us a light distribution or photometric curve in order to show the exact manner in which the light rays are distributed. This is so important that I should like to urge that no lighting unit be seriously considered unless this data is made available.

One method of obtaining these photometric curves is by taking measurements at the various angles through the vertical axis of a light source.

With direct lighting the only useful light is that given between 0–60 degrees other than by reflection from walls and ceiling. Therefore, using a bare lamp with dark surroundings only 25 per cent. of the total light would be usefully employed.

It will therefore be seen what a great field there is for efficient lighting by the use of correctly designed reflectors.

There are in the main three methods applied to the lighting of interiors, i.e., direct, semi-direct, and indirect.

Direct lighting will first be considered, as it is unquestionably the most efficient, and results can be pre-determined with extreme accuracy. This method is at least dependent upon favourable surroundings, i.e., those having a high co-efficient of reflection.

By direct lighting with prismatic reflectors it is possible to redirect 75 per cent. of the total light immediately to your working plane, whilst transmitting in addition 20 per cent. for the illumination of walls and ceiling.

In general practice with direct lighting it is found that at least three distinct and definite types of light distribution are necessary. These, for distinction, are usually termed extensive, intensive, and focussing.

The extensive type reflectors are required for the lighting of low buildings, or where the distance between the points is rather great. The correct spacing ratio, i.e., distance apart to height, for this type reflector, is two to one for the attainment of uniform lighting. Thus for points spaced, say, 18 ft. apart, the correct height would be 9 ft. above the plane you are illuminating, which is usually 2 ft. 6 in. above the floor level.

The intensive type reflectors are required for the illumination of buildings with average ceiling heights and spacings. The correct ratio in this case for uniform lighting is one-and-a-half to one,—thus, for the example cited above, i.e., 18 ft. spacing, the correct height would be 12 ft.

The focussing type reflectors are required for the lighting of buildings having high ceilings. In addition, they are employed for the efficient lighting of buildings with galleries, where the low mounting of light units would bring them into the direct range of vision. In other cases the focussing type is used where concealed lighting effects are aimed at.

Particularly are focussing type units necessary in the case of factory lighting with overhead travelling cranes. In practice it is generally desirable to adopt as high a mounting height as possible, consistent, of course, with reasonable accessibility. By doing this you reduce the liability of glare, and it is particularly noticeable the extent to which shadows are reduced in consequence. This latter point is emphasized particularly in school lighting where you get a rising floor level.

For exceptional purposes, such as highly localized lighting shop windows which are narrow in relation to their height, even more concentrating reflectors than those coming under the heading of focussing are required.

Now in adopting these greater mounting heights it does not follow that the lighting efficiency of an installation suffers in consequence.

On reference to Fig. 1 it will be seen that, in order to cover 12 ft. at a height of 6 ft., the light rays need to be collected into a zone of 45 degrees. Again, to cover the same distance at a height of 8 ft. the light rays need to be collected into a zone approximately 30 degrees. Again, to cover the same distance at a height of 12 ft., the light rays are concentrated into as small a zone as 20 degrees, but in each case with a corresponding increase in the end-on candle-power.

This is the reason why the illumination intensities are the same in either of the three cases cited above.*

It is now as well to consider the various media available for the control of light, and to see how far they may be expected to comply with the requirements as set out above.

From the point of view of efficiency and flexibility of control, also for complete conformity with the fundamental laws of optics, we will first consider prismatic glass reflectors. These reflectors are designed on the principle of total reflection, and by modification in the contour it is possible to obtain any type of light distribution from extensive to extremely concentrated.

The definite character in which these results are achieved will be seen on reference to Fig. 2.

Opalescent glassware, whilst giving good diffusion, has not such complete control of the light. Incident rays on reaching the opal surface are mostly broken up and scattered more or less equally in all directions. Thus whilst the contour of an opalescent reflector may be varied as much as is desired, it does not appreciably affect its final light distribution curve, which remains of a general character.

Semi-Indirect Lighting.

Semi-indirect lighting units comprise a translucent dish made of opalescent glass, prismatic glass, or alabaster. They send most of the light to the ceiling, from which it is reflected downwards, but a certain percentage passes through the unit itself, depending upon the density of the medium.

This method of lighting must of necessity be more wasteful than direct lighting, considered from the point of view of energy, seeing that the ceiling has to be converted into a secondary source. The reflection co-efficient for a good white ceiling is 82 per cent., which immediately creates an absorption independent of that of the unit itself.

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* For a detailed explanation of light distribution and zone factors refer to "The Lighting of Modern Commercial Buildings—Underlying Principles," by Capt. E. Stroud, ARCHITECTS' JOURNAL, 4 January 1922.

n semi-indirect lighting, therefore, it is essary for its successful application t the ceilings are made as light in ur as possible, also that they are plain aces, as free from obstruction as sible.

he system should not, of course, be lied to situations with roof lights, etc., erwise a very heavy loss will result. n important point, also, is the relation eight of a building to the spacing of its with semi-indirect lighting.

n investigation it will be found that e numbers of semi-indirect lighting allations are being replaced by more ient means, and in my opinion the tion rests in a return to units of a ct character, but offering a higher ree of diffusion.

t is in such matters that illuminating ineers would welcome a closer co- ration with the architectural profes- . We find, in so many cases, where ory would indicate a satisfactory pro- ure, it is made impossible by æsthetic siderations. An example to my mind the moment is in church lighting. re has been considerable activity of in raising the standard of lighting in h buildings.

or the efficient treatment of such in- ors illuminating engineers find im- nse advantage in placing their light ts in the centre of arches, adopting in suspension from the apices. By ng this the lighting of the nave and aisles is practically shadowless. this procedure, from the architect's nt of view, there seems to be two s of thought. In some cases we left to our judgment, in others we ourselves in a hornets' nest. I feel, refore, that we should greatly benefit the views of architects on such points.

would just like to mention that the sent is an age of specialization. It is ossible for an architect to be fully versant with all the latest applications ighting, nor is it necessary, seeing that any firms engaged in illuminating engineering would be only too happy to place before architects their experience, and assist in the drawing up of their lighting schemes, in most cases without obligation. It places no restrictions upon the architect—actually it might relieve him of considerable anxiety and trouble, in addition to which he has the certainty of results.

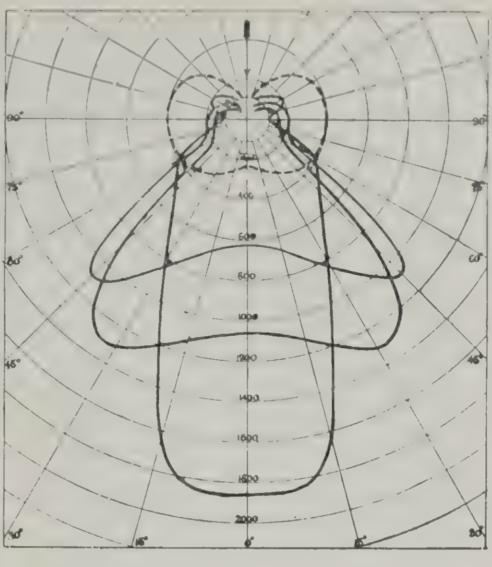


Fig. 2.

Discussion.

Sir John Parsons (President of the Illuminating Engineering Society) moved a vote of thanks to Mr. Tye for his "very illuminating paper." He (the speaker) was an ophthalmic surgeon, and—speaking out of the fullness of his ignorance of both illuminating engineering and architecture—so far as he knew our architecture was derived from the East, where, owing to an excess of light, buildings were designed to keep light out, which idea had been faithfully followed in the domestic architecture of this country. With regard to artificial lighting, he thought there should be more co-operation between illuminating engineers and architects, to their mutual advantage. The illuminating engineer might be led to do away with the atrocious fittings which disfigured so many interiors, and the architect would score enormously if he would make lighting part of his scheme. General illumination seemed to him to affect the architect's design very specially.

Mr. W. R. Rawlings, past President of the Electrical Contractors' Association, seconded the vote, and said that he felt with Sir John Parsons that there was still closer association wanted between the architect and the electric light fittings manufacturer. The architect put up a most beautiful building, and he left it for anyone to come along whose only consideration was as to how to light it. Ugly fittings were put in—such as they had there that evening (referring to the light fittings in the meeting-room of the R.I.B.A.). It was true that they had in London people who made a special study of beautiful fittings, but though they were very beautiful, they gave no light.

Mr. Hurst Seager said that he feared the lecturer had not lived up to his title. He was sure that the sort of co-operation that was wanted was for the architect to employ the illuminating engineer to get beautiful effects. He suggested that the dome of St. Paul's, the Victoria Tower, the tower of the Port of London Building, might be illuminated, as also the interior of Westminster Abbey.

Mr. L. Gaster said that only by the exchange of views could progress in good lighting be made. Referring to concealed lighting, he pointed out that what had popularized it in this country was the war.

Mr. Tye briefly responded and the meeting closed.

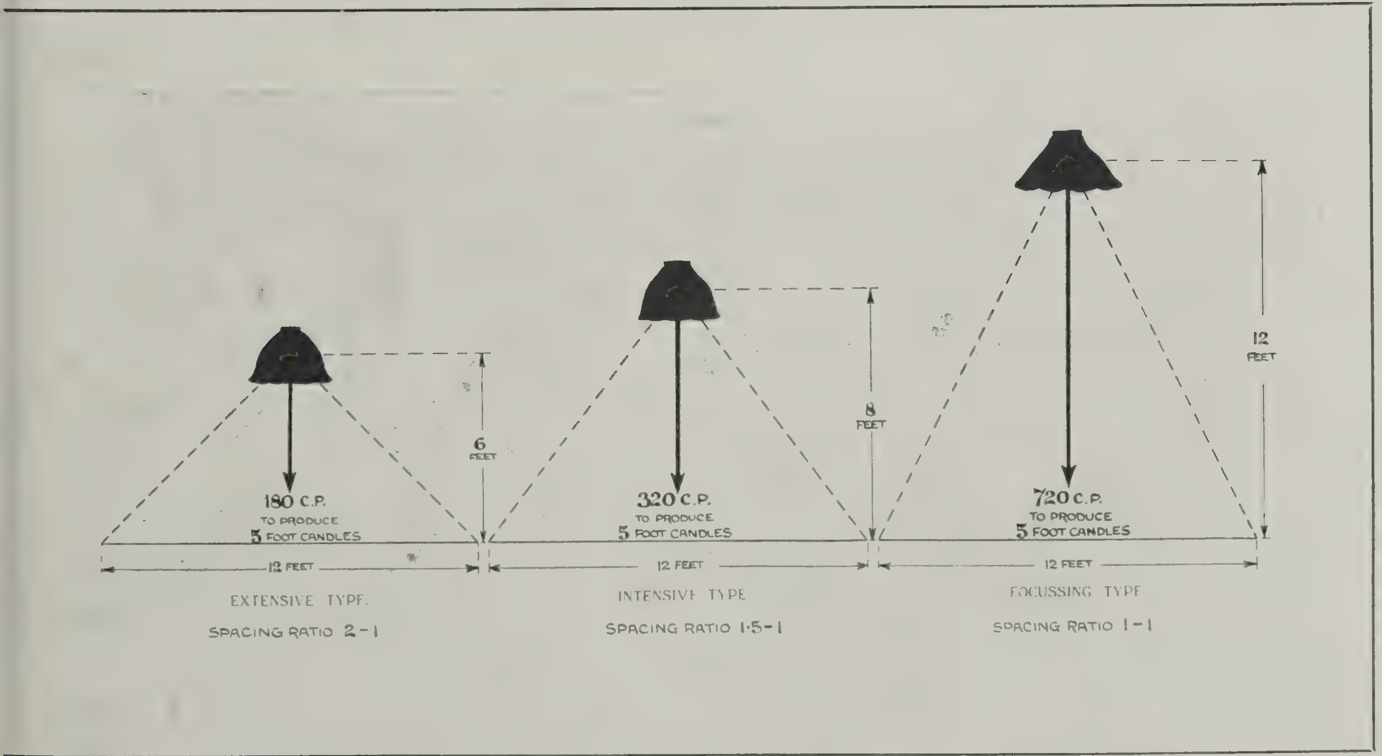


Fig. 1

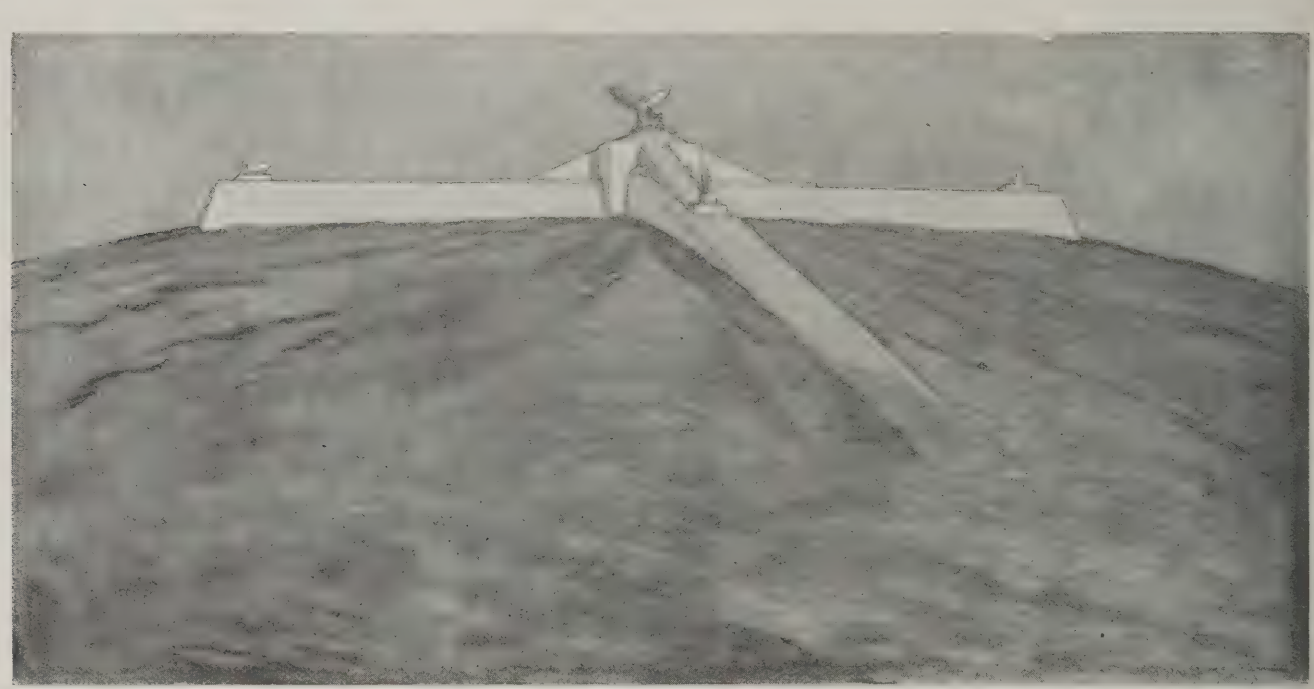
Magazines of the Month*

A Literary and Pictorial Digest

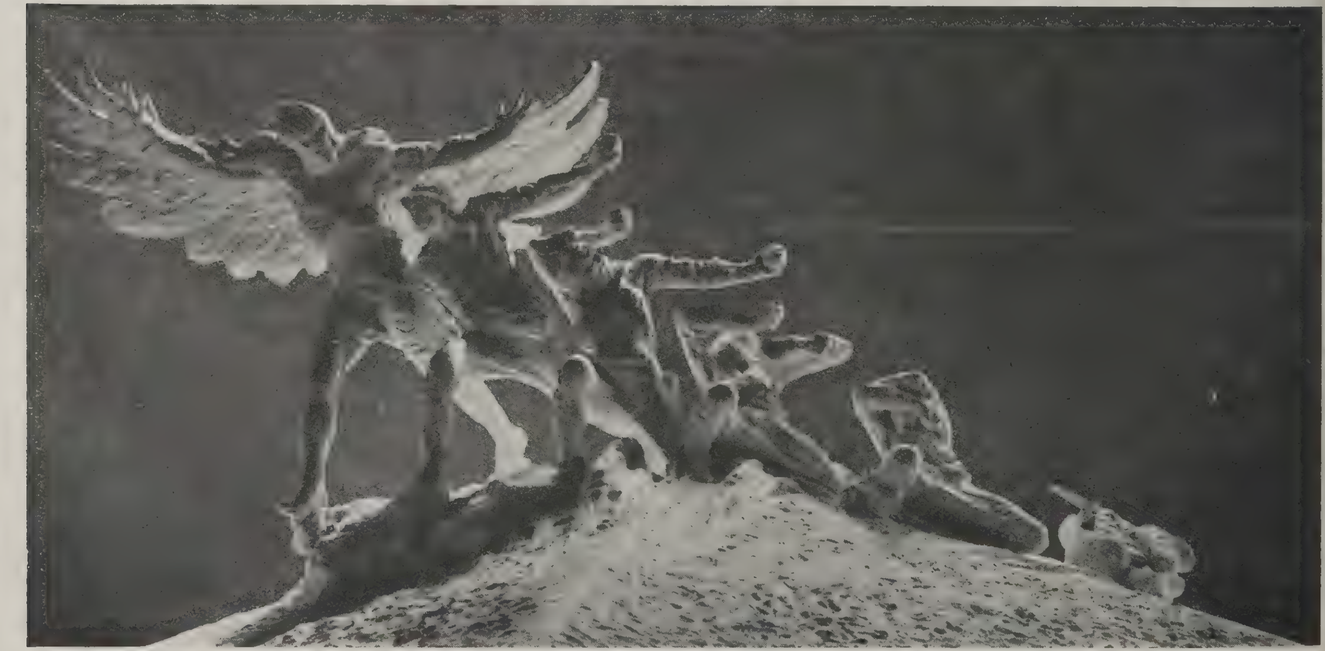
THE current issue of THE ARCHITECTURAL REVIEW contains a finely illustrated article on War Memorial Windows by Mr. Maurice Drake, in which we are glad to observe a note of optimism.

"Nothing strikes a glass-painter so forcibly" says Mr. Drake, "as the enormously increased interest taken in his handicraft since the war. To that newly manifested interest English glass-painters have reacted in an extraordinary manner, and many of the windows erected during the past three years might have been painted in another country and another century from the work executed by the same painters no longer than eight years ago. It is not too much to say that glass-painting has again been new-born. The public for the most part is, of course, still ignorant of what constitutes a good window, and a great deal of inferior work has been perpetrated, and more will be perpetrated, until it comes to be understood that glass-painting is a very highly skilled handicraft, and not a thing to be taken up as a side line by tinkers and tailors and department stores. But if the public buy rubbish, they have only themselves to thank for it. The sixty or seventy bona-fide glass-painters in England are doing better work to-day than they have ever done before, and some of them are painting very fine windows indeed."

An Italian architect's conception of a National War Memorial for Italy (a monument upon a mountain) forms the subject of a remarkable illustrated article by Mr. Crossley Davies. He says: If Signor Eugenio Baroni's scheme is carried out—and a national committee has approved it—Italy will have the finest, and the biggest, memorial ever planned by an



A VIEW FROM REAR.



THE SCYTHE OF DEATH

A NATIONAL WAR MEMORIAL FOR ITALY. SIGNOR EUGENIO BARONI, ARCHITECT.

(From "The Architectural Review.")

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* All the above magazines and many others may be seen in the Reading Room at 29 Tothill Street, Westminster.

heroic people to those whose sacred bones have paved the path to peace. It is an arresting conception, bold, imaginative, majestic. Its scope is truly national. Its sentiment is, as it should be, Latin. And its pedestal! Here is a stroke of genius, a poetic inspiration. What would not a sculptor or an architect give to have a mountain for his base? The main idea is simple, as indeed it should be. A gigantic cross tops the mountain, symbol of sacrifice at the scene of the greatest sacrifice made by the Italian army. The central part of the cross is a sort of sacred crypt containing the bones of the slain and an altar where prayers for the dead may be said. Here will be Italy's greatest shrine, a place for prayer and pilgrimage. The steps that lead up to the Ossarium, making approach slow, give ample time for meditation. There is here no Vanity Fair to distract and to demean. For here, amid the eternal hills, far from busy town and scrambling mart, sleep the nation's heroes. With a cross as the main outline of the memorial, the sculptor has designed statuary groups at commanding points, and it seems a natural development that these should have become rather like Stations of the Cross on a fine processional pilgrim way.

THE ARCHITECTURAL FORUM contains the first part of an article on "Mexican Renaissance" by Walter H. Kilham, who points out that it is not remarkable that the true story of architecture in Mexico remains generally unknown when one examines some of the statements rampant in even modern geographies.

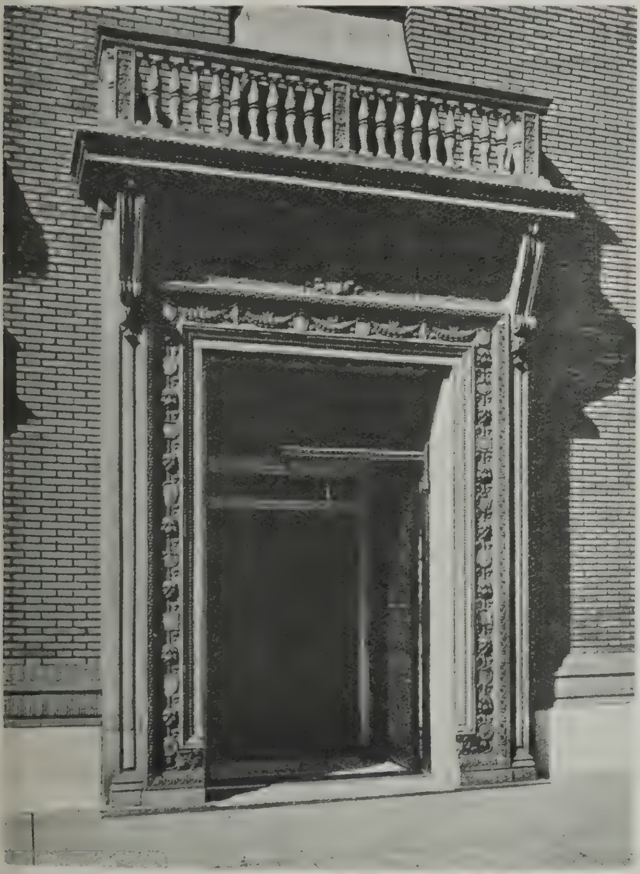
As a matter of fact, up to about 1820, the date of Mexican independence, Mexico was the only country on the American continent which practised architecture at all in the real sense of the word, for prior to that time the buildings of the English colonies and the United States were comparatively small in size and slight in construction, with thin walls and wooden roofs, devoid of sculpture or mural decoration, and of a degree of artistic development which entitles them to consideration more for sentimental reasons than for any great merit, while those of the other Spanish settlements are generally of less artistic importance than those of Mexico, though ordinarily of solid and scientific masonry construction.

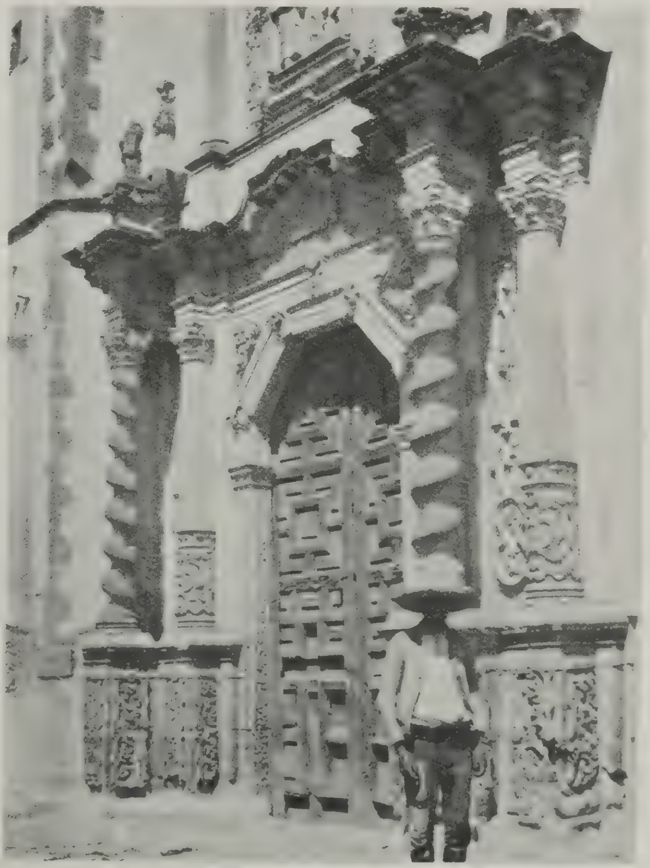
GARDEN TO A RESIDENCE IN OHIO. HOWARD SHAW, ARCHITECT.
(*From "The Architectural Record."*)

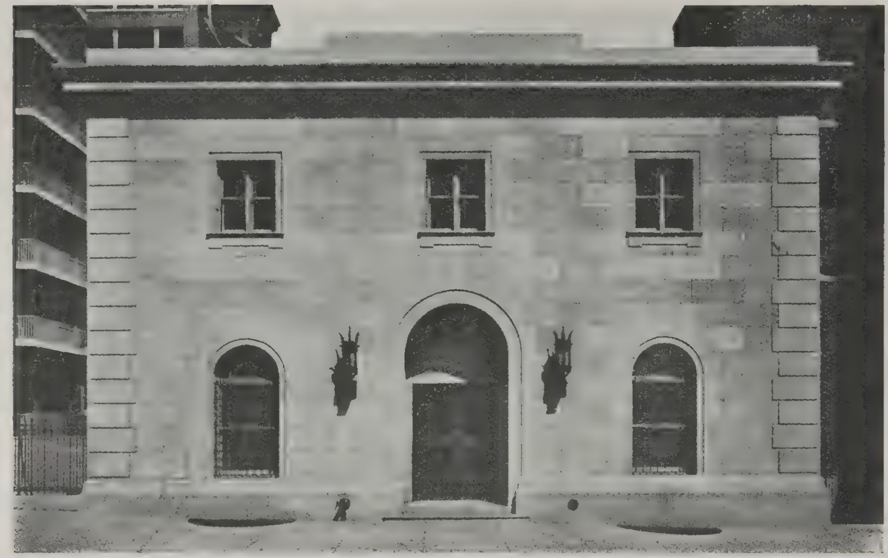
Of course a highly developed technique was not attainable at the beginning, and the early buildings, rude rather than elegant, sought to satisfy the most urgent needs rather than good taste. Nevertheless, such buildings as the palace of Cortez at Cuernavaca or the Casa Alvarado at Coyoacan, both built within a very few years of the conquest (1521), even though the walls are of rather undue thickness and the arches low and squat, are of a far greater degree of sophistication, from a constructional standpoint, than anything produced in the American colonies before the revolution.

The house of Mrs. William Hayward, Fifth Avenue, New York, of which we reproduce an exterior and interior view, with a plan, is illustrated by several plates. This residence is one of the most important individual dwellings erected in New York during recent years. Designed by Guy Lowell in the style of the Italian renaissance, the house is built entirely of pink Tennessee marble, while a balustrade of bronze is placed above the cornice.

The plan of the interior provides rooms of unusual size and height. From the vestibule one enters the lower hall from which the dining-room opens at the right, while at the left and facing Fifth Avenue are two reception-rooms, and just ahead is the stair hall of elliptical form in which the balanced stairway leads to the main floor. Upon this floor the entire avenue side of the house is taken up by the drawing-room which is connected by a long gallery facing Eighty-Sixth Street with the library, while still beyond is a billiard-room. The ceilings of the first floor are 15 ft., and those of the second or main floor 18 ft. 6 in. in height.


ENTRANCE TO AN APARTMENT HOUSE IN NEW YORK. D. EVERETT WAID AND J. E. R. CARPENTER, ARCHITECTS.
(*From "The American Architect."*)


DOORWAY OF CHURCH NEAR S. JUAN, TEOTIHUACAN, MEXICO
(*From "The Architectural Forum."*)



MOUNT SINAI HOSPITAL, NEW YORK. ARNOLD W. BRUNNER, ARCHITECT.
(From "The American Architect.")

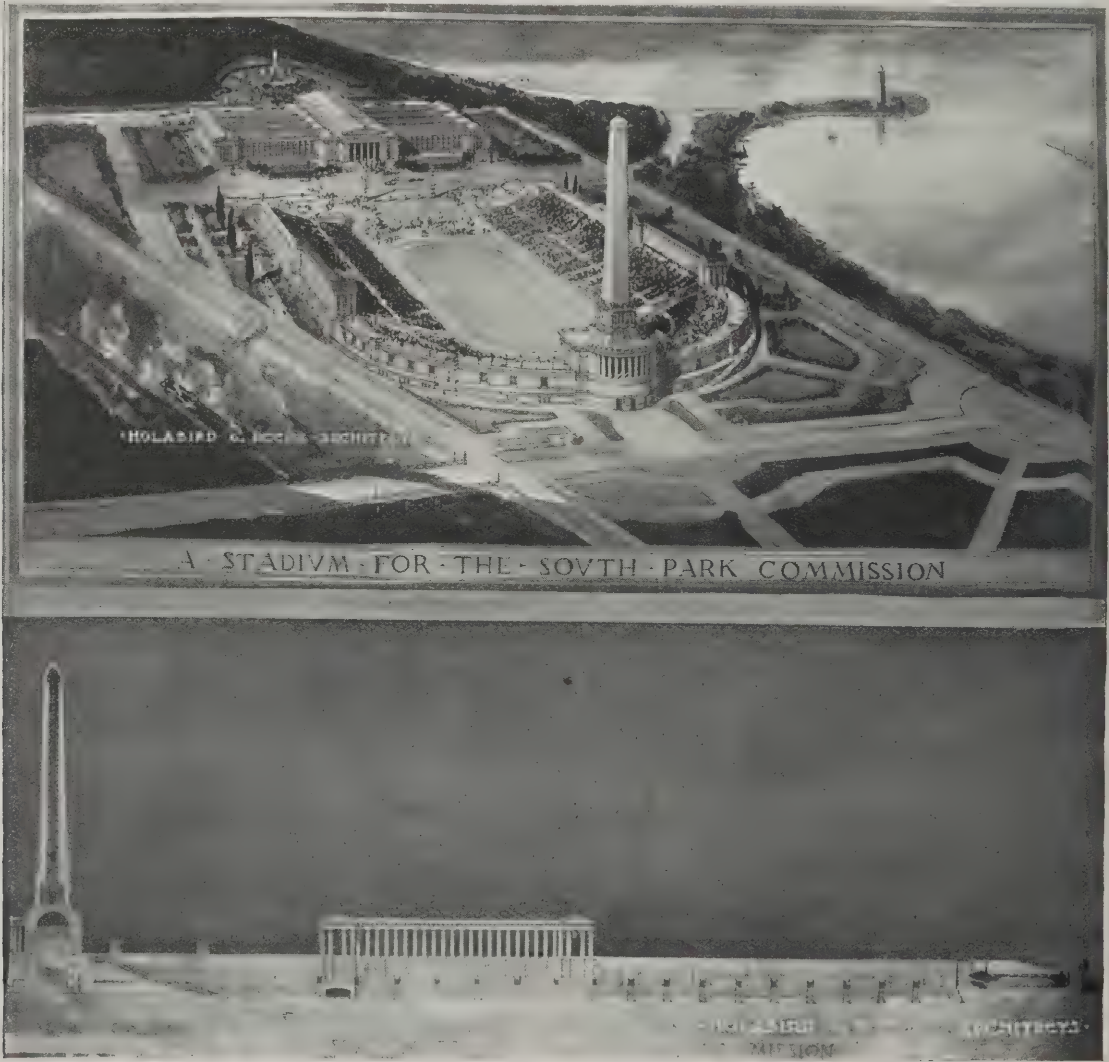
The interior of the house fulfils the promise made by its rich and dignified exterior. Several of the rooms are fitted with antique panelling and other woodwork taken from old buildings in France and England, and the furnishings of the house are largely antiques, with many treasures of paintings, tapestries, and Oriental porcelain.

"Current Tendencies in Country House Design in the East," "Country House Architecture in the Middle West," and "Some Country House Architecture in the Far West," all profusely illustrated by many beautiful examples, are the titles of three articles which take up well-nigh the whole of THE ARCHITECTURAL RECORD.

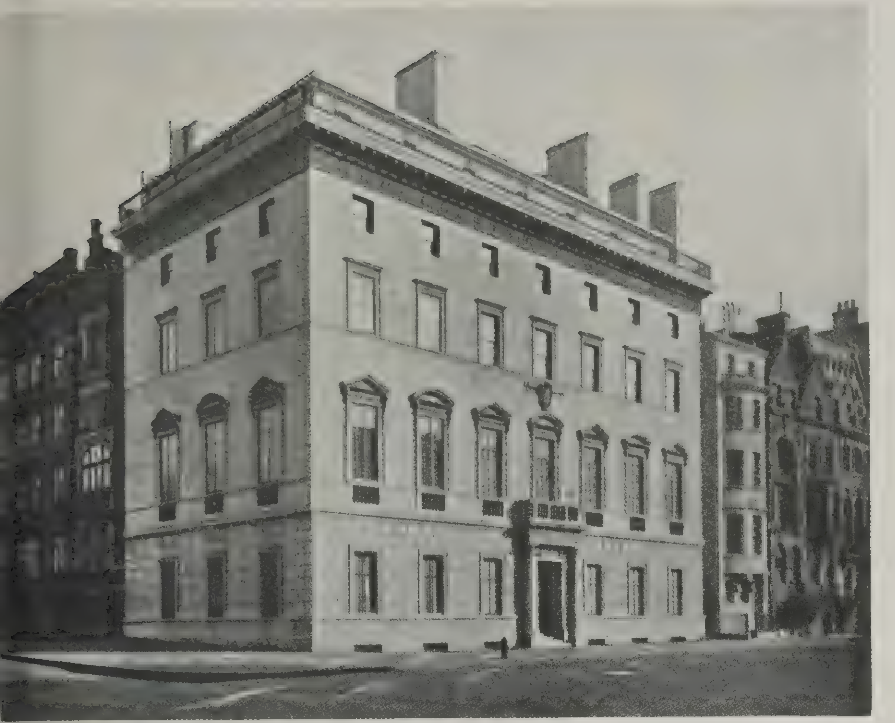
The last issue of THE AMERICAN ARC
TECT includes among its examples
current work views and plans of Mou
Sinai Hospital (Arnold W. Brunn
architect), and an apartment hou
No. 960 Park Avenue, New York,
signed by Messrs. D. Everett Waid a
J. E. R. Carpenter, of which we reprodu
an entrance detail.

ARCHITECTURE, the title of the Socie
of Architects' Journal, enters upon
new stage of its career with the Novem
number, and in the foreword the edi
says : "Not only has it been given a na
that can be pronounced without a
spiratory pause in the middle, but si
scope, and presentation have, as the m
superficial inspection will show, be
modified to no small extent. Moreov
we flatter ourselves that, important as t
external changes will be found, they a
not (or will not be) comparable to th
that affect the scope of the new journ
The phrase 'will not be' is added inte
tionally, for it is impossible in the fi
number to give more than a suggestion
the final nature of a periodical : a sugg
tion which we shall try to develop som
what in these notes. It remains to
seen, after a twelvemonth or so h
elapsed, whether our intentions shall
expressed in the perspective view th
will then be obtained.

"We are happy to think (and we do n
believe that we are mistaken in this) th
no moment could have been more app


HOLABIRD & ROCHE ARCHITECTS
A · STADIVM · FOR · THE · SOVTH · PARK · COMMISSION
ARCHITECTS

SOUTH PARK STADIUM, CHICAGO, U.S.A. HOLABIRD AND ROCHE, ARCHITECTS.
(From "Architecture.")



HOUSE IN NEW YORK. GUY LOWELL, ARCHITECT.

(*From "The Architectural Forum.*")

iate for our amplification into ARCHI-
CTURE. On all sides there are signs of a
vival, firstly, of the building industry—
e which bids fair to release the purse-
und activities of the immediate post-
r years—secondly, of public interest in
hitecture. Of the latter we shall have
re to say; the first has been long
aited by architects and builders, whose
ced inactivity during the past few
ars has been one of the most deplorable
mptoms of the economical embarrass-
nt into which the war has led us."

Mr. Robert Atkinson contributes a
per read as an address to the com-
titors in the Society's Victory Scholar-
p Competition in October, with the
le "The Olympic Stadium," and by the
urtesy of the editor we are able to
roduce the bird's-eye view and section
the South Park Stadium, Chicago;
which structure the writer says: "It
probably a great improvement on the
lier ones, has the long side divided
such a way as to bunch the bulk
the seating accommodation near
semi-circular end, the rest of the
gth of the sides being simply filled in
th temporary seating which can be
noved. In such a scheme the stadium
be modified to accommodate 50,000 or 100,000 people with very little difficulty, and the semi-circular end used as an open-air theatre. Here they get the greatest number of people within view of the wrestling and the more intimate games. Of course, the tail end of the longer running races finishes just in front of the semi-circular end."

Mr. A. R. Powys devotes his monthly article on architecture in THE LONDON MERCURY to recent architecture in Cambridge, reviewing Downing College (designed by Wilkins and built in 1807), Mr. F. W. Troup's Low Temperature Laboratory, the School of Parasitology, by Mr. Harry Redfern, the new Bio-Chemistry School, by Mr. Edwin Cooper (now under construction), the work of Mr. Leonard Stokes at Emanuel College, and Mr. T. H. Lyon's recent building, the Chapel of Sidney Sussex College.

Members of the London Society have paid a visit to the New London County Hall, and a record of their journeyings appears in the current issue of the Society's Journal. The recorder expresses the belief that now that this great improvement to the right bank of the river has been opened, the day is not so very far distant when the whole length of the river shore, at least between Westminster and Southwark, will have been reclaimed, and Londoners will have the opportunity of appreciating afresh the magnificent sweep of the Embankment upon the other side.

THE CONNOISSEUR publishes some views on the exterior and interior of the "Red Lodge," Bristol, together with a brief account of its history and its present days. The engravings of George Cuitt also form the subject of an illustrated article.

HET HUIS, OUD & NIEUW is entirely occupied with designs for the replanning of certain districts of the Hague. Many excellent perspective views are included, and Mr. Ed. Cuypers supplies descriptive letterpress.

The R.I.B.A. Overseas Examinations

The Examinations have been held in the following centres overseas: Cape Town, Melbourne, and Sydney.

Cape Town.

Of the five candidates who were admitted to the Special War Examination, four passed and one was relegated. The successful candidates are as follows: Hart, Edward G., Cape Town; Milligan, Thomas W., Cape Town; Stocks, Clifford W., East London, South Africa; Tait, Alfred A., Grahamstown.

The following candidate passed the Special Overseas Examination: Wilson, John G., Pretoria.

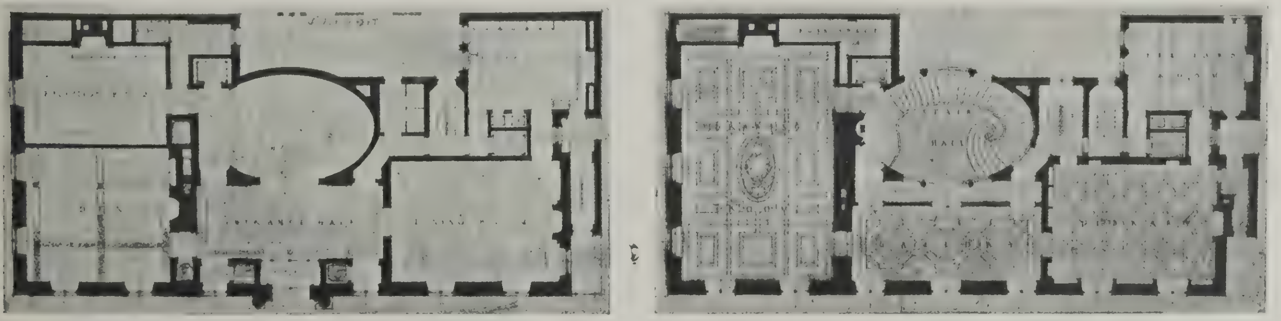
Melbourne.

Of the nine candidates who were admitted to the Special War Examination, five passed and four were relegated. The successful candidates are as follows: Eales, William H., St. Kilda; Finlayson, M., Heidelburg, Victoria; Henderson, William A., Melbourne; Martin, Marcus W., Melbourne; Williams, Percy S., Melbourne.

Sydney.

Of the eleven candidates who were admitted to the Special War Examination three passed and eight were relegated. The successful candidates are as follows: Mills, John C., Sydney; Phillips, Herbert E., Hastings, Hawkes Bay; Phillips, Lionel, Burwood.

One candidate sat for, and was relegated in, the Special Overseas Examination. The following candidate passed the Intermediate Examination: Hodgson, Frank L., North Sydney, N.S.W.



HOUSE IN NEW YORK: GROUND AND FIRST-FLOOR PLANS. GUY LOWELL, ARCHITECT.

(*From "The Architectural Forum.*")

Law Reports

Driving of Piles. Action against Builders

Hoare & Co., Ltd., v. *Sir Robt. McAlpine and Sons.*

Nov. 21. Chancery Division.
Before Mr. Justice Astbury.

This was an action by Messrs. Hoare & Co., Ltd., brewers, and the licensees of the Steam Packet Hotel, Lower Thames Street, E.C., and Mr. F. T. Jarvis, their tenant, against Sir Robt. McAlpine and Sons, contractors, for an injunction to restrain them from carrying out works on the site of a proposed new building to be called Adelaide House, so as to cause damage by subsidence, or vibration, or loss of support to the plaintiffs' premises. Plaintiffs also claimed for damages, which they alleged were caused by the driving of piles for the construction of the new buildings.

Mr. Tomlin, K.C., and Mr. J. F. Carr appeared for the plaintiffs, and Mr. Upjohn, K.C., Mr. C. W. Farwell, and Mr. T. Mathew represented the defendants.

The facts of the case were as follows: The Steam Packet Hotel is about 20 ft. below the level of King William Street and Adelaide Place. The defendants are constructing a large building on the south side of Lower Thames Street, on an area formerly occupied partly by the Pearl Insurance Company and partly by the wharf from which the Belle steamers formerly started. It was in the excavation of this site that the arch of Old London Bridge was discovered, about which there has lately been much discussion. It is intended that the new buildings shall attain the height of 120 ft., the highest buildings in the City except St. Paul's, and they will be 100 ft. above the level of Adelaide Place, where they will face Fishmongers' Hall. The site is on the London clay, over which there is a depth of about 16 ft. of made ground. In order that the building may be safe, it is necessary to drive a large number of piles through the made ground into the London clay, and the building will then be constructed on what is called a "raft" of concrete on the top of the piles. These piles are more than a foot square, and vary in length from 24 ft. to 38 ft. It was stated that 671 piles have already been driven, and a very large further number have yet to be driven. They are driven either by what is called a "monkey," which drops a weight of about two and a half tons from a height of more than 5 ft. four times a minute, or by a steam hammer delivering 140 blows a minute.

It was stated that the London clay has a resistance like rubber, so that a pile, when driven, recoils somewhat from the depth to which it is originally driven, and in the later stages is only driven in one-fifth of an inch by each blow. It was also stated that when a certain depth is reached the clay acts like a fluid in transmitting vibration.

The plaintiffs' hotel is situate about 40 ft. from the nearest pile, and formerly consisted of four stories above the ground floor. The defendants began work about the middle of November, 1920, and the plaintiffs allege that the driving of piles, by vibration or otherwise, produced such an effect on the building that on June 30, 1921, the City Corporation served on the owner or occupier of the building a notice that the building was in a dangerous state, and requiring it to be made secure. The plaintiffs caused the building to be shored up, but on January 16, 1922, a notice was served that the house should be pulled down to the first floor, and on January 25 a summons was issued by the Corporation, upon which an order was duly made on January 31 for this to be done. The house has since been pulled down except the ground floor, which the plaintiffs have been allowed to retain for the sale of beer and other liquors. It was stated that the house was about a hundred years old, but the plaintiffs alleged that it had recently been thoroughly repaired and was in a stable and good condition. The plaintiffs' lease has about ten years to run, the ground landlords being the Fishmongers' Company, who require the plaintiffs to take any necessary action, relying upon the covenants in their lease.

The plaintiffs began their action on November 23, 1921, before the order for the demolition of the house was made. It was stated that the houses on each side of the plaintiffs' building had already been set back to widen Lower Thames Street, and that, as more than half the cubic contents of the building had gone, any building erected hereafter on the site would be a "new building," and must be set back accordingly, so that there would only be an area about 8 ft. or 9 ft. deep available for the building.

His lordship in the course of a reserved judgment said that he had to consider a question of fact and a question of law. The question of fact was whether the damage to the house was caused by vibration arising from the driving of piles by the defendants, and the question of law was whether, assuming this fact was proved, the condition of the house was such that the defendants were not responsible for the damage so caused. On the evidence given on behalf of the plaintiffs the question of fact seemed to be proved in their favour. It appeared that in 1919 certain repairs were done to the house to the satisfaction of the district surveyor, who gave evidence that the house was then in a stable condition. It was proved that the defects in the house did not appear until after the pile driving had begun. The general evidence on behalf of the defendants did not upset that evidence. He was of opinion that the vibration from the pile driving had caused the damage, in consequence of which the order for demolition was made.

The question of law remained to be considered. The defendants contended that their action was lawful and that the damage arose in consequence of the weak and unstable condition of the house. The plaintiffs contended that they had a right of action. Here the house in 1920 was not a delicate instrument which would be easily damaged by a justifiable action, as suggested by the defendants. It was old and built in an old fashion, but on proper lines, and had been repaired in 1919 to the satisfaction of the district surveyor. There was no justification for its being shaken down in its declining ag by an adventurous and powerful neigh bour.

It was an alarming proposition that o should have to consider such a questio as: When did an old building lose i right to protection? There was no pla now for an injunction, but the plaintif were entitled to a declaration that the were entitled to damages, and the amou of those damages would be referred to t Senior Official Referee, but the inqui would be deferred for four weeks whi the defendants considered the question an appeal. He ordered defendants t pay the plaintiffs' costs of the action.

Breach of Covenant Action against a Valuer

Clifford v. *German.*

Nov. 15. Chancery Division.
Before Mr. Justice Romer.

This was an action by Mr. R. S. Cliffor of Loughborough, against Mr. F. W. Germa a valuer of Leicester, claiming damage for alleged breaches of covenants con tained in an indenture of October 2 1920, under which plaintiff purchased residence, cottage, and ten acres of lan at Charnwood, in the parish of Nanpanto Leicestershire.

Mr. J. G. Hurst, K.C., for the plainti said his claim was in respect of a failu to give vacant possession of the cotta and failure to maintain and repair t property. In 1909 the defendant b came tenant of the property, which w on the borders of the Charnwood Fores at a rent of £87 a year. It formed pa of the Curzon-Herrick estate, and 1920 the trustees put it up for sale public auction. The defendant purchas it for £1,750 and two days later sold it persons named Mounteney and Shephe for £3,000—a clear profit of £1,25 Mounteney and Shepherd sold a part the property to the plaintiff for £3,000 the residence, cottage, and the bulk the land—under the same covenan as to vacant possession and repair as the had from the defendant. The importa question was the cottage, which w absolutely essential to the enjoyment the property. The plaintiff was Alderman of the Loughborough To Council and a member of the Leicest shire County Council, and had frequent to attend meetings late at night. T property was about two miles from railway station and it was necessa to have a man residing in the cotta to cultivate the gardens. After t plaintiff purchased he found that t cottage was let to a man not in t defendant's employ.

Mr. Clifford, giving evidence, said t property was useless to him witho possession of the cottage. He ha endeavoured to sell it, but nobody wou buy because they could not get occup tion of the cottage.

Mr. German, who appeared in perso said that Mounteney and Shepherd kne the cottage was inhabited by a ma not employed by him. He had tried, get rid of him, but there was no alte native accommodation in the distri or even at Loughborough.

is lordship gave judgment for plain- Defendant had unwisely agreed to vacant possession, regardless of the that he was not in a position to so. He ordered an inquiry as to ages, and also with reference to the ch of covenant to maintain and ir.

Correspondence

n Praise of Terra-Cotta"

To the Editors of THE ARCHITECTS' JOURNAL.

RS,—I read the article in your issue ovember 22, having the above title, ng to find a little critical information . The chorus of praise lifted to this erial in English and American periols—a kind of strophe and anti-strophe ss the Atlantic—requires also some ation of facts if it is to carry weight. In lon, for instance, few would deny that eign of terra-cotta can best be studied ussell Square. And the writer of the le says that the material in question ore durable than stonework. May I then for some information as to why e beginning of this year parts of the le of the Russell Hotel had to be wed? The building is not unduly sed, nor is it of antique date.

HOPE BAGENAL.

e Future of Architecture

To the Editors of THE ARCHITECTS' JOURNAL.

RS,—I heartily endorse the suggestion ained in your last issue, by Mr. ur Welford, on "Architects and sing." In it is wrapped up the larger of the future of English architecture neral. The book by Abraham Swan, , served its purpose in the way of aganda; the architect benefited (to t extent we do not know), but more rtant still the public learned what pect and look for in good building. this aspect which is so vital at the nt day. We should realize more and the necessity for a sound English tion for the education of the future itect—a tradition true to type, freed the trammels of extraneous con- ion properly systematized, all the n facts gathered together, expressing thoughts in the right vernacular and ge we live in. Settle once for all the e of styles, and taboo outside in- ces.

ny of us are groping in the dark; we a lead. Inigo Jones and Sir Chris- er Wren founded what we might well national school. What better lead we have than their example, and e man who left the greatest name ny English architect, what better orial could we raise. to one whose ntenary we are about to celebrate the carrying on of the Wren tra- n?

e Englishman's privilege is to possess om of speech; perhaps this accounts e freedom of our work at the present We express ourselves in all lan- s, hence discord; far be it from us to originality and the spirit of adven- but let it be the right sort and n limits carefully laid down. Per- the greatest power in education is onment; with beautiful things always before us we should naturally be led to beautiful thoughts. By example your journal has done yeoman service in the past; it is up to all the professional journals, lay press, the R.I.B.A., and the allied provincial societies to inculcate this knowledge by ever bringing before us the essence of those works which posterity has handed down, and which collectively go to make English architecture a living force.

JAMES A. SWAN.

P.S.—The name of Abraham Swan is of particular interest. I may, perhaps, claim a relationship—my grandfather, Aaron Swan, born 1794, was articled to the City of London architect (? name). A case of name and tradition being handed down.

The Whitgift Hospital

(*Communicated*)

Among the buildings of historic and artistic interest possessed by Croydon one of the most notable is the Whitgift Hospital, which occupies a prominent position in North End—the main street of the town. Queen Elizabeth, during her reign, appears to have paid several visits to Archbishop Whitgift, whose palace was situated in Croydon; and what is now known as Whitgift Hospital was built by that ecclesiastic towards the end of his life for the benefit of poor and aged people of Lambeth and the town. The date of its construction is 1599. The buildings are two stories high, and occupy the four sides of a quadrangle. They include quarters for fifty people, a chapel, great hall, and other interesting features. While it has been somewhat tampered with in restorations that have taken place from time to time, it remains a generally complete example of an Elizabethan building, very expressive of its purpose and of considerable charm. The value to Croydon of having a building of such interest and beauty as this is—situated in a prominent position in the town and drawing the attention of countless people to the historic importance of Croydon and its part in the life of the Elizabethan period—is very considerable, and there can be no question that such a building has a distinctive value extending far beyond the limits of the town in which it is situated.

It appears that for a long time a section of townsmen (as represented by certain of its borough councillors) has desired the sweeping away or at least the partial demolition of Whitgift Hospital. Presumably some financial or other material advantage is expected to result from such a change. So strong, anyway, has been the desire that there has been a deliberate setting back of relatively new buildings in George Street, adjacent to the Hospital, in order to make it appear that the old building was an obstruction projecting beyond the general line of the road. A similar position has been deliberately created in recent years on the return front in North End, where, instead of the line of Whitgift Hospital being adopted as the new improvement line for frontages of the adjacent reconstructed premises, their main wall has been set back several feet, with the obvious desire to bring about a similar situation in North End to that which now obtains in George Street. There does not seem the slightest excuse for the action so taken, except as a means of creating a situation that might assist the desire of those who wish the Hospital to be destroyed, for it is clear that the sweeping away of Whitgift Hospital is not in any way necessary to effect the road improvements that the circumstances require.

During the last twenty or twenty-five years there has fortunately existed in Croydon a very active and enlightened Whitgift Preservation Committee who have vigorously opposed interference with the old buildings, and who between the years 1909 and 1912, successfully set aside the Croydon Council's destruction scheme and, with the valuable assistance of the Local Government Board, which showed very splendid public spirit in the matter—induced the Council to adopt the Defence Committee's scheme, i.e., for the setting back of the "bulge" in the line of road that occurs on the western side of North End, opposite the Hospital, together with other frontage improvements calculated to effectively assist traffic difficulties, and which, apart from its obvious merits as a road improvement scheme, avoided interference with the Whitgift building. On the basis of this scheme, formally adopted by the Croydon Council in 1912, and approved by the then Local Government Board, grants of money have been made, and it would naturally be assumed that the Council were in honour bound to carry it into execution as opportunities presented themselves. Recently, however, there have been indications of a deliberate attempt to set the approved scheme aside and to revert to the old purpose of lopping off the Hospital in order to spare modern buildings, devoid of any interest at all, that exist west of it on the opposite side of the road. It is known, in fact, that the Croydon Council is promoting a Bill in Parliament to obtain powers for sweeping away the Whitgift building. Anything more short-sighted in the interests of what really matters in the town of Croydon, can hardly be imagined, and the action contemplated seems to be without a shadow of excuse. An inspection of the conditions on the site or of a plan of the road, makes it obvious to anyone competent to judge the situation that the scheme proposed by the Preservation Committee, and eventually adopted by the Croydon Council and approved by the Local Government Board in 1912, as already mentioned, represents from every point of view the obvious way of dealing with the traffic conditions in the part of the main road in question, and, moreover, assists the problem that arises from the restricted condition of Crown Hill—the branch road that enters the highway at this point.

On hearing of the course now proposed to be taken by the Croydon Council the Royal Institute of British Architects took immediate action, and on its initiative a conference has taken place on the question at which the whole situation was carefully reviewed by representatives of the Royal Institute, the Whitgift Hospital Preservation Committee, the Society for the Protection of Ancient Buildings, the Town-Planning Institute, the London Society, the Town-Planning Committee of the R.I.B.A., the National Trust, the London Survey Committee, and the Surrey Archæological Society. As a result all these bodies are not only agreed as to the local and national importance of preserving Whitgift Hospital as a valuable relic of Elizabethan architecture, but have decided to support the 1912 scheme as providing a practical and effective road improvement which meets traffic requirements without the necessity for any interference with the Hospital. They have resolved, moreover, to take further steps to emphasize the importance of this view in quarters where it may receive due weight, and hope that the very valuable principle of avoiding wherever possible interference with historic and beautiful buildings may be increasingly supported by public opinion.

The Wren Bicentenary Programme

A meeting of the Grand Committee for the Wren Bicentenary Celebrations met at the R.I.B.A. last Wednesday, the president, Mr. Paul Waterhouse, being in the chair.

Representatives of the following bodies have been elected to serve on the committee :—

Canon S. A. Alexander, M.A.	The Dean and Chapter of St. Paul's Cathedral.
Mr. Edgar Armitage ..	The Junior Art Workers' Guild.
Mr. Frederick Cavendish Bentinck.	The Trustees of the British Museum.
Major-General Wilkinson Dent Bird, C.B., C.M.G., D.S.O.	The Royal Hospital, Chelsea.
Mr. F. G. Dawtrey Drewitt, M.D., F.R.C.P.	The Royal College of Physicians.
Sir Lionel Earle, K.C.B., K.C.V.O., C.M.G., J.P.	H.M. Office of Works.
Sir Banister Fletcher, F.S.I.	The Carpenters' Company.
Mr. H. Denston Funnell ..	The Architects' and Surveyors' Assistants' Professional Union.
Mr. John Good, D.L., J.P., F.I.O.B.	The National Federation of Building Trade Employers of Gt. Britain and Ireland.
Mr. Arthur Gray, M.A., Master of Jesus College.	The University of Cambridge.
Mr. Josiah Gunton (Chief Commoner).	The Corporation of London.
Sir William Hale-White, K.C.B., M.D.	The Royal Society of Medicine.
Mr. Stanley Hamp ..	The Architectural Association.
Professor Selwyn Image ..	The Church Crafts League.
Sir Thomas Graham Jackson, R.A.	Wadham College, Oxford.
Mr. H. V. Lanchester ..	The Town Planning Institute.
Professor W. R. Lethaby	The Society for the Protection of Ancient Buildings.
Mr. J. Mewburn Levien ..	The Royal Philharmonic Society.
Dr. Ellis H. Minns ..	Pembroke College, Cambridge.
Mr. John Murrey	The National Federation of Building Trades Operatives (London District Council).
Mr. E. J. Partridge, F.S.I.	The Society of Architects.
Dr. F. W. Pember, Warden, All Souls College.	The University of Oxford.
Mr. J. Wells, Warden, Wadham College.	The University of Oxford.
Sir Hercules Read ..	The Society of Antiquaries.
Maj. Richard Rigg, O.B.E., T.D., J.P.	The London and Middlesex Archæological Society.
Mr. W. E. Riley, R.B.A. ..	The Official Architects' Association.
Professor Sir Arthur Schuster, Ph.D., LL.D., D.Sc., Sc.D., F.R.S.	The University of London
Sir Cecil Harcourt Smith, C.V.O., Director, Victoria and Albert Museum.	The British Institute of Industrial Art.
Mr. J. C. Squire	The Architecture Club.
Mr. Lawrence E. Tanner	Westminster School.
Mr. Andrew T. Taylor, J.P. F.S.A.	The London County Council.
Mr. Carmichael Thomas ..	The London Society.
Dr. H. H. Turner, Savilian Professor of Astronomy, University of Oxford.	The Royal Society.
Mr. Lawrence A. Turner ..	The Art Workers' Guild.
Mr. F. J. Walton	The London Master Builders and Allied Industries Association.
Mr. Edward P. Warren, F.S.A.	The Civic Arts Association.
Sir Aston Webb, K.C.V.O., C.B., P.R.A.	The Royal Academy of Arts.
Mr. S. M. Young, F.S.I. ..	The Worshipful Company of Masons.

The following have also consented to serve on the Grand Committee :—

Professor Arthur R. Hinks, O.B.E., M.A., F.R.S.
Mr. Ernest Law, C.B.

The Executive Committee is as follows :

Walter Cave.
Sir Banister Fletcher.
H. M. Fletcher.
Walter H. Godfrey.
F. R. Hiorns.
Arthur Keen.
Mervyn Macartney.
S. C. Ramsey.
Arthur Stratton, F.S.A.
Walter Tapper.
W. H. Ward, F.S.A.
Paul Waterhouse, F.S.A.
Maurice E. Webb, D.S.O., M.C.

The Executive Committee submitted the following draft programme for the consideration of the Grand Committee, and this was, in the main, adopted :—

2 p.m.—Procession from the Mansion House to St. Paul's Cathedral, in which the Lord Mayor and Masters of City Companies will take part.

2.30 p.m.—Memorial Service in the Cathedral, visit to the crypt and the placing of a wreath on the tomb of Wren by the president R.I.B.A.

4 p.m.—Tea at the Guildhall.

6.45 p.m.—R.I.B.A. Council Dinner to which the members of the Grand Committee would be invited.

8.30 p.m.—General meeting of the R.I.B.A., with short papers by the president R.I.B.A., Sir Reginald Blomfield, R.A., and Mr. A. Clutton Brock on the subject of Sir Christopher Wren and his work.

Honorary corresponding members of the R.I.B.A. in foreign countries to be invited to this meeting, and the allied societies to be requested to hold similar commemoration functions at their own centres.

It was decided to combine the proposed Council Dinner with the Annual Dinner of the R.I.B.A., and to include Mr. Mervyn Macartney among the after-dinner speakers.

Various other proposals in connection with the bicentenary celebrations were discussed, among them an exhibition of Wren photographs, drawings, and models, visits to Wren's buildings, and a Wren fancy dress ball.

Messrs. Clay and Sons have offered to take the financial responsibility of publishing a commemorative volume in aid of St. Paul's Cathedral Fund, and the Architecture Club will assist the lay Press in the supply of articles and general information.

Mr. William Haywood on Paris

Mr. William Haywood, F.R.I.B.A., in another of his University Town Planning Lectures, said that during the eighteenth century Paris surpassed Rome in town planning progress, but the singularly complete plan to which she had now attained was largely the result of a wonderful series of unpremeditated sectional developments, adroitly linked together by Haussmann in the nineteenth century. Thus on the north bank of the Seine during the reign of Louis XIV the spacious bastions of the city walls were replaced by a great sweep of tree-lined avenues, afterwards known as the "Grandes Boulevards." The Tariff walls built in 1784, with their extra-mural avenues, became the "Boulevards Exterieurs"; the Champs Elysées, an exclusively royal parkway from the Tuileries to St. Germain, was converted to public use by Napoleon I; and the destruction of the Tuileries led to the opening up of a unique approach to the Louvre, upon which, with the Place de la Concord as pivot, the Madeleine and the new façade of the old Palais Bourbon (now
Chambres des Députés) gave a balan
architectural composition.

The task of linking up these and ot
disconnected units of the city plan
given by Napoleon III to Haussma
who displayed consummate ability
dealing with the many legal, techni
and financial problems involved.
continued the Rue de Rivoli from
Louvre to the Bastille, re-establish
the great cross-road from east to w
and by innumerable cuttings, juncti
and linking-up devices, brought the r
system of the city into coherence.

The inspiration for the new sense
unity in town planning, now appar
in the plan of Paris, was to be fo
primarily in the formal and ord
thought of the Renaissance, and this
factor in design was first exercised
freedom, in the landscape architect
of the period. It was in the acade
completeness of such gardens as thos
Versailles, Marly, and Hampton Co
that the corporate possibilities of t
planning was most easily seen,
although it could not be said that
lesson was fully applied within the pe
of the Renaissance, it was there that t
would find the origin of comprehen
town planning for great modern citie

Exhibition of Water Colours at Bethnal Gree

In 1885 Mr. Joshua Dixon, a succes
cotton merchant and a judicious colle
of pictures, bequeathed to the Beth
Green Museum the whole of the painti
in his house, Winslade Park, near Exe
for the benefit of the public of
London, where he was born in 1810.
of this bequest consisted of very caref
chosen water-colours by artists of
British school. As a part of the pro
of reorganization which the Beth
Green Museum is at present undergo
these water-colours have now been
arranged and are suitably exhibited
the Central Hall, where they are g
a prominence they thoroughly dese
They comprise notable works by som
the most eminent among the founder
the school, including fine examples
John Varley, John Glover, George Ba
jun., William Hunt, Turner, of Oxf
Peter de Wint, David Cox, and Co
Fielding. The middle period of the sc
is represented by such men as Bla
friend Samuel Palmer, F. O. Finch, L
Haghe, W. L. Leitch, and Birket Fos
while the collection is also rich in wa
colours by artists who were work
during the period at which Mr. D
was collecting. Among these we
instance the work of George W
Henry Brittan Willis, Robert Th
Waite, Alfred Powell, and Charles Da
son, who are represented by excel
drawings.

The public of East London has ne
been given a better opportunity of re
ing what a wealth of beauty has
produced by the water-colour artist
the British school. All who are intere
in art should visit the museum and
these drawings. It is to be noted
inducements to study have been
sidered in the new arrangements,
seats have been placed convenie
at intervals about the gallery so that
visitor can sit and enjoy the exhi

the same comfort one expects to e when reading a book.

he museum is open free from 10 a.m. p.m. on weekdays, and from 2.30 p.m. on Sundays.

Woman A.R.A. at last !

t the general assembly of Academi- s and Associates Sir Bertram Mac- nal, A.R.A., K.C.V.O., sculptor, was ted a Royal Academician, and Mr. rge Lambert, painter, and Mrs. Annie Swynnerton, painter, were elected ciates of the Royal Academy.

r Bertram Mackennal, who was ted K.C.V.O. after the unveiling of tatue of King Edward last year, is an ralian by birth—the first Australian ecome an A.R.A. and the first to have works purchased by the Chantrey uest. He designed the present coin- and the medal on which the King's rait on postage stamps was based. larger works include the War Me- al at Islington, statues of Queen Vic- for India, Australia, and Blackburn, National Memorial for Gainsborough, Memorial Tomb of King Edward VII t. George's Chapel, Windsor, memo- to his late Majesty in London, utta, Melbourne, and Adelaide, and Parliamentary war memorial un- d on Wednesday by the Prince of es. He was elected an A.R.A. in .

r Bertram Mackennal's promotion to honours was in the ordinary course of ts in view of his equestrian statue of Edward—for which he is not alto- er to be blamed, as he was not respon- for displaying Edward the Peace- er as a swaggering warrior, and a who did as little riding as he could, seated on a prancing horse—and the large part he has played in official statuary.

Mr. George W. Lambert is an Australian citizen, born in Petrograd, his father being an American and his mother an Englishwoman. He studied under Julian Rossi Ashton at Sydney, N.S.W., and, having won a travelling scholarship, worked for two years in Paris. During the war he acted as official artist to the Australian Forces in Egypt and Palestine.

The new woman Associate was born in Hulme, Manchester, in 1844, one of seven daughters of Mr. Robinson, a Manchester solicitor. When the family fell into adverse circumstances she and two sisters began to paint small water-colours for a livelihood. After a short term at the Manchester School of Art she went to Rome to study, and there met Mr. Joseph Swynnerton, the sculptor, whom she married in 1883. Until his death in 1910 they lived for the most part in Rome.

Recognition was long in coming to Mrs. Swynnerton, but for the last twenty years her work has been keenly sought by purchasers of insight. Mr. John Sargent recently bought and gave one of her most famous pictures, "The Oreads," to the nation. Her work "Mater Triumphalis" was presented by Rodin to the Luxembourg Gallery, and she is also represented in the Metropolitan Museum of New York. Her portraits include that of Henry James, presented to him by a group of admirers. Manchester, Oldham, and Liverpool all possess pictures by her.

Other of her pictures in public galleries are: "Dream of Italy" in the Metropolitan Museum, New York; "St. Martin's Summer," at Ottawa; "Sense of Sight," at Liverpool; "Portrait of Mr. Gaskell," at Manchester: "Cupid and Psyche," at Oldham; and "The Oreads," at the Tate, London.

SIR BERTRAM MACKENNAL, K.C.V.O., R.A.

Educating the Public— New Style

The education of the public has of late been a favourite topic in the architectural world. An exhibition of trade films given at the West End Cinema last week tempted one to covet an equally effective publicity for the profession.

If cinema audiences all over the country could be compelled to watch the intricate and entrancing processes of building construction, more, if they could see drawings taking shape beneath the draughtsman's fingers, could have ocular demonstration of the manifold, but little known activities of the architect, could have brought home to them in similar fashion the disastrous effects of dispensing with his services—but one trembles to think of the film possibilities of architecture!

The Cinema Publicity Service, Ltd., who were responsible for the exhibition, had got together an excellent collection of short "interest" films in which the powder of advertisement was cunningly concealed in the jam of the silent drama. A few of them, indeed, relied solely on the fascination of machinery for the necessary thrill, and in this respect the Anglo-American Oil film stood supreme. In the various boring processes illustrated, suspense is followed by the glow of achievement, later come the mechanical marvels by which the processes of refining, packing, and dispatch are carried out.

Fiat and Morris motors have also a tale to tell, and one would like every contractor and every workman to see the excellent "Safety First" parable which concluded the entertainment.

Coming Events

Thursday, November 30.

Birmingham Town Planning Lecture.—"Modern Town Growth; Vital Conditions; the Garden City." By William Haywood, F.R.I.B.A. 5.30 p.m.

Friday, December 1.

R.I.B.A.—Opening and Private View of the Exhibition of Contemporary British Architecture. 2.30. p.m.

Royal Technical College Architectural Craftsmen's Society, Glasgow.—"The Value of Geometry to the Architectural Craftsman." By T. Brown, F.S.A. (Scot.).

Institution of Mechanical Engineers.—Thomas Hawksley Lecture: "Some Recent Researches on Lubrication." By Dr. T. E. Stanton, C.B.E., F.R.S.

The Art Workers Guild.—"Timepieces and Clocks."

Tuesday, December 5.

Conversazione. Architectural Association. 8 p.m.

Liverpool Architectural Society.—Paper by S. E. Mahon (Winner of the Hanan Scholarship).

Institute of Heating and Ventilating Engineers, Birmingham.—"Ozone in Ventilation." By Chas. G. Huntley.

"St. Paul's and its Builder." Lecture by Canon Alexander at St. Dunstans'-in-the-Fields. 1.10 p.m.

The Week's News

Proposed Tenements for Paisley.

Paisley Housing Committee are applying to the Scottish Board of Health for authority to erect tenements.

A Discovery of Terra-cotta Clay.

Banks of first quality terra-cotta clay covering 200 acres and nearly 100 ft. deep, have been found in the Benderloch district of Argyll.

Change of Address.

Mr. George W. Martin, M.I.Mech.E., M.I.H.V.E., M.J.I.E., consulting engineer, has moved to Sentinel House, Southampton Row, London, W.C.1.

The Royal Sanitary Institute.

The next Congress of the Royal Sanitary Institute will be held at Hull from July 30 to August 4, 1923, by invitation of the Mayor and Town Council.

Alterations to Taymouth Castle.

Mr. Andrew Balfour, F.R.I.B.A., of Glasgow, is the architect for the extensive alterations at Taymouth Castle, Perthshire, which was bought to transform into a modern hydropathic.

Bournemouth War Memorial.

Bournemouth's War Memorial has been unveiled by the Lord Lieutenant of Hampshire. Mr. A. E. Shervey, L.R.I.B.A., the deputy borough architect, acted as honorary architect.

Housing at Oswestry.

The Ministry of Health have refused to approve tenders for twenty-five houses at Oswestry at £405 each. Instead they suggested smaller houses. Oswestry Town Council have refused to reduce the size of the houses.

Orphans' Homes for Brighouse.

The Managers of the Smith Orphan Homes at Boothroyd, Brighouse, have adopted a scheme for the erection of additional homes. The plans have been prepared by Mr. R. F. Rogerson, of Brighouse, Yorkshire, architect.

Proposed Cinema for Bentley.

It is proposed to form a private company at Bentley, near Doncaster, to build a cinema in Askern Road. The cinema would accommodate approximately 800 people, and have several shops at the front.

Housing at Mexborough.

The Urban District Council propose to erect further houses on their housing site at Mexborough. Plans have been prepared by Mr. D. W. Harrop, of Genoa Street, Mexborough, architect, for a further thirty-two houses.

A "Skyscraper" Cathedral.

The corner-stone has just been laid in Chicago of the First Methodist Episcopal Church—the world's first skyscraper cathedral. The building, which is situated in the heart of the busy "Loop," will be more than twenty-one stories high, when completed early next year.

Return of Sir Edwin Lutyens, R.A.

Sir Edwin Lutyens, who since September has been busy at Delhi, for the rebuilding of which he has made many notable designs, will be back in England early in the New Year. He hopes to sail from Bombay on December 30.

Housing near Doncaster.

Messrs. Barber, Walker & Co., the proprietors of the new colliery at Harworth, near Bawtry, Yorks, have prepared plans for a new village containing 1,300 houses. It is also proposed to erect a club and institute and a church, and to provide a recreation ground.

Wakefield Building Developments.

A residential building estate is being developed in Secker Lane, near the small farming village of Woolley, which lies between Barnsley and Wakefield. Mr. J. R. Wilkinson, of Regent Street, Barnsley, architect, is preparing plans for the first residence, with garage, etc., complete.

Hastings Electricity Works Extension.

The Mayor of Hastings recently opened the extension to the Corporation Electricity Works. The whole of the constructional steelwork and fire-resisting flooring on the "Mon'lithcrete" system was supplied and fixed by the Fawcett Construction Co., Ltd., of Westminster.

New Buildings for Glasgow.

Plans passed for new buildings in Glasgow include a factory for the Distiller's Company at Pinkston, garages and workshops, church additions, a hall, and cottages. One of the garages for the Scottish Co-operative Wholesale Society will accommodate 180 three-ton lorries, and 25 light motor-cars.

Hospital Extensions at Mexborough.

The General Committee of the Montagu Hospital at Mexborough, near Rotherham, are considering an extension scheme. The scheme is estimated to cost £18,000, and provides for increasing the number of beds from 40 to 96, two more private wards, and for extensions to the administrative block.

R.I.B.A. Member's Decease.

Among the deceases of members announced at the meeting of the R.I.B.A. last week was His Highness the Maharajah of Jaipur, elected Hon. Fellow 1891. The Maharajah was the donor to the Institute library of the "Jeypore Portfolio of Architectural Details," consisting of six folio volumes prepared by the late Colonel Sir S. S. Jacob, C.I.E., under the Maharajah's patronage.

Interesting Durham Discovery.

Workmen engaged by the Ecclesiastical Commissioners to repair some dilapidations in the west wall of the chapel found the floriated capital of an arch deeply embedded in plaster. When the whole of the plaster had been removed a perfect specimen of some arcading of the twelfth century was revealed. Several arches which have been exposed to view are to be left uncovered.

Architects' Fees for State-aided Housing Schemes.

The Ministry of Health and the tribunal appointed by the R.I.B.A. are anxious to obtain a settlement of all claims for architects' fees in connection with State-aided Housing Schemes without further delay. Architects who still desire the assistance of the tribunal are therefore requested to apply to the secretary of the R.I.B.A. on or before December 31, 1922. The tribunal cannot undertake to deal with cases submitted to them after this date.

Wooden Buildings Vetoed in Southp

Referring to the recommendation fr
the Ministry of Health that the Corpo
tion should amend its by-laws in or
to make provision for the erection
wooden buildings in Southport, it
stated that the Committee did not w
to have wooden buildings in Southpo
"They were not sightly and were not w
they should be, and were certainly
in keeping with the beauty of the to
which they desired to maintain." Anot
objection was the danger of fire.

Housing in Scotland.

The Scottish Board of Health ha
refused to sanction the erection of t
apartment houses. The Board's re
to Dumbarton County Council Hous
Committee was that they could
allow any houses to be built with St
assistance under three apartments.
houses suggested were two apartmen
with scullery, bathroom, and w.c.
similar reply was sent by the Board t
Committee of Ayrshire County Coun
The districts in which it was propo
to erect the houses are Kilbirnie, a
Dreghorn, Ayrshire.

L.C.C. Hall Acoustics.

Professor A. M. Low, the authority
sound, has made experiments to asc
tain the cause of the bad acous
of the council chamber of the new Lond
County Council Hall, Westminster Bri
(built at a cost of £4,000,000), where
audience do not hear speakers distinct
The remedy he has suggested is that hea
curtains should be hung round the dom
roof of the hall, which will prevent rev
beration. Professor Low points out t
the architect, Mr. Ralph Knott,
arranged for curtains to be hung, but
L.C.C. objected to these.

Heywood Housing Scheme Dropped

Owing to disagreement as to the typ
house to be built between the Heyw
Housing Committee and the Ministry
Health, it has been decided to wind
the housing scheme. Some thousands
pounds have been spent on the site
Darley Hall, in forming the streets, ar
tects' fees, &c., and the liability for
payment of this money is to be a mat
of arrangement between the Commit
and the Ministry. Not a single house
been built under the Government sche
at Heywood. The house which
Ministry recommended was estimated
cost £360, and the local Committee wo
not accept it.

Ideal Stores.

At a meeting of directors and oth
interested in the provision of higher
more beautiful store buildings for Lond
considerable attention was given to
aspect of safety in case of fire. The me
ing was called by the Incorporated As
ciation of Retail Distributors, which
in its membership all the large Lon
and provincial departmental stores.
was unanimously decided to appoint
Ralph Millbourn, managing director
Messrs. John Barker & Co. (Ltd.), K
sington, as chairman of a special c
mittee which will meet each week to
cuss store building and fire insura
matters.

The Greek Point of View

HE second of a series of lectures on Architecture, arranged by the Oxfordshire Society of Architects, been given in the Ashmolean Museum, ord. Mr. R. P. Jones, M.A., the lec- er, took for his subject "The Greek nt of View." Professor Percy Gardner sided.

Ir. Jones, in the course of his lecture, that Greek architecture comprises most perfect that has ever been luced. There are two qualities which e to be considered in studying its elopment. Firstly, that its ornament ssential to its construction; secondly, pture as applied to the architectural ns, is complete and distinct from n.

here are not more than about a en Greek temples existing in anything a fragmentary state. There is one d which fitly describes Greek work, that is "lucidity." It is simple and ct, and, obviously, has a timbered otype. The form and position of triglyphs are sufficient evidence, indicate this beyond doubt. Greek ples always exist in a brilliant atmo- ere. The matter of lighting, although bject for a great deal of conjecture, ne which was probably considered of ll importance by the Greeks. The ing of their temples lessened as one oached the inner sanctuary. (In y to a question, Mr. Jones explained the roof was usually covered with tiles of thin marble laid interlocking, through which a certain amount of light filtered.)

The method of building was from the outside inwards. This was entirely reversed in later ages. The basis of their design was the column with its entablature. Size made no difference, for smaller proportions were used in all buildings whatever their actual dimensions. There was a purpose in the flutes to the columns. The strong sunlight on plain columns gave a very definite line between the light and shady portions of the column, and this might have been thought to have detracted from the æsthetic value. Now, the flutes transferred a quantity of light to the shadow and a quantity of shade to the light surfaces. The point was clearly illustrated by lantern slides.

Greek architecture was trabeated. There were no arches giving thrusts, and it was in fact exemplary of the policy of our present Government in its "tranquillity, quietness and sedateness." That being so, there was no need for cementing material, and the various stones and features were built one upon the other with dry joints. After the burning of Athens by the Persians, it fell to the lot of Pericles to produce the great works which formed so important a standard in the chronology of architecture. Photographs of the Acropolis with its Parthenon, Erectheum, Propylea, Temple of Nikeapteros, etc., were shown, from which it was clear that the exterior of a Greek building did not express the arrangement of its interior.

Carefully taken photographs showed the slope of the columns, the horizontal curvature, etc., as examples of mathematical refinement. Excellent photographs of the Theseum, the Temple at Paestum, the Choragic Monument of Lysicrates, the Temple of the Winds, the Temple of Concord, etc., concluded a very interesting and informative lecture.

In his remarks Professor Gardner thanked Mr. Jones for his lecture, and informed the audience that the building in which they were was designed by Cockerell on the model of architecture shown in these Grecian temples, excepting the fact that the back portions had been neglected architecturally.

The Secretary of the Society, Mr. Thomas Rayson, in proposing a vote of thanks to the chairman and lecturer, was struck by the emphasis placed on a point made by Mr. Warren in his inaugural lecture: the fundamental importance of construction in fine architecture. Referring to Penrose as a mathematical archæologist, the audience were recommended to examine the steps at the west end of Saint Paul's Cathedral, London, for their horizontal curvature. He would have liked to have seen photographs of the Bassae Temple, on the study of which Cockerell based his design of the Ashmolean.

The Art of the Garden

By WILLIAM PAGE

is widely recognized to-day in England that the architect who de- igns the house should also lay out garden, or at any rate it should be out by someone in close co-operation sympathy with the architect. Un- nately it is difficult to convince ners that their gardens are not all ought to be and might be. The or science of gardening is very y practised; thousands have an sive knowledge of it, and are in ssion of multitudinous facts as to to produce fine blooms and large nens of all the various vegetables. have seized with avidity the details, emain in ignorance of the general iples.

untrained eye is seldom capable of that there are serious principles ved, and we are faced with the same em which so often confronts us we are designing a house, viz., to e our client to relinquish some hed details for the design as a .

will readily be conceded that every n must be specially designed for the which it encloses, according to its nd character, and that it should be ed to the nature of the site. Many rities place as the very first require- of the garden design—the strict of the house and garden, in all s. All the divisions of the garden ts special features must be con- l along with the plan of the house itself. The arrangement should be direct and simple. The garden, unless it be a very tiny plot, should not all be seen at a glance. Its beauties should be revealed by degrees, but the effort to do so should not be forced or apparent. The garden should hold surprises. Each part of the garden should have its own special purpose and meaning, and be so treated and adorned as to make it as interesting and useful as possible. All natural features should be taken advantage of to their fullest extent in the design; all its peculiar qualities and those of its surroundings should be turned to account. The levels, water, and trees all studied and made to invest the garden with its own particular charm and individuality.

The garden and its various divisions should be enclosed by good boundaries of stone or brick walls, hedges, or, at the least, well-designed trellis fences covered with growing things. By no other means can you achieve *the* most desirable and necessary qualities in a garden, viz., the feeling of mystery, seclusion, and shelter. It is interesting to note that the original meaning of the word "garden" in almost every language means "guarded, retired, secluded, a still removed place, separate, shut off, hidden from the day's garish eye, sacred to tranquillity, retirement and repose."

"The garden is a sort of sanctuary, a chamber roofed by Heaven," says an old author. "Wherever intrusion is possible and any movement from the outside world is heard, we have no garden in the fullest, sweetest sense of the word."

The stretches of lawn, pleasure gardens, the terraces, and green walks should, as far as possible, be rectilinear in plan; the paths should be straight. The planting should be in simple masses. Single trees and shrubs to be retained should be incorporated in the plan and connected up to the boundaries so as to appear intentional in the general scheme.

In designing the boundaries and enclosures and in the planting, any unlovely prospect will be shut out, all desirable views framed and focused and so enhanced.

Anything in the nature of display should be avoided in the garden. It may be said that the making of a garden in several divisions robs it of one very desirable quality, viz., the effect of distance. But a large open tract of garden does not necessarily give that effect. It is purely a matter of planning, and a long vista may be achieved in even a small garden. A large tract of formal garden seems barren and wearisome unless nature has been lavish in her gifts. Plants and flowers are seen to greater advantage if they are set in a comparatively small enclosure or placed in a border running the length of a wall or hedge. The growth and beauty will be more luxuriant when the flowers are concentrated, framed, and given a proper background.

The entrance should as far as possible be screened and shut off from the gardens.

and should be given its own individual treatment with good lines and, perhaps a few well-placed trees, rather than attempt to combine it with the gardens themselves.

The relationship of the house and garden have to be looked at from two points of view: first, the garden as seen from the house; and second, the house as approached from the garden. The house should be an effective background and, as viewed from the garden, considered as an integral part of the design, the whole being in unity, scale, and harmony.

The terrace should be made of such a length as will correspond with the width of the lawn or garden, and the house should be extended on either side by means of garden architecture. Pavilions or garden houses may be built at each end and connected to the house by walls, a series of piers, or a pergola. So the house is made to spread itself across the ground and perform its proper function in regard to the garden upon which it looks, and it is rid of any feeling of the isolation which divides it from its surroundings.

Easy and pleasant means of access to the garden from the house must be provided, and the windows of the principal rooms each provided with a view of a pleasant arrangement of garden design.

It has been said that if a man wants to know what a fool he is, let him go and lay out a garden, and certainly a successful garden cannot be conceived in vanity. The task must be approached with all humility, and the materials which nature has provided must be handled and fashioned in a spirit from which all vanity has been utterly banished. He is not greatest who presumptuously tries to shatter tradition, but he who humbly takes what other men have done and makes it more perfect.

The lawn should not be broken up with flower beds. These disturb the restfulness of the lawn, and add needlessly to the labour of the garden.

The flowers should be confined to long borders against a hedge or wall and to the enclosures specially designed for them.

The lawn, too, should be enclosed or, if it is desired to preserve a view from it, then the boundaries should be defined, otherwise much of its beauty is lost and the whole effect is depreciated. Grass banks should be avoided if at all possible. They effect a saving on first cost, but are difficult to maintain in good order, and very apt to become parched and bare in summer. Where there is a change of level it is much better to build a retaining wall, and, indeed, in all structural work the materials and method of building must be suitable and sympathetically treated. A nice choice between undue formality and decorativeness on the one hand, and untidy rusticity—so often mistaken for Art—on the other, will be made by the cultured designer. The work should not be so immaculate and devoid of texture interest as to repel the kindly touch of nature, nor so rough and unkept as to suggest that it is not part of a deliberate, orderly piece of design.

It is impossible to touch on all the features of a garden in this article. Almost any one aspect of garden design and garden feature might be made the subject of an article. The vegetable garden, for instance, may be made the most delightful place imaginable.

The foregoing extracts are from a paper read before the New Zealand Institute of Architects.

The Economy of Smoke Abatement

Ex-Bailie William B. Smith, of Glasgow, a member of the Departmental Committee on Smoke Abatement, in reading a paper before the Royal Society of Arts on the above subject, said that at various times many citizens had agitated for the removal of the smoke nuisance, but it was only within quite recent times that some serious effort had been made to improve matters. Formerly, those who caused the emission of smoke, whether manufacturers or householders, either maintained that it was impossible to prevent smoke or that, though it might be possible in theory, in practice it was so costly that it was not practicable to stop it. Manufacturers said that if they were interfered with by any regulations to prevent smoke they would have to close their works, or go to some place where the regulations were not enforced.

Until quite recently, the great difficulty was to suggest some alternative to the smoke producing methods. Now they had methods that were not only practicable, but that actually were more economical and might be adopted on that ground alone.

He recommended for the consideration of all those who had to do with the erection of new houses, where gas was available at reasonable cost, that in each house there should be installed one of the new type boilers burning coke, capable of being used as a closed up or open fire at will, to warm the living room and to supply the hot water required for all purposes.

A wash boiler should be fitted in the scullery, set just through the wall and back to back with the coke boiler, supplied with hot water from this boiler, and with a gas burner under it to raise the hot water up to boiling point when required; the flue from it going up into the flue from the boiler. In the scullery also there should be a gas cooker, provided with a canopy and pipe into the boiler flue to carry off all products of combustion both from the oven and boiling rings.

In each bedroom there should be a gas fire, with a flue of long narrow section in the special bricks forming part of the wall. These bricks might also contain a second ventilating flue. This would save money in construction. The lighting would be done by gas.

Where it had been decided to instal electricity for lighting, and a reasonable price could be charged for current, the house should be equipped with the coke fired boiler in the living room and wash boiler in scullery, as in the gas house, but the cooker would be electric, and in each bedroom would be an electric radiator. It would probably be cheaper to do cooking and the heating of the bedrooms by electricity, where heat is usually only required occasionally, and for short periods, than to instal a coal cooking range and grates, with the extra building in, and chimneys. Some electricity undertakings made this practicable.

Referring to industrial smoke he said :—When the Committee were in Sheffield, they were told that there were some processes that could not be carried on without excessive smoke. Admitting that that is so, should that smoke, after it has done its work, be allowed to escape into the atmosphere? I am of opinion that, as a matter affecting public heal
it should not be permitted, and in t
report I am a minority of one in reco
mending :—

> "That the Government should stin
> late and, if necessary, subsidise
> search, with a view to discovering
> efficient method of catching or cons
> ming the smoke before it passes in
> the atmosphere. When such a meth
> is found, its adoption by manufactur
> should be made compulsory, and Lo
> Authorities should be empowered
> make a contribution, if they desir
> towards the cost of installation a
> its maintenance."

Cost of the production should be pa
to them out of the public health ra
The City of Glasgow spent a capital su
of about 2¾ millions and are payi
annually about £300,000 in the treatme
of sewage that they may keep the Ri
Clyde clean, as a dirty river injured t
amenity of the city and district, althou
it did little harm to health. Should a
city not contribute a little, if necessa
for the amenity of the atmosphere a
the improvement of public health?

R.I.B.A.

The following notes are from
minutes of the last council meeting
the R.I.B.A., November 6, 1922 :—

Registration.—The Registration Co
mittee submitted a draft Bill for
Registration of Architects which was
proved in principle by the Council, w
directed that it should be sent to
Allied Societies for their comments.

Provincial Conference, 1923.—The
vitation from the Incorporation of Arc
tects in Scotland to hold the next P
vincial Conference in Edinburgh
June, 1923, was cordially accepted.

The Bristol Society of Architects
The Union of the Bristol Society of Arc
tects and the Gloucestershire Archit
tural Association was approved.

Statutory Examination.—A Certific
of Competency to act as District Surve
was granted to Mr. Clifford Cyril Know

The Whitgift Hospital, Croydon
The Croydon Borough Council were
vited to meet representatives of
Royal Institute to discuss alterna
measures which would have the ob
of preserving the hospital intact.

London Squares.—The President, P
fessor F. M. Simpson, and Professor S
Adshead were appointed to serve o
Committee of the London Society to c
sider measures for the protection
London Squares.

The Art Standing Committee of
R.I.B.A. have arranged a visit to
works of Messrs. Farmer and Brind
Ltd., marble-masons, of 63 Westmin
Bridge Road, S.E.1, on Saturday, Dec
ber 9, at 10.30 a.m. The visit is arran
for the morning, in order that actual w
in progress may be inspected, and
hoped that architectural students
join in the visit. Members of the R.I.
and their friends and students of the ar
tectural schools who wish to take par
this visit should apply to the Secret
R.I.B.A., by whom tickets will be
plied.

Arrangements have been made
holding the Exhibition of Archit
Working Drawings each year in
Galleries of the R.I.B.A. Work re
sentative of all classes of architecture
be exhibited.

nesday, December 6, 1922 Vol. LVI. No. 1457

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

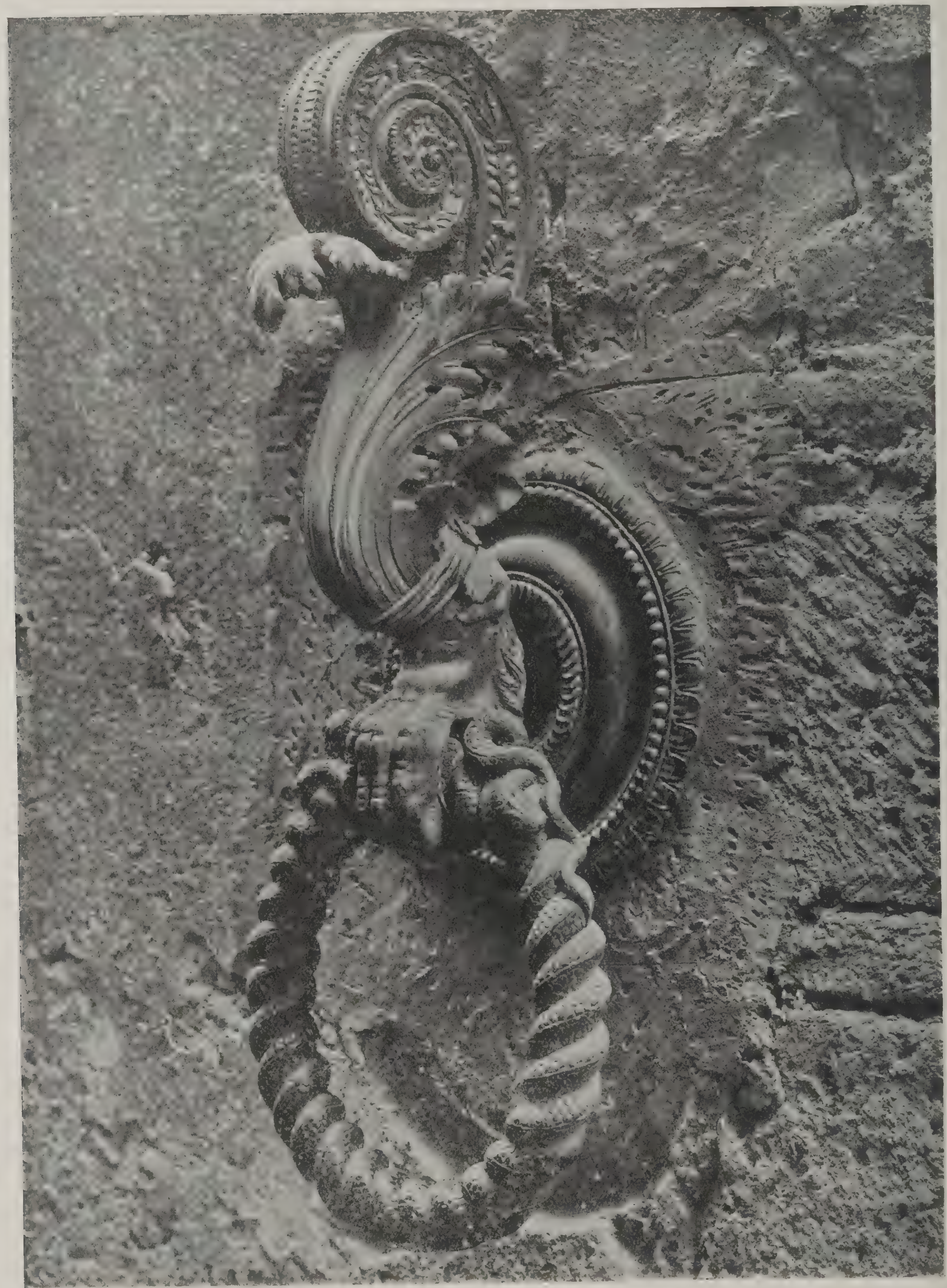
CARTOUCHE ON THE CARDIFF LAW COURTS: PAUL RAPHAEL MONTFORD, SCULPTOR.

(*See also page* 789.)

27-29 Tothill Street, Westminster, S.W.1.

Architectural Details. 38.—Bronze-Ring Bell Pull at the Magnifico Palace, Sie

Giacomo Cozzarelli, Architect



This magnificent detail was designed by Giacomo Cozzarelli, the architect and sculptor, and executed in 1508. Cozzarelli was a pupil of Francesco di Giorgio Martini, who was much interested in wrought iron work. He was born in 1453 and died in 1515.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

lnesday, December 6, 1922 Volume LVI. No. 1457

Individualism or Coherence?

THE architectural tendencies of the day are perhaps nowhere more completely synthesized than in Regent Street. Here, house by house, the old order is giving way and yielding to the
erative demands of commerce. What, broadly, is the
lominating characteristic of the change? Is it not
coherence is being replaced by individualism?

he Regent Street of the early-nineteenth century
ned part—the principal part—of one of the most com-
e town-planning schemes of the period. But that fact
self constitutes no adequate reason for its preservation
s present form. In the first place, the original form has
ady undergone considerable modifications, and in the
nd, a city which is the centre of a growing, living and
plex organization cannot afford to preserve whole
ts or districts the buildings of which have ceased to
l the needs of the community.

dealing with cities a *via media* has always to be
d between harsh iconoclasm and inept sentimentality,
the growth of a town is largely a process of discarding—
oping—worn-out tissues and assuming new ones. The
ge which is coming over Regent Street is as inevitable
as the displacement of the hansom cab by the taxi-
r; a displacement which aroused contemporary oppo-
n in many quarters, on relatively the same grounds as
which are enunciated in favour of the preservation
hat remains of) Nash's Regent Street.

accept a general principle, however, does not neces-
y imply acceptance of its particular application, and it
ainst the form that the new Regent Street is assuming
protest is legitimate, and as this form seems to
mize the tendencies of the day, it may be worth while
ve the matter some consideration.

a generalization it might with some truth be said that
nost essential quality for the formation of a beautiful
is coherence. Picturesqueness—largely a trick of
—and natural beauty of situation, neither purely
tectural qualities, may contribute enormously to a
ral impression of beauty, but the intellect demands,
omplete satisfaction, evidence of deliberate thought,
crifice, and an expression of the civic consciousness.
this is best manifested where individual aspirations
been subordinated to those of the community. Ex-
ion of the collective will may have come about through
fforts of one man—a powerful monarch, a dictator,
mperor, or a despot, or through the efforts of an
d assembly; the important thing is that the town
its the civic consciousness and not a jostling of isolated
sts. The old Regent Street exhibited this consciousness,
he new Regent Street does not—nor, for the most part,
y of the present-day architectural activities of London.
craving for personal liberty has always been a pro-
ced national characteristic, and no Western nation
ts State or municipal interference with such intensity
e Englishman. The adage that "an Englishman's
is his castle" has even greater significance to-day if
" is substituted for "home" (are we not still a nation of shopkeepers ?), for the communal spirit is entering into our housing, while it has completely passed away from those parts of our towns which are devoted to business and commercial buildings. The old shibboleth that interference with the form of a commercial building is interference with trade, and is, therefore, against the most sacred interests of the country, is reiterated with wearying monotony. The prominence to which trade is entitled in the hierarchy of national activities and interests is scarcely, perhaps, within our province, but what is within our province is this fact, that a beautiful street is a far greater incentive to national well-being, including healthy, vigorous trade, than an ugly one, and a beautiful street is one that has been considered as a whole and not one that is composed of a blatant cacophony of self-advertising.

So complex are the systems of tenure that the chances of the emergence of a coherent scheme vary from district to district. Where, however, the street or district is under a single control, and where the leases fall in simultaneously, surely the chances are at their most favourable, except, perhaps, in a new street where new leases are being granted. Yet in both Kingsway and Regent Street the opportunity was, and is being, neglected. It is impossible to attribute the blame for these lost opportunities to any particular person or set of persons. It may be said that a nation gets "the architecture it deserves." Architecture is certainly not an isolated phenomenon, but is rather the result of constant action and interaction between various forces. Some of the blame, however, can certainly be laid at the door of architects themselves. The penalty for our subjugation of the material world is the growth of self-consciousness. Limitations of time and space tend to disappear, and the world, both three dimensionally and four dimensionally, lies before us for our immediate inspection, and we are able to study, not only the work of the whole world, but also the work of all ages. This tends to have a very deleterious effect, and is responsible for that deliberate process of selection which has led to the pernicious practice of consciously designing in a particular period, and to the everlasting discussion, in architectural circles, about styles which hinders all spontaneous creation. Another result is that it seems to stimulate the desire—paradoxically enough—for individual expression. Everyone must do something different—add to the discord by striking his particular note, even where a key has already been set. An example of this has been recently afforded in an important thoroughfare, where the second building of a block of two between two side streets has just been completed, but instead of continuing the design of the first building erected some fourteen years ago, and so making a complete architectural unity bounded by two streets, the new building utterly disregards its neighbour in material, in horizontal alignment, and in character, and so perpetuates the architectural chaos.

There would seem to be a kind of inability at co-operation, and even where corporate bodies make the attempt, as witness the L.C.C. in Kingsway, they end by abandoning their objective before the attacks of the individualists.

There are signs, just now, of a reviving interest on the part of the general public in architecture. This will result in a generally keener observance of street architecture, and in a growth of respect for the opinions of architects. The public, in fact, is becoming more receptive to whatever ideals the architect may have to propound. Surely, therefore, this is the precise moment to inculcate the indisputable doctrine that the beautiful town can only emerge by a combined effort; by relinquishing any insistence upon, at all costs, striking a personal, an individual, a different note; by realizing that a building in a town is but a unit in a street, which in itself is but a unit in the city. Only in this way can we hope that coherence will take precedence over individualism, and that somewhere, before long, we may be provided with another street, nobly planned and nobly conceived, that shall fulfil all contemporary requirements, and compensate us for the loss of our fast-disappearing Regent Street.

The St. Paul's Bridge Question

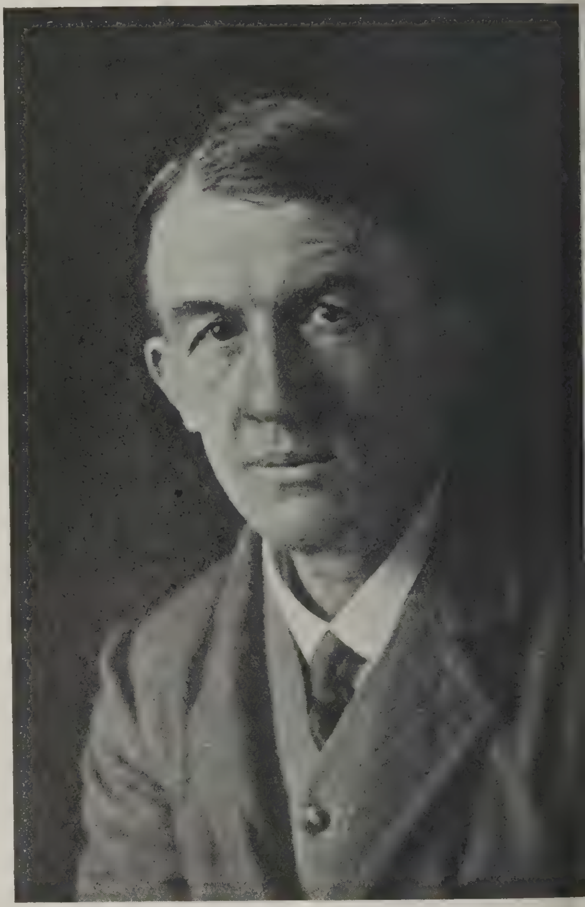
Apparently we are not to have the pleasure of seeing Mr. Washington Browne's design for a St. Paul's Bridge materialize. From the numerous and on the whole rather bewildering utterances about it in the council chamber and in the Press, it would appear that the City Corporation can afford neither to complete the project nor to abandon it. Construction would cost about a million and three-quarters, and abandonment, it is alleged, would or might involve reselling at a loss property that was acquired on the supposition that the Corporation had made up their beautiful mind to proceed. Shell-shock from the war has left them suffering severely from cold feet, and the shivering fits that are the well-marked symptoms of the onset of the disease that may be distinguished as economania—a disease that mimics economy, but is essentially very different from it. At any rate, the project for a St. Paul's Bridge seems to have fallen through, lending point to Professor Beresford Pite's letter to "The Times" of November 28 advocating a broader view of bridge-building for London, and asking the City Corporation to take a hand in supplying a bridge where one is really wanted—namely, at Charing Cross, where it might stand as a monument of a more memorable victory than that of Waterloo.

The Building Guild Section

It is seldom or never pleasant to chronicle failure. We are glad, therefore, to read in "The Observer" that the National Building Guilds are in a fair way to overcome the financial difficulties that for a moment seemed to threaten the movement with extinction. Agreeing with our contemporary that "it ought clearly to be explained that the difficulties in which the National Building Guilds recently found themselves were difficulties entirely of finance and in no case difficulties of principle," with pleasure we hasten to give currency to that explanation. The Guilds, our contemporary recalls, were started in 1920 mainly to increase and cheapen the production of houses for the working and middle classes. "The ideal was first to build good, substantial dwellings, devoid of shoddy materials and work, upon a non-profit-making basis. The actual cost of the building was to be charged, plus 40 per cent.; this surplus sum to be devoted (1) to the payment of full maintenance wages to Guild members when, owing to seasons of bad weather—rain, frost, and snow—work was impossible; and (2) to investigation and research and the acquirement of experience." Although the "full maintenance wages" clause has about it some faint odour of New Lanark, it must be remembered that, after all, the present industrial system is not so inveterate that it can be reasonably supposed to have reached finality—to be "the only way" of relating capital and labour; and all experiments like that of the building guilds will be carefully watched to see whether they are competent to provide a sound solution to a problem of baffling and perplexing difficulty.

A New A.R.A.

The profession is honoured by the bestowal of an A
ciateship of the Royal Academy on Mr. Herbert Ba
F.R.I.B.A., who is "the architects' architect." It wa
South Africa, whither he emigrated in 1892, that he
the foundations of his great reputation as an archit
Cecil Rhodes, "the Architect of Empires," having seen
admired Baker's work, saw in the young architect
idealist after his own heart, formed a close friendship
him, and commissioned him to build Groote Schuu
building that is of world-wide reputation for its excee
beauty and dignity, and is now the stately official resid



MR. HERBERT BAKER, A.R.A., F.R.I.B.A.

of the Prime Ministers of the Union of South Africa.
it is the fine Rhodes Memorial, a work of unquestio
genius. Mr. Baker designed also the powerful Siege M
rial in Kimberley. It has been declared, with no very
degree of exaggeration, that "he has filled South A
with beautiful buildings, which include no fewer than
cathedrals—those respectively at Cape Town, Pretoria
Salisbury (Rhodesia)." Of the Union Buildings at Mei
Kop, Pretoria, which are the administrative offices o
South African Government, it is freely said that the
among the most imaginatively conceived of public
ings; and his domestic work, in the Rand, reproducin
spirit of the fine old Dutch farmhouses at the Cape,
admiration of all who have seen either the actual
itself or illustrations of it. Edwin Lutyens and He
Baker having been fellow students, it is peculiarly f
that they should collaborate in the creation of the
Delhi. His suggestions (in collaboration with Mr. F
Troup) for reconstructing the Bank of England are a
memory. Thanks to his friendship with Cecil Rh
Baker studied intensively all along the shores of the
terranean, and in Greece, Italy, and Egypt. Profou
impressed by the advantages of such studies, he foun
scholarship tenable at Rome—a fact from which his
ness, active and practical interest in architectural
tion will be rightly inferred.

The Musée Rodin

By E. BERESFORD CHANCELLOR

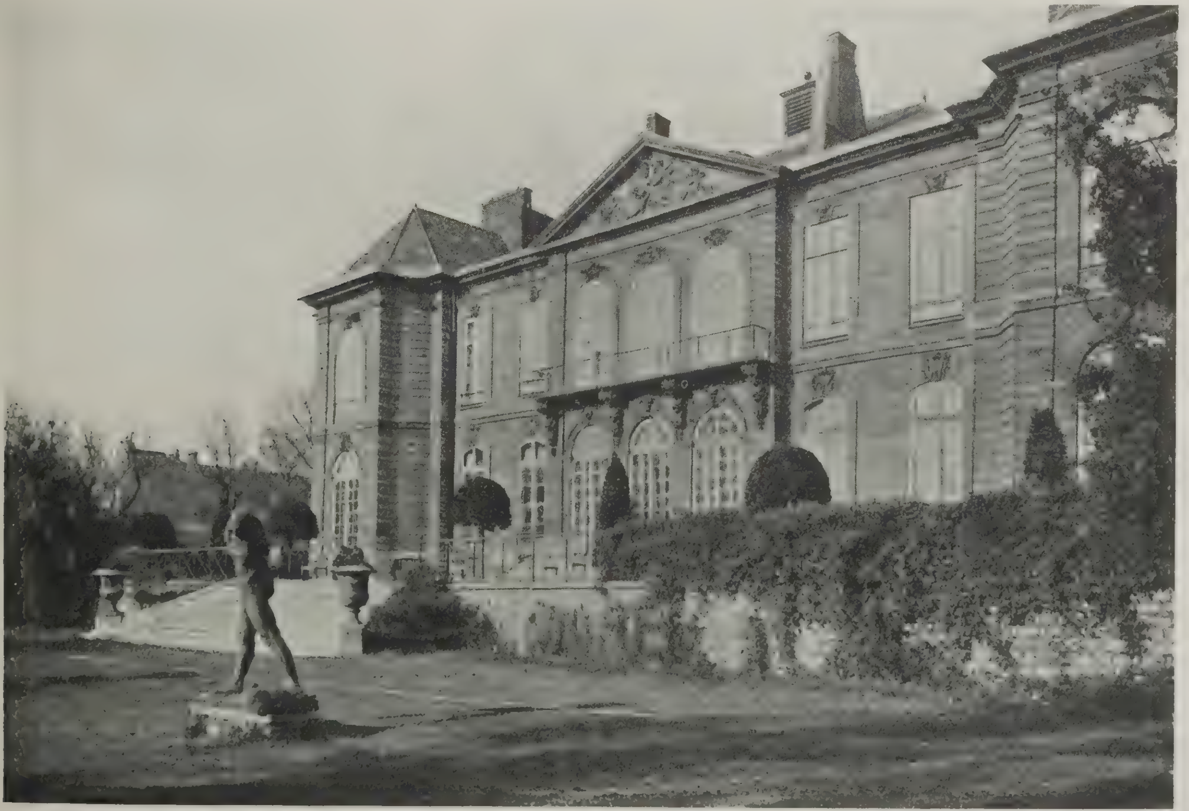
RODIN is one of the few great French sculptors whose names are known to the British public. Those to whom Rude, Carpeaux, Barye, Cain, and Prémiet are dead letters, are not only ac- nted with the name, but also with the work of the :or of "Le Grand Penseur" and "Les Bourgeoisie de is." This fact is due to several causes. In the first place, ate W. E. Henley and the French painter Legros may be to have introduced the knowledge of the man and his :s into our country, and this they did with such en- iasm and such insistence, that there gradually began to 1 interest and a curiosity taken in the sculptor who was to reveal in his achievements something of the creative deur of Michel Angelo. Then George Wyndham, a d of Henley's, had his handsome face sculpted by the :er, as did Henley himself, and Mr. Bernard Shaw, Howard de Walden, Lady Warwick, and Lady Sack- West. There followed Rodin exhibitions in England, the setting up of a version of "Les Bourgeoisie de Calais" e gardens attached to the House of Lords, and finally, recognition of England's aid to Belgium, Rodin gave no r than eighteen of his works to the Victoria and Albert eum, where they are now on permanent exhibition. ed to this something of the excitement produced in s by the refusal of the famous Balzac statue by the été des Gens de Lettres, which had commissioned it, wafted across the Channel, and caused many who have *r* for a scandal if not for art, to talk about the man who produced that wonderful but much misunderstood erpiece.

l this is now old history, and the name of Rodin, even ng us, has come to be recognized as that of one of the , his out-and-out admirers say the most, remarkable ptors of our age. It is not, therefore, strange that the ishman in Paris should visit the Musée Rodin as one e outstanding "sights" of the city.

e home of the collection is in itself a place of great est. It is, indeed, one of those splendid abodes in which the French *noblesse* of the eighteenth century passed their unregarded hours before the tocsin of revolution awoke them from their Armida dreams of luxury and *insouciance*.

The Hôtel Biron, in the Rue de Varenne, is a fine example of the architectural style of that period. It was designed by that great architect Gabriel for Peyranc de Moras, a rich financier who owed his wealth to the system of law which did as much as anything to ruin the country, and it was in course of construction from 1728 to 1731. However, its owner did not enjoy it long, dying in 1732, and his widow sold it to the Duchesse de Maine, a famous political lady. After some twenty years she died, and in 1753 the place became again the property of the de Moras family who, however, sold it almost immediately to the Duc de Gontaut-Biron. On the death of the latter it passed to the Duc de Lauzun, one of those who perished by the guillotine in the fatal year 1793. The gardens, always notable for their extent and beauty, having thus become public property, were thrown open to the people, and all sorts of public fêtes were given in them. At a later date the Duc de Béthune-Charost became the owner of the hotel and its grounds. It is not clear whether he ever actually occupied the house, but it is known to have been let in 1800 to the Papal Nuncio, who was there for eight years, and from 1811 to 1820 to the Russian Ambassador. In the latter year it was purchased by the Dames de Sacré-Cœur, who remained in possession until the "law of separation," as it was called, was passed.

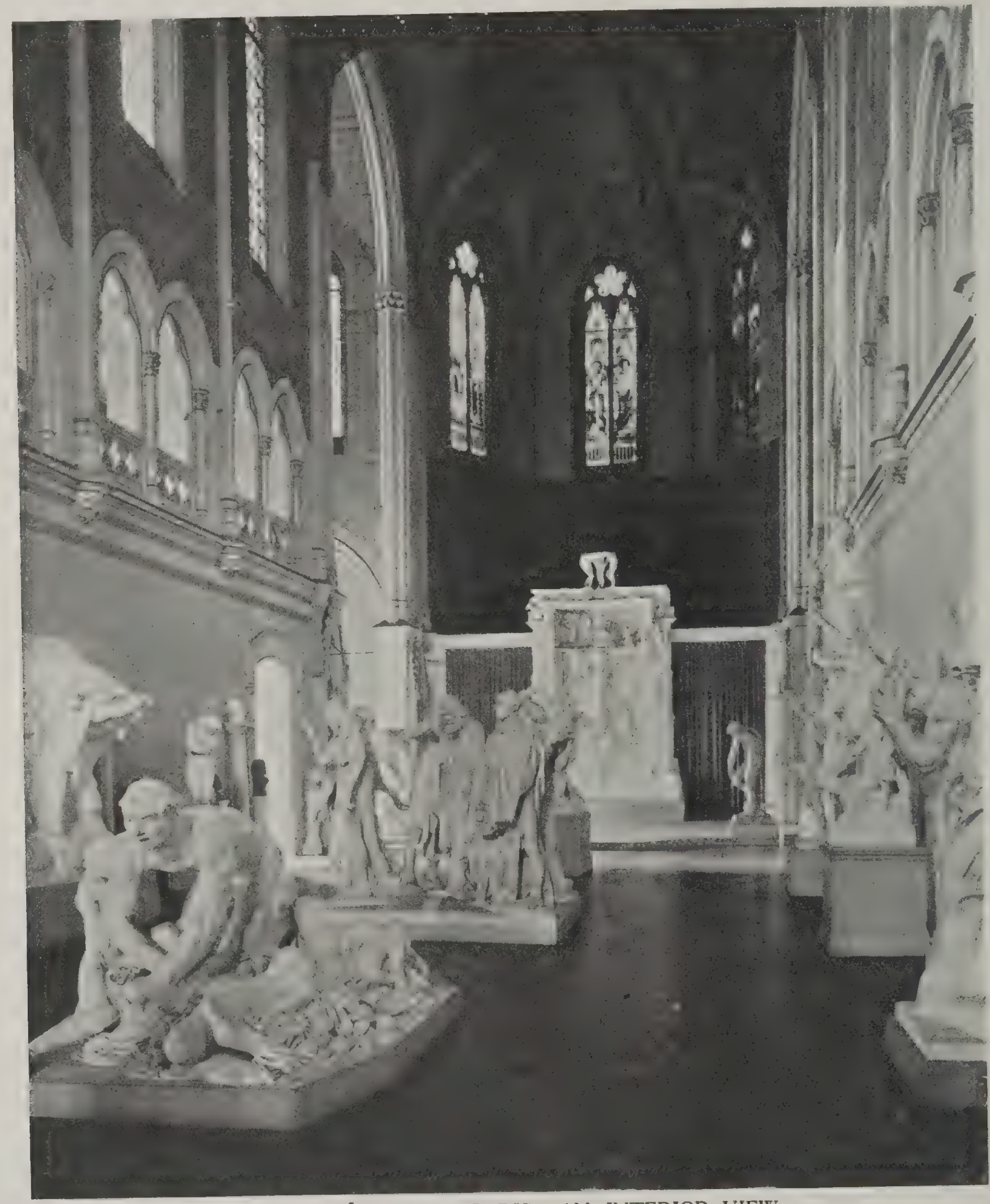
In 1907 Rodin, who also had a country house at Mendon, installed himself in a part of the great building which, being now the property of the State, has been made a national monument as the home of the examples, in stone, bronze, marble, and plaster, of all the master's works. Attached to the property is a chapel, which, having been deconsecrated, forms a kind of annexe to the museum, and now contains casts, etc., of the sculpture the bulk of which is too vast for even the rooms of the Hôtel Biron itself, large and splendid as they are. Here may be seen repetitions or casts



THE GARDEN FRONT

of such famous works as "L'Age d'Arain," "Saint Jean-Baptiste," the "Victor Hugo," the original of which is in the gardens of the Palais Royal, the extraordinary "Poste de l'Enfer," and the much-criticized "Balzac."

Those interested in architecture alone will go to the Hôtel Biron to examine this fine example of Gabriel's domestic style; those to whom sculpture makes a greater appeal will visit it to browse amid the life-work of one of the outstanding masters of plastic form; those who love both arts will find here a glorious legacy housed in a no less glorious setting.



THE MUSÉE RODIN, PARIS: AN INTERIOR VIEW

[The Hôtel Biron, Paris, is situated at the angle of the Rue de Varenne and the Boulevard des Invalides, the dome of the latter being visible through the trees in the garden behind the house. It lies, therefore, in the very heart of the once famous Faubourg Saint-Germain, almost facing the Pont Alexandre III.

The estate in all covers about 12½ acres, and comprises four buildings in addition to the gardens. Three of these buildings may be dismissed in a few sentences. One is a large and most unsightly chapel, next to the entrance on the right, which at once spoils the beauty and symmetry of the forecourt. Its presence there is due to the wholesale vandalism committed by the Dames of the Sacré Cœur and their priests, who seem to have made a point of destroying as much as they could of the beauty and architectural charm of the place during the long period of their residence there. Then there is a sma chapel erected in 1823, and at the bottom of the gar is the large private residence of the Lady Superior, erec by the first Mother, Mme. Madeleine Sophie Louise Ba in 1858, which in its turn spoils the appearance of end of the garden.

Like most of the noble houses of its period, the n building is approached by a spacious forecourt, or *d'honneur*, leading direct from the entrance to a fligh steps in the central pavilion of the house. To the r and left of the entrance there were originally a numbe inner, or *basse*, courts; those on the right provided sta for thirty-three horses and eight coach-houses, an to the great kitchens of the establishment. These purposely separated from the main building so as n offend the olfactory nerves of the aristocrats who frequent guests at the mansion. The *basse-cours* o other side of the entrance were added by the Duch Maine, and provided accommodation for the office her household. Her Grace, who was the widow of Ar Louis, Duc du Maine, one of the Bourbon princes, the house for life from the widow of de Moras. Duchess made other alterations inside the house, bu not destroy the beautiful proportions of the grand s

For information as to the original disposition interior one can turn to Blondel's "L'Histoi l'Architecture Française"(1752-6).]

Home Truths at the A.A.

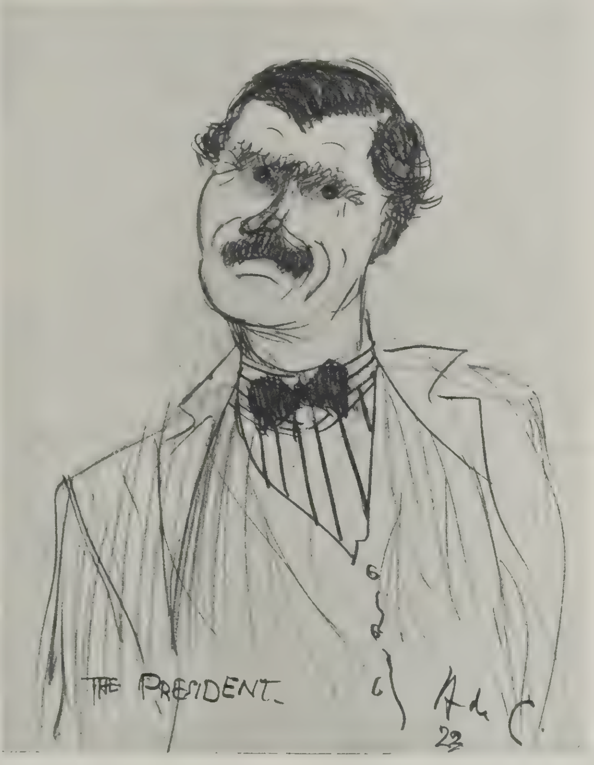
MUTUAL frankness was the order of the evening when Miss Edith Place revealed to the A.A. the secrets of a woman's heart, in other words, her view of domestic architecture.

he speaker expressed a delightful diffidence at addressing h an audience on such a subject, but courage evidently ced as she proceeded, for it was with no uncertain voice t she expressed the average woman's opinion of the rage house.

liss Place evidently has little love for the dwelling of lay, and still less for its contents. Carpets and curtains e her cold; "things" are her abomination; even much he regulation furniture should, in her opinion, make way built-in cupboards, dressing-tables, and bookcases.

heoretically she is, of course, perfectly right. We spend too much time doing work of own making, but a clinging ction for household gods and ded comfort is, it must be fessed, deeply rooted in the tish temperament.

lore possible of realization Miss Place's plea for more roughness in construction. urged the importance of l-fitting doors and windows, rds which do not allow the t of the space between to r up, wainscots which meet floor firmly, and preferably h a curve.



n the speaker's experience boards appealed to men just nuch as to her own sex, and invited the attention of her ience to various grievances nected with their construc- . They were never deep ugh for the proper storage of hes, and should go right to top of the room instead of ing a space at the top, which too small to hold anything ully, and only succeeded in ecting dust. Too often they e badly lit, and where there no window space an inside fitting for light should ays be provided.

he eternal kitchen problems also provoked Miss Place loquence. It should never be underground, always be lighted, and built on the north side, even if it were in t of the house.

he cooker should not be in a draught, and should have l table space near it. A glazed dresser is advisable, and drawers should be more numerous and shallower. If itects ever looked into the usual deep dresser-drawer would see what horrible untidiness it entailed. The e or shelf near the cooker might have arrangements for nary necessities. A saucepan shelf should always be ssible, and have doors panelled with perforated zinc. the store cupboard might, with advantage, be elled in the same way.

ith some delicacy Miss Place approached the question novable furniture. We have, she considers, far too h of this in our houses, especially in our bedrooms. If had more fittings in the shape of cupboards, some for ging, some with drawers, and had lavatory basins, we ld be able to do away with wardrobes, chests, and nstands, confining ourselves to bed, chairs, and a table. tting-rooms could, in Miss Place's opinion, be better just as pretty with cupboard fittings, shelves with glass lids, a bureau for writing below, a recess cabinet with glass doors for ornaments, the cupboard below divided to hold coal on the one side, music on the other. Cupboards are, in effect, the apparent solution of every household difficulty.

In California, where there are no servants, and the mistress of the house usually had to cook, clean, and wash, the average home was built of wood, beautifully floored, and very carefully planned. There was generally a roofed porch, and what is called a sleeping porch which has a roof, but the walls are of metal gauze. The cooker was usually gas, well raised, the light electric, and all the cupboards are closed with glass or wood doors. As a rule there were no "upstairs," or only one floor at the most. The public buildings, such as banks, stores, etc., are very handsome, with much plain marble, lofty ceilings, excellent lifts, and fine sanitary arrangements. Central heating saved much trouble, and the lavish use of electricity was another marked feature.

London was full of houses which are too big for the families of to-day; the best way was to make them into maisonettes, which were really more "homey" than flats, and had loftier rooms. Blocks of flats were dismal things, and it ought to be possible to break any ground leases or other drawbacks which prevent the large houses from being converted. We were rather restricted by our slowness; we must have "dining-rooms" and "drawing-rooms," even if each is little more than 6 ft. square; a roomy "parlour" would not suit us.

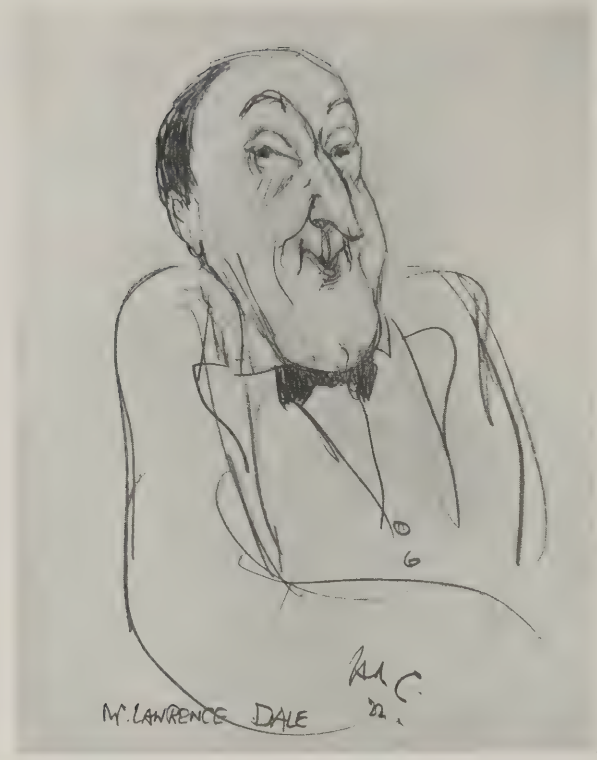
Stairs were generally too steep and narrow, thus causing undue fatigue. Why could they not be pitched as they were in old houses? Front doors might easily be recessed to save standing in the rain. This would not interfere with the front line, but only take about 2½ ft. from the passage or hall, and a small eave over the door would be attractive.

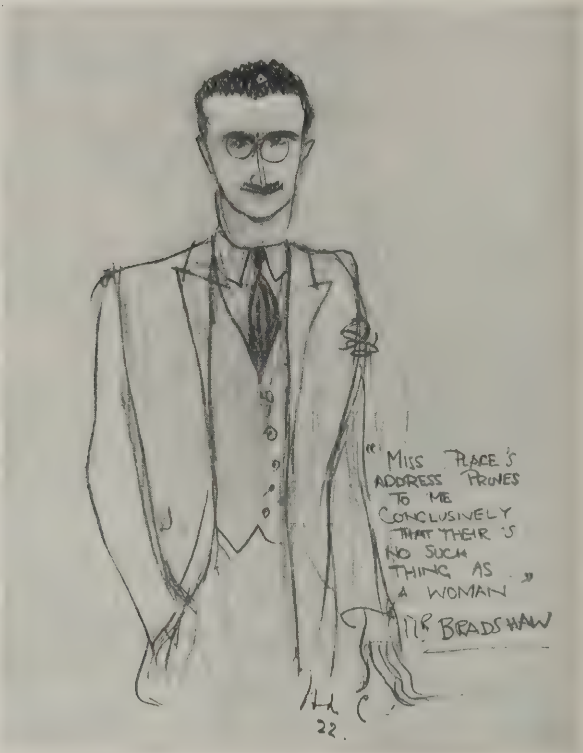
Proposing a vote of thanks, Mrs. Charles Peel remarked that every man kept a servant, either a wife or a housekeeper. If he did not we should long ago have done away with the brick and mortar monsters that eat up the lives of women. No matter what devices were introduced, there would never be a labour-saving house unless it were properly planned from the first. It must be made of the proper material, and have the rooms properly grouped. She told of one municipal house where the larder was by the front door, the stove in the sitting-room, the table in the kitchen, and the sink in the scullery, so that every time the wife prepared a meal she had to make a tour of the house.

The question of labour-saving houses deserves your most serious attention, she told the young architects. The best way for architects to understand the problems would be by their adding to their course of training a six months' apprenticeship to a charwoman.

A lively discussion followed, during which the lady speakers learnt something of the average architect's opinion of his feminine clients.

Adam, remarked Mr. Lawrence Dale, pathetically, did




"Miss Place's address proves to me conclusively that their's no such thing as a woman"
Mr. BRADSHAW
22.

not worry about a house; when Eve came along she demanded bedrooms. We were all living in out-of-date houses, and the modern generation of architects ought not to be blamed. The fitted furniture of America was to some extent due to the difficulty of obtaining labour for furniture removals; in England pieces of furniture were often heirlooms. Miss Place was clearly the ideal client, but it would be difficult to persuade people to pay the first cost of the improvements she suggested. He hoped Miss Place would repeat her lecture before an audience of clients.

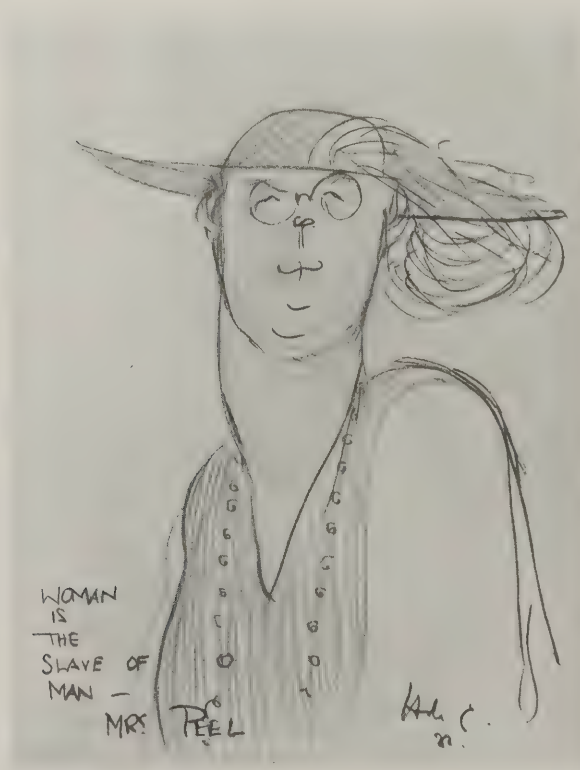
Mr. Bulkeley Creswell joined with ardour in the great cupboard controversy, and drew a graphic and grisly picture of the probable contents of the cupboards which every woman longed to possess. He was inclined to pour scorn on labour-saving arrangements, which were frequently misused by the servants whom they were intended to benefit.

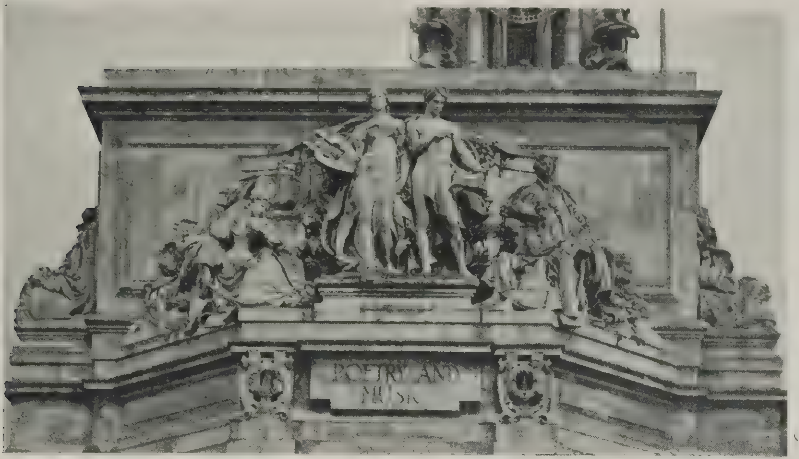
Mr. Tait and Mr. Sullivan also spoke, the la taking great exception to the idea of a plug in the kit sink.

Mr. Jenkins took the trouble to work out the prob cost of the improvements indicated by Miss Place, calculated that it would amount to something like £2 on a £3,000 house. The wide staircase took up more s than could be usually spared.

Mr. Hamp thought that Miss Place was right, but client would never be persuaded to pay. Speaking t did not appeal to him, but he thought old houses ough be made use of.

Replying, Miss Place suggested the foundation of a tureship for clients, and Mrs. Peel said that it would to build properly planned labour-saving houses. A dom efficiency engineer should be attached to every fir architects.


WOMAN IS THE SLAVE OF MAN —
MRS PEEL



"POETRY AND MUSIC": A GROUP ON THE CARDIFF CITY HALL.

Paul Raphael Montford, Sculptor

By GEOFFREY GIDDINGS

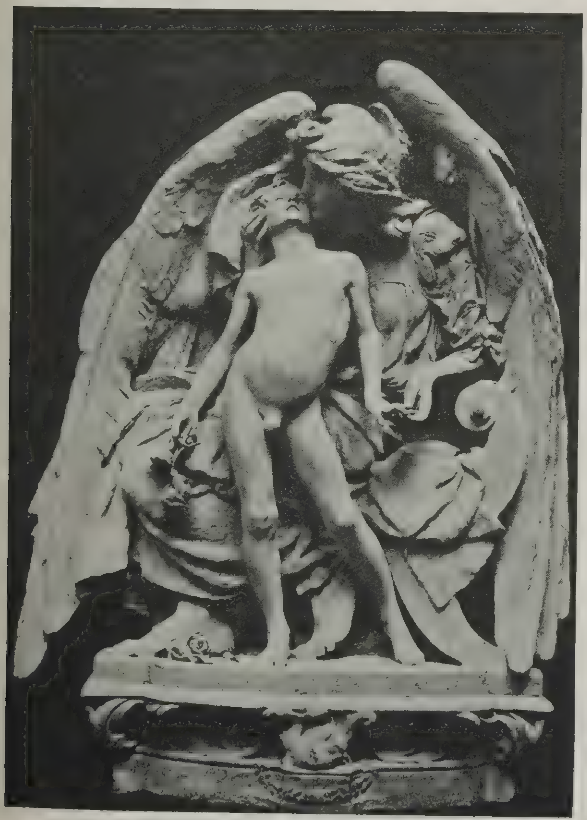
PAUL RAPHAEL MONTFORD first saw the light of day in the year 1868. If his birth was not attended by mystic auguries of luck, he at least entered this world with circumstance propitious to uture. His father, the late Horace Montford, who held equently, for many years, the Curatorship of the Royal lemy Schools of Sculpture, was at that time engaged e work which won him the Academy Gold Medal and elling Studentship.

om him his son, who entered the schools in his nine- h year, acquired a mastery of technique and ideals of manship, and inherited the desire to progress along idual lines, rather than emulate the work of the ers of a bygone day.

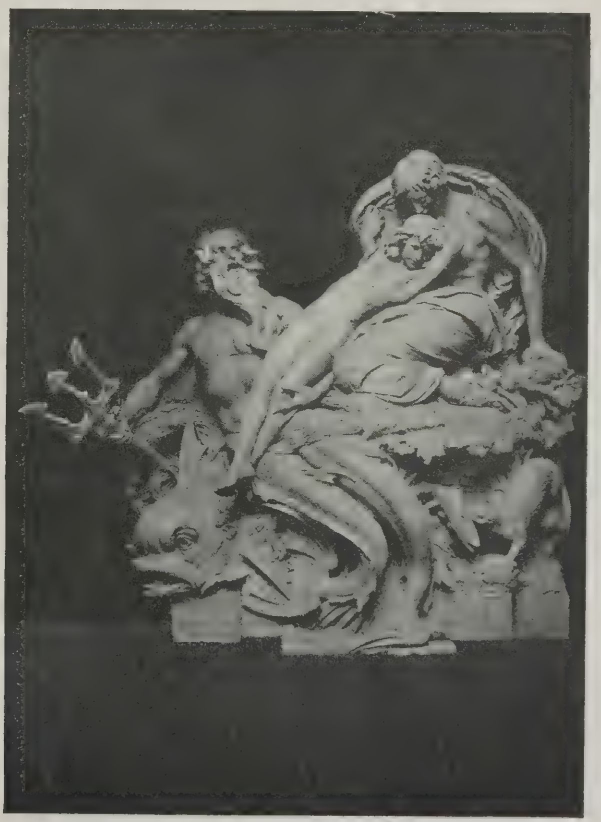
e beauty of the living human figure had supplanted classical ideal as the essential of education. The emy Schools gave, perhaps, the best training to be in those days, but in considering an artistic appreciation of the human figure alone as a sufficient endowment it provided its students with the rudiments of their art without indicating whither their abilities might be directed.

In 1893 Paul Montford, in his turn, gained the Royal Academy Gold Medal and Travelling Studentship. The European tour which followed this success—though he created little during his wanderings—broadened his horizon, brought him in touch with new possibilities, and went far in deciding those tendencies which have controlled his subsequent achievement.

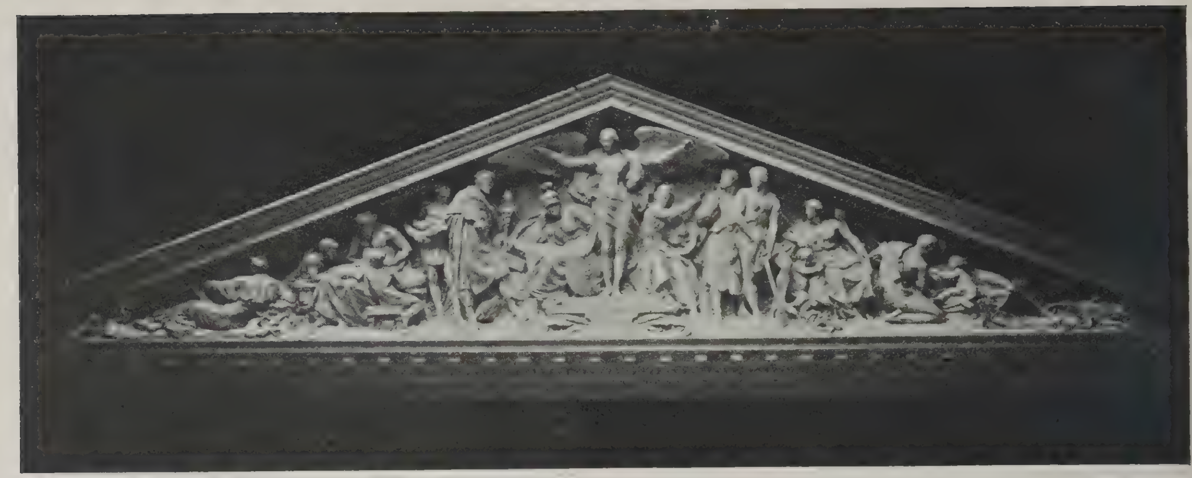
Although in Italy he came under the spell of the Florentine School, it was the works of the great French sculptors of the day—of Peuche, Carpeaux, Diderot, Mercier, and their contemporaries—which made the strongest appeal to his imagination and temperament. From them he gained that richness—a sumptuousness almost—which is characteristic of his art and which gives it much of its charm and its distinction.



"WHOM THE GODS LOVE . ."



"THE RIVER SEVERN."



DESIGN FOR A PEDIMENT FOR GOVERNMENT OFFICES IN WHITEHALL BY PAUL RAPHAEL MONTFORD.

Since those early days of studentship he has given his energies mainly to figures and groups with an architectural setting, to designs with a part to play in a larger scheme of decoration. Such works must of necessity be seen in the positions they were intended to fill to be properly appreciated—their height from the ground, the scale and character of the buildings has been influential in determining their form. It is typical of the thoroughness of his work that the parts seen and the parts unseen have been modelled and carved with the same carefulness and thought.

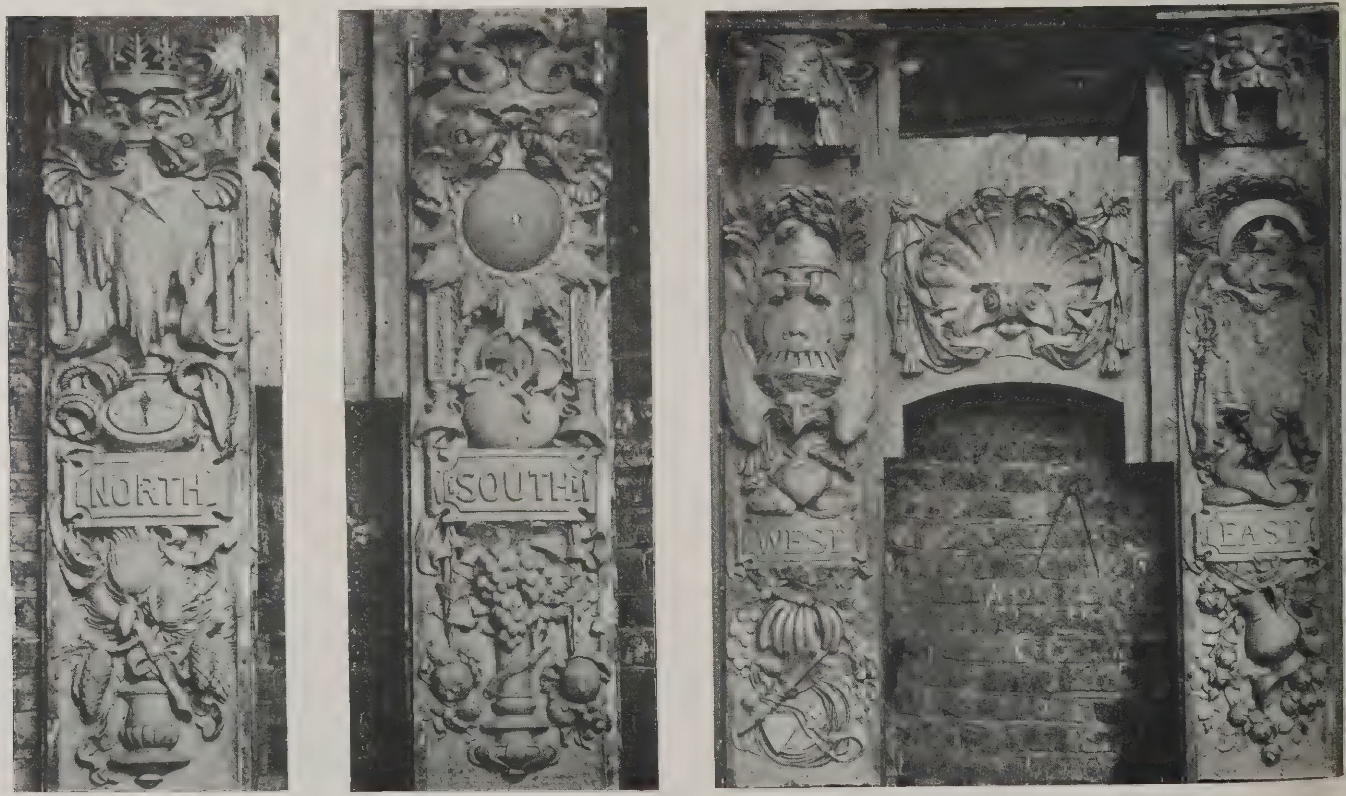
Working with the late E. A. Rickards—that most sculpturesque of architects—he began, in 1903, a series of designs for groups and panels for the Cardiff City Hall and Law Courts. His "Commerce and Industry" and "Poetry and Music" are groups too well known to call for detailed description. Of the two the former is the more consistently successful; in the latter the difficulty of making two upright figures the centre of the composition is not completely solved—as a recent writer has it, "the duality is not resolved." But the best of his Cardiff work, at once monumental and ideal, is his group at the base of the dome, "The River Severn."

The compulsory inclusion of the busts of Beit and Werner in the mascarons which flank the entrance to the School Engineering at South Kensington—their generous gift the nation—presented difficulties in which no sculpto would delight, but his method of overcoming them leave no idea of incongruity in scale or subject. His work her shows well his idea of the relation of sculpture to arch tecture—the broadness of treatment has been obtained b an elimination of all untelling details, by an insistence o the essential facts alone, and the simplicity is obtaine without a suggestion of mere barren emptiness.

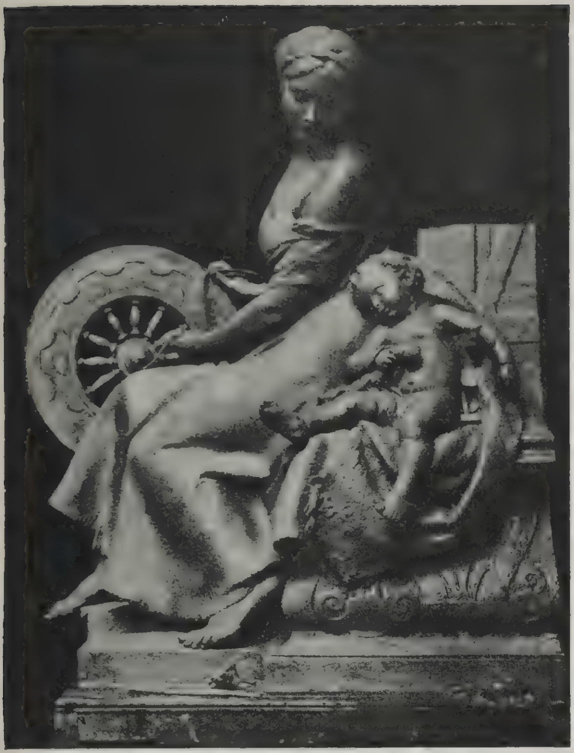
In Montford's four groups for the Kelvin Bridge, Glas gow, we see the highest level of his achievement. In eac are two figures, composed about a massive lamp-standar and representing in turn, "Peace and War," "Commerc and Industry," "Shipbuilding and Navigation," an "Philosophy and Inspiration."

Realistic and natural as these figures are, and modern i their treatment, they are not the mere representation people, of things seen, but of sentiments realized rathe symbolizing in a summary of their attributes the who intention of their meaning.

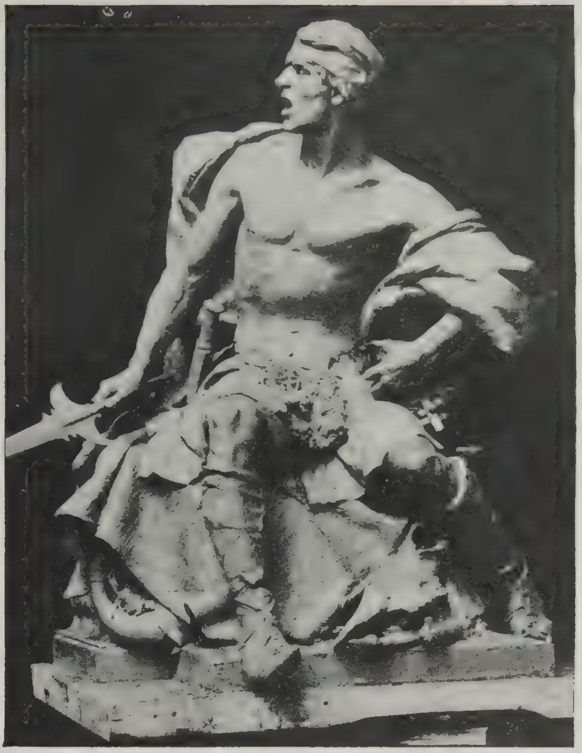
For example, the magnificent figure of "War," stron wild, and loot-laden, despite its mediævalism, belongs t no definite place or period, but in it are manifest the wa



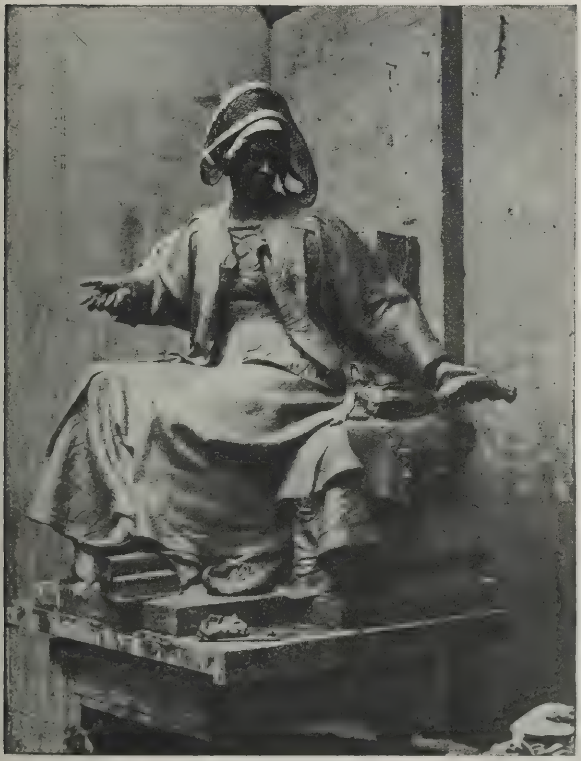
PANELS ON THE CARDIFF CITY HALL. PAUL RAPHAEL MONTFORD, SCULPTOR.



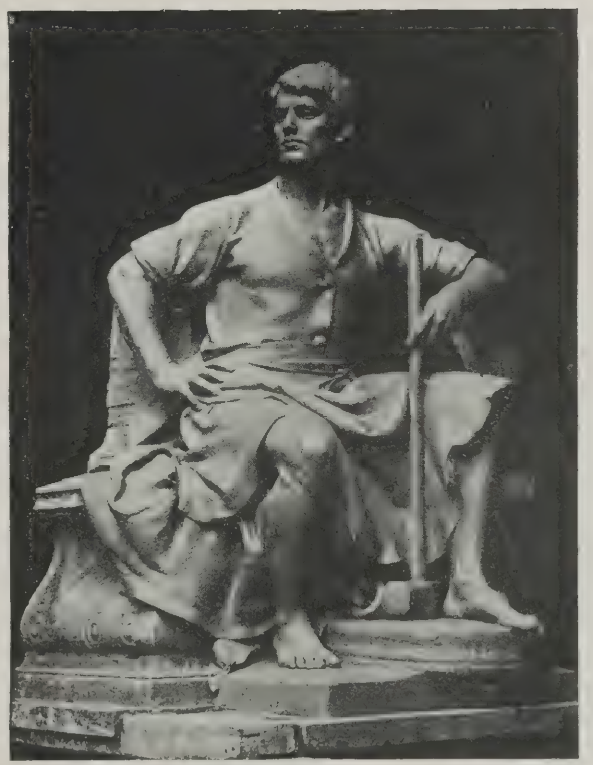
"PEACE."



"WAR."



"COMMERCE."



"INDUSTRY."

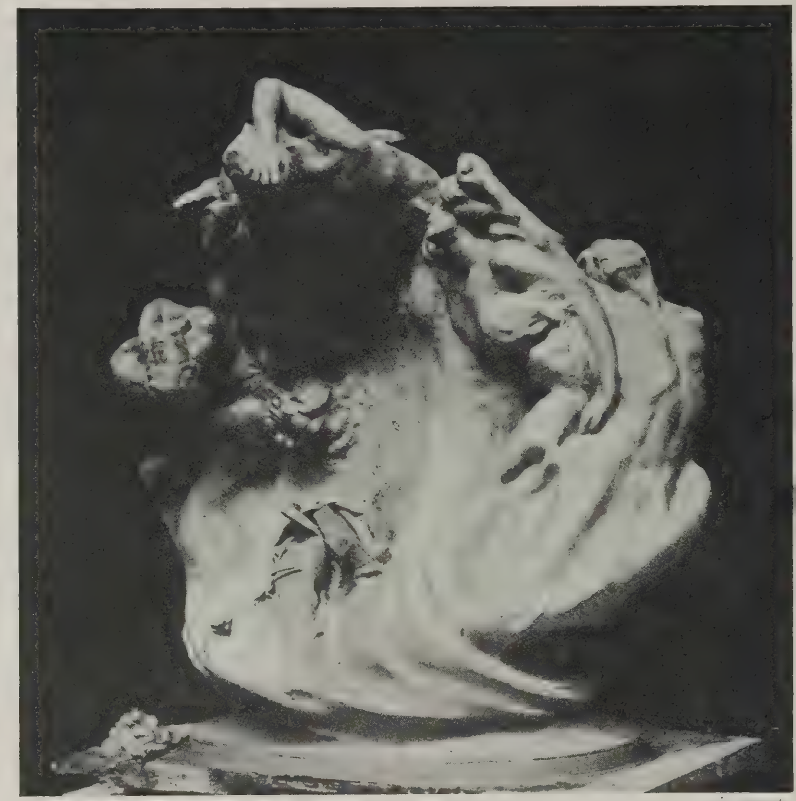
BRONZE STATUARY BY PAUL RAPHAEL MONTFORD ON THE KELVIN BRIDGE, GLASGOW.

spirit of all ages, the untamed force, the vigour, the lust of conquest and of gain, the primitive instincts of man.

In striking contrast is the gentle "Peace." By means so simple that we wonder wherein the secret lies this beautiful figure calls up all the associations of its subject, the arts and industries, untrammelled by strife, the security of the home and the sweetness of the life there, in a time of plenty, far from "War's shrill alarums."

It is noteworthy that the symbolism of Montford's recent work is never pedantic, never gathered without imagination from out the lumber of antiquity. He draws his ideas from his subject, and they need no ancient lore for interpretation.

In the figure of "Commerce"—and few sculptors would have ventured to typify Commerce by a woman—we have an instance of the aptness of his symbolism. How telling is the suggestion of the office ledgers, the purse, and the money-bag held out so temptingly; the very richness of the dress—rare brocade—the laced coif, the stringed shoes, speak of trafficking in precious goods. By what subtle alchemy does this single figure call up pictures of the desert caravan, the busy ports, the aged merchants signing their long bills, and the sailors singing in their ships along the bay. But to suggest more than is apparent is surely the mission, the magic, of art.

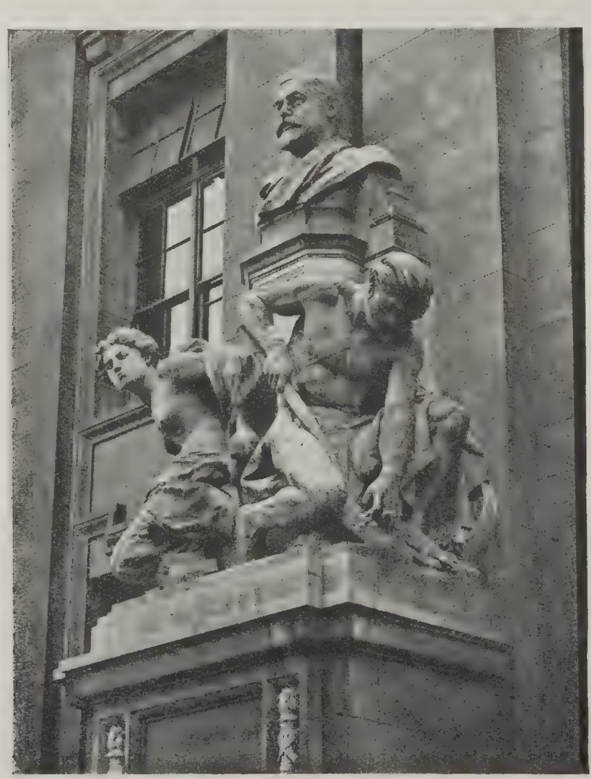


"THE STORM WAVE." PAUL RAPHAEL MONTFORD, SCULPTOR.

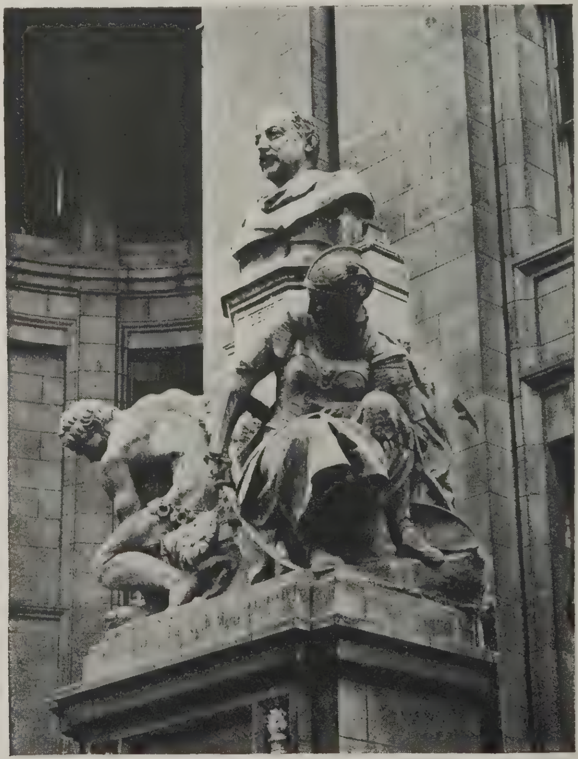
The more remarkable for its uniqueness, "Industry alone amongst these eight figures shows a self-consciousne of pose and expression. There is here apparent a certa self-satisfaction, a presumption of independence, of suf ciency in his own strength and power to bear alone t burden of the worl True, there is t pride in labouring, b also an ignorance the truth that m cannot live by bre alone.

Circumstances rath than inclination m have induced in Mon ford this preoccup tion with work of monumental characte for in that is not t limit of his interest abilities. He has son fifty busts to h credit. From time time he has creat works of a pure ideal character, e bodiments of so abstract thought sentiment. Such work is his "Fish man and Mermaid and such is his fa tasy "The Sto Wave." An ea group, unhappily d stroyed by an ac dent whilst castin was that entitl "Whom the Gods Love . . . . ." In spite of its imm turity and faults, as in the over-elaboration of t drapery, there is here a grace, a sweetness, a hauntin melancholy which arrest and charm; a fair promise greater things to come.

And this promise has not been unfulfilled.



"SMELTING AND MINING."



"STONE AND METAL."

TWO GROUPS ON THE SCHOOL OF ENGINEERING, SOUTH KENSINGTON PAUL RAPHAEL MONTFORD, SCULPTOR.

"Rushymead," Coleshill

A. DUNBAR SMITH and the late CECIL C. BREWER, Architects

RUSHYMEAD" stands on a fine site above Amersham, Buckinghamshire, on a ridge of the Chilterns. It commands not only the beech tree country at its feet, but also the Thames ley and the oaks of Windsor, and beyond that again in ar weather the Hog's Back in Surrey, and on rare asions beyond even that, the faint line of the Downs. . Thomas Forbes, the owner, and Mr. Brewer had fre- ently discussed the possibilities of altering or disguising old house, of building a new house, of designing a garden. length it was decided to pull down the old house and ld a new one on its foundations. The new "Rushy- ad" was the last design made by Mr. Brewer before his th. It was finally carried out under difficulties due to r conditions by Mr. Dunbar Smith.

he major rooms are planned *en suite*, with a large num- of communicating doors. It is possible on the ground r to go from the loggia at one end to the loggia at the er, through the length of the house, without traversing assage. The servants' quarters on all the floors are com- te in themselves and have their own stairs, lift, bath- ms, and corridor. An elliptical staircase-hall two floors eight, entered directly from the porch, is the key of the n. This hall, on the ground floor, leads between columns, two steps, into the second of a range of four reception ms opening into each other and looking south. The rs were originally designed for black marble, but they e been carried out quite successfully in teak. They end in the arc of a circle and consist of a series of equal ders with a corkscrew balustrading. A doorway to servants' quarters is placed on the axis of the ellipse comes centrally under the stairs. It has a circular d and is decoratively joined to the stair-ends. There is absence of heavy mouldings. The design of the hall sists of a series of shapes and surfaces lit at two levels pposite directions.

he four large reception rooms occupying the south are all different in shape. The drawing-room next main loggia is an oblong with a semi-circle added at h end. Next the drawing room is the square sitting-hall the short axis of the house. Next that is an octagonal ing-room, opening in turn into a large T-shaped billiard m. This diversity is not forced, but comes quite natur- . There is no through vista; the rooms must be crossed gonally, yet each is linked in design with the next.

he detail is simple, but the lighting, on the other hand, omplex and varied. The joinery is used cleverly; the ly proportioned doors in these rooms are of flush ogany and stand like dark mirrors in the ivory walls. drawing-room gives through three large French win- s upon the loggia, but is mainly lit by its end windows. difficult task of detailing the sitting-hall and the stair- -hall has been carried out successfully by Mr. Dunbar th. He has used as a motive for decoration *four bees* llusion to his client's name. Four bees are also to be d outside on the rain-water pipes and on the key-stones. the octagonal dining-room the ceiling is constructed brous plaster panels, the joints of which form a natural ern.

n the first floor the rooms looking south are smaller those on the ground floor by the width of a main idor, the partition wall of which is carried on a joist ing nearly the length of the house. The main bedrooms into this corridor and have a small bedroom between with connecting doors to form a dressing-room when ired. At each end a suite is formed by a bedroom and ng-room opening on to a loggia roof. These suites have their own bathrooms. The house contains five bathrooms, and in each case there is access to the plumbing through a special door, either in the bathroom itself or in the adjoining room.

The main corridor is lighted at the far end by a projecting bay-window led up to by wooden steps. The stair then leads up somewhat narrowly through an opening and round again into the corridor above, which is lit by the same window and fenced by a balustrade. Another series of rooms, including a nursery suite, are here situated in the roof, and through any window you can distinguish on a clear day the towers of Windsor Castle.

The details for the order in the entrance porch and in the loggias were among the few left by Mr. Brewer. The order has the following characteristics: The column is octagonal on plan and has sinkings upon the shaft; caps and bases are also octagonal; a plain lintel is surmounted by a freely designed cornice. The lead work protecting the top of the cornice has been ornamented and gives the effect of a narrow blocking course. The full effect of the inter-columniations can be seen best in the loggias, where the blocking course is of stone and is designed to form a seat on the roof above. The invention is confined to detail. The drawing was made to inch scale in a few hours, and the general proportions have not been departed from. It is an interesting example of direct design. The variations that were rendered necessary by practical issues as they arose in course of construction were as few as possible and made by Mr. Dunbar Smith as nearly as he could in his partner's manner.

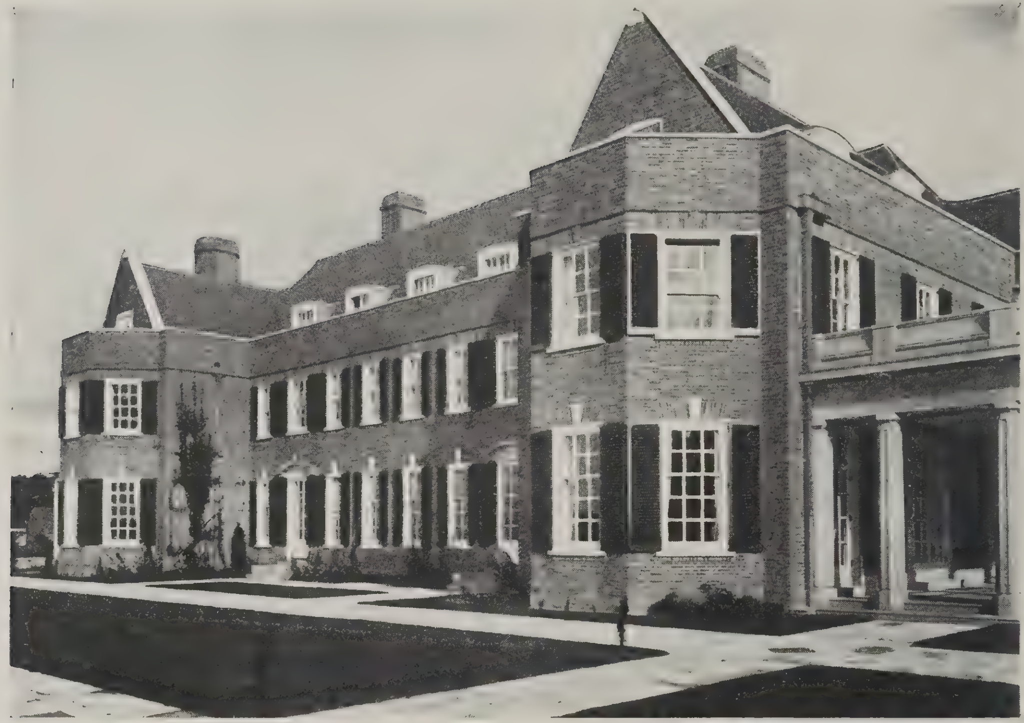
Externally, "Rushymead" presents a soft brick suit of many colours in which are two rows of oblong sash windows flanked by green shutters. There is no cornice above, only a string and a tall parapet, behind which rises the roof. The projecting bays at each end are terminated above by gable-ends having stone copings.

The walls are hollow, and consist of a 9 in. inner wall to carry weight, a 4½ in. air space and a 4½ in. outer wall. The two are tied by large galvanized iron ties. The small bricks of the outer wall are less than 2 in. in height. They have a ½ in. mortar joint, and were specially made by Messrs. Rust and Radcliffe, of Chesham, to line at foot intervals with the courses of the ordinary bricks of the inner wall. The joints were pointed with a curved impress. The headers were cut so as not to project inwards into the enclosed space. The stone cills, keys, and copings are all of Portland stone.

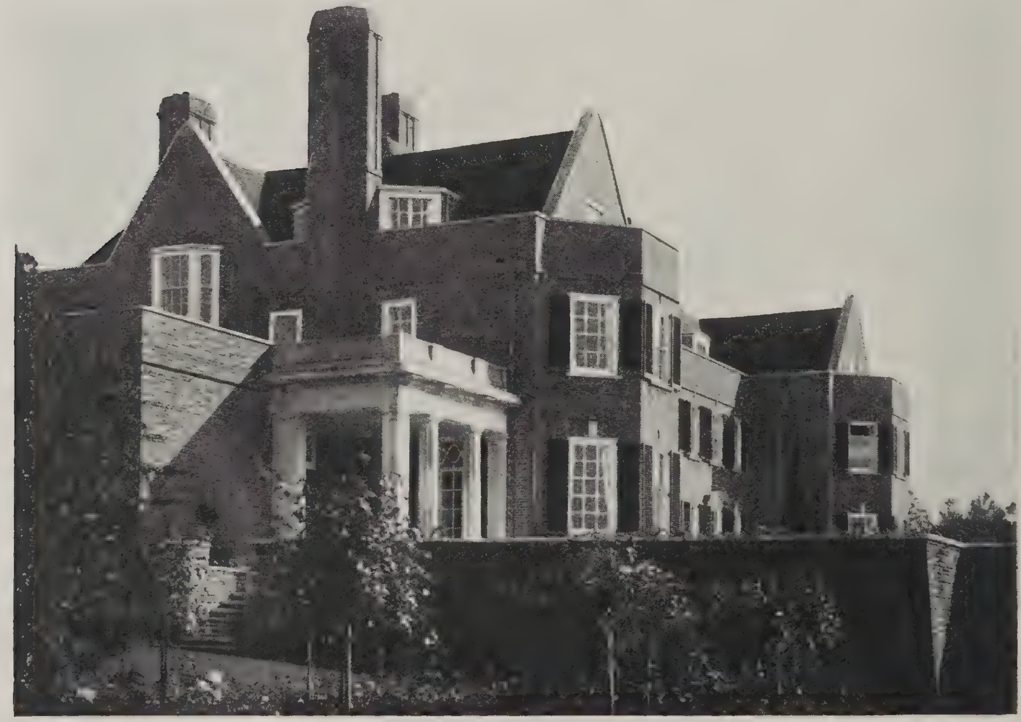
The garden is partly laid out according to the plans of Mr. Dunbar Smith and partly according to the design of Mr. Wood, garden architect. Mr. Forbes did the honours of his garden no less pleasantly than of his house, and with an equal taste and interest.

We are indebted to the "Architectural Association Journal" for the foregoing particulars and for the loan of the illustration.

The general contractors were Messrs. J. K. Cooper and Sons, Ltd., of Maidenhead, and the sub-contractors as follows: F. Edwards and Son (heating and hot water supply); F. Geere Howard (electrical work); Joseph Armitage and G. and A. Brown, Ltd. (fibrous plaster work, etc.); Fenning & Co., Ltd. (marble work); Bassant Bros., Ltd. (parquet flooring); J. P. White and Sons, Ltd. (teak staircase and joinery to reception rooms); United Water Softeners, Ltd. ("Permutit" water softening plant); the Septic Tank Co., Ltd. (septic tank installation); James Ritchie and Sons (hand-power lift); Bratt, Colbran & Co., Ltd., Candy & Co., Ltd., F. Edwards and Son, and Thomas Elsley, Ltd. (fire grates); Charles Smith, Sons & Co., Ltd., Birmingham (ironmongery); A. Emanuel and Sons, Ltd. (sanitary fittings).



THE GARDEN FRONT

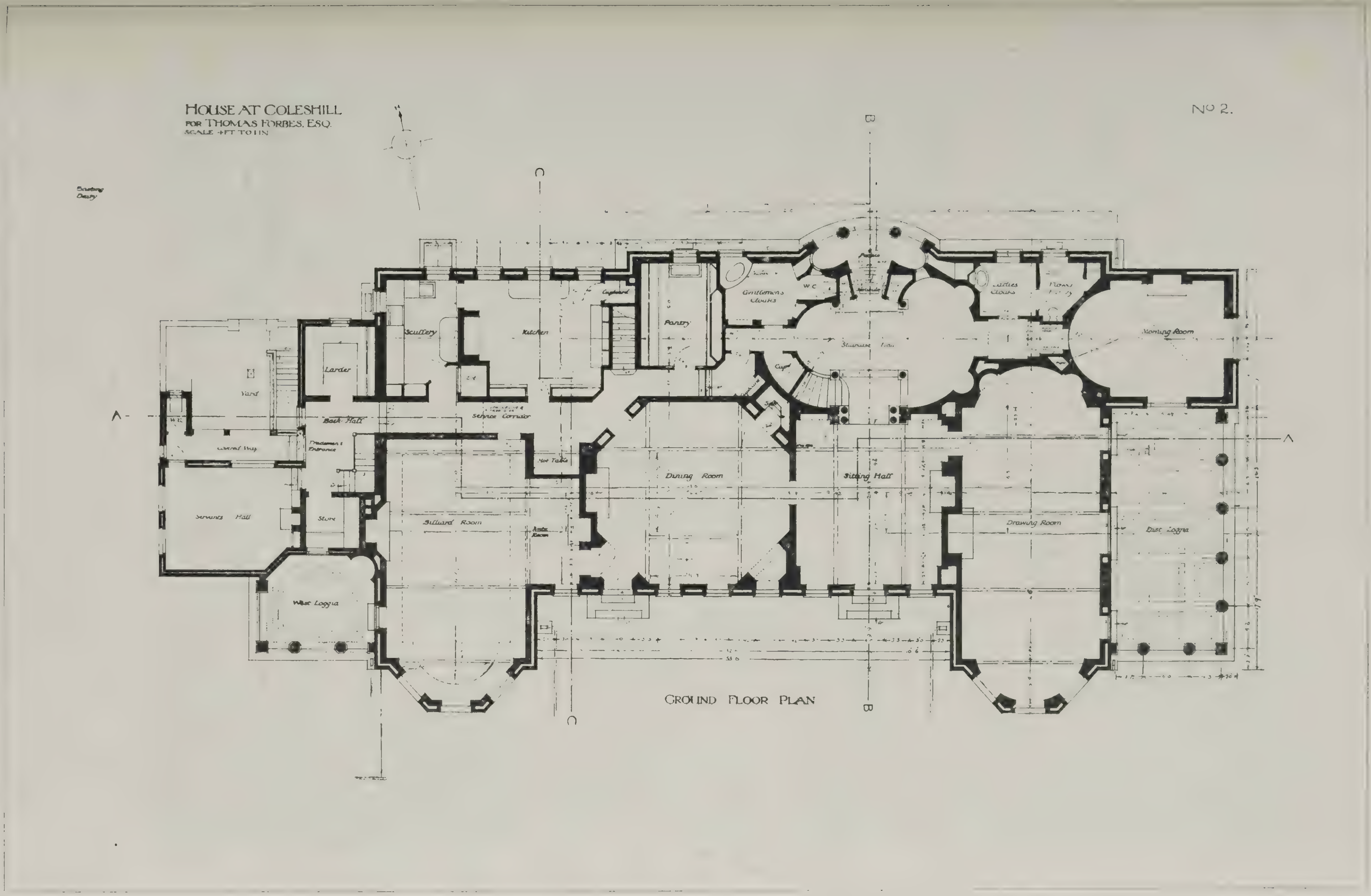


Photos: F. R. Yerbury.

A VIEW FROM THE WEST.

"RUSHYMEAD," COLESHILL.

A. DUNBAR SMITH AND THE LATE CECIL C. BREWER, ARCHITECTS.



"RUSHYMEAD," COLESHILL: GROUND PLAN.

A. DUNBAR SMITH AND THE LATE CECIL C. BREWER, ARCHITECTS.

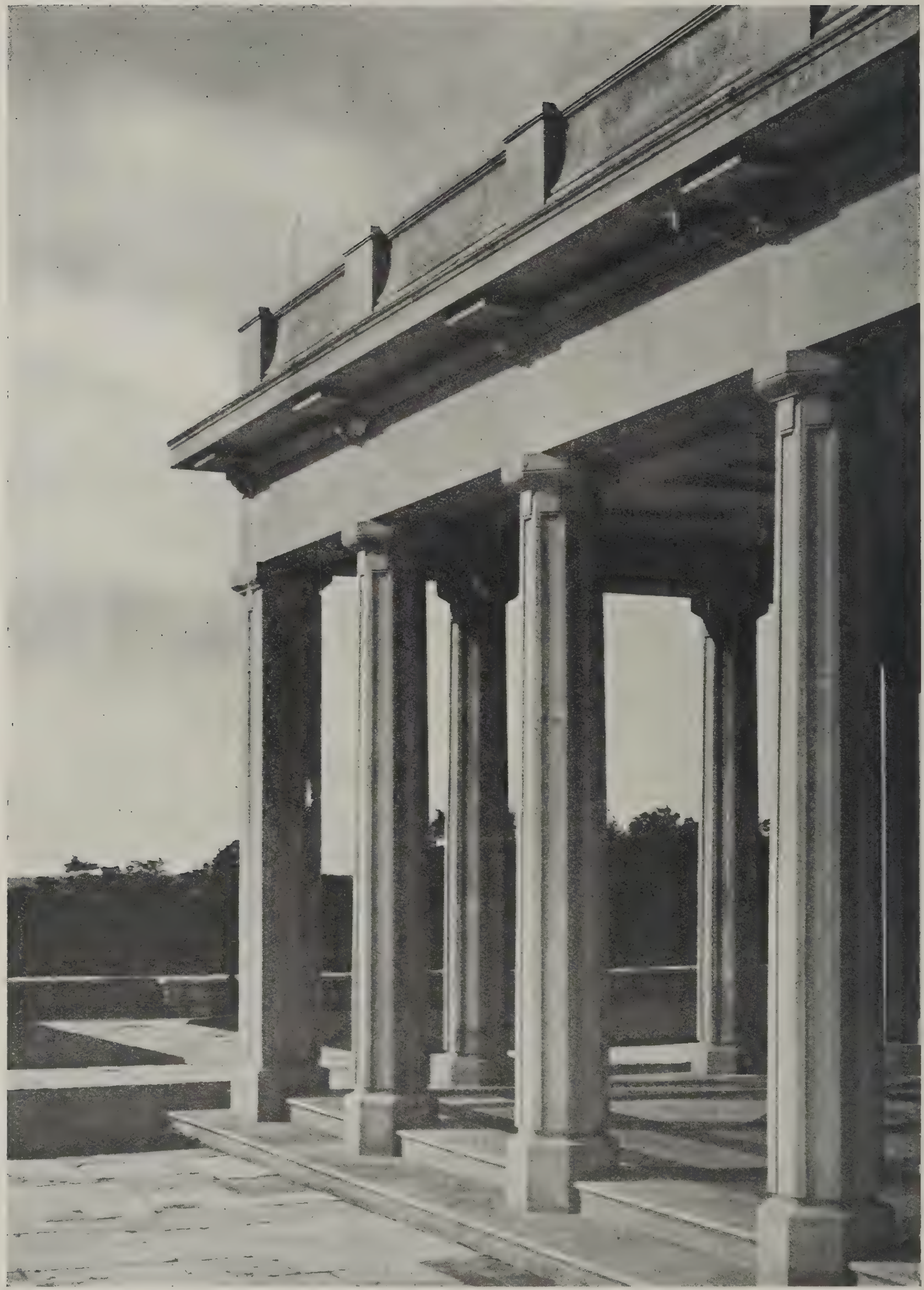
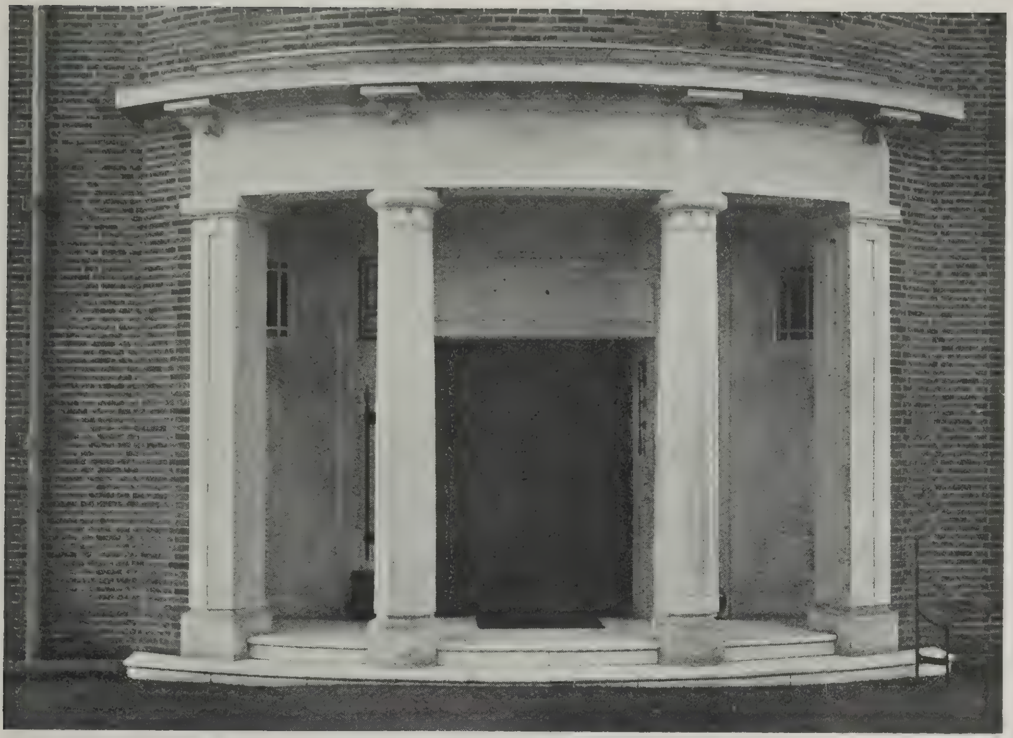
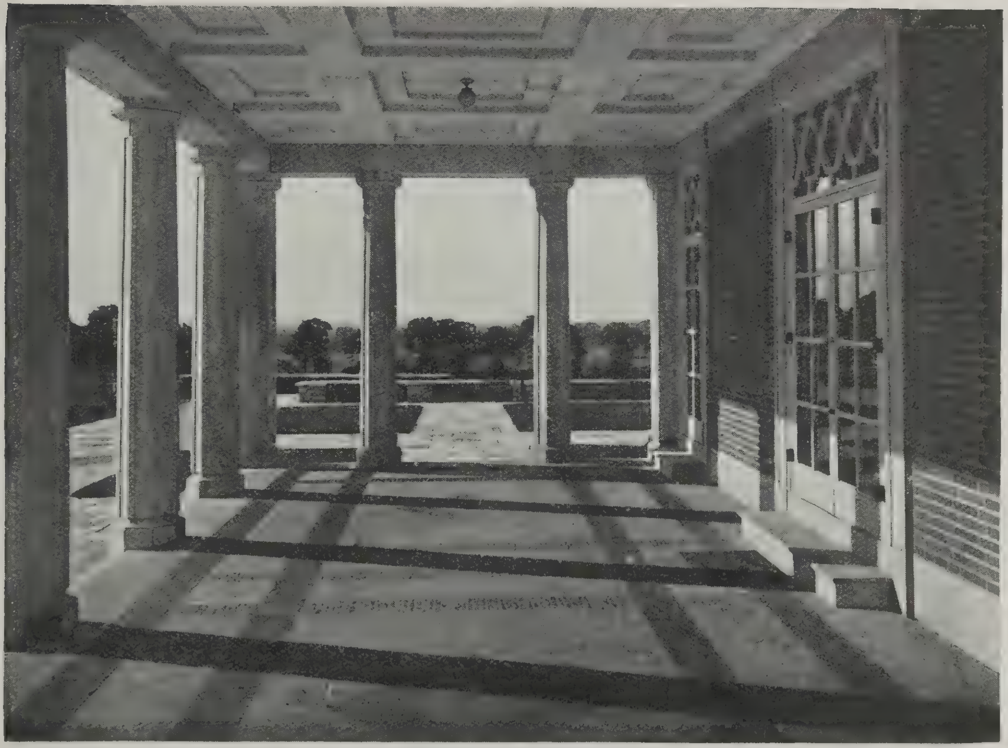


Photo: F. R. Yerbury.

"RUSHYMEAD," COLESHILL: THE LARGE LOGGIA.
A. DUNBAR SMITH AND THE LATE CECIL C. BREWER, ARCHITECTS



THE ENTRANCE PORCH.

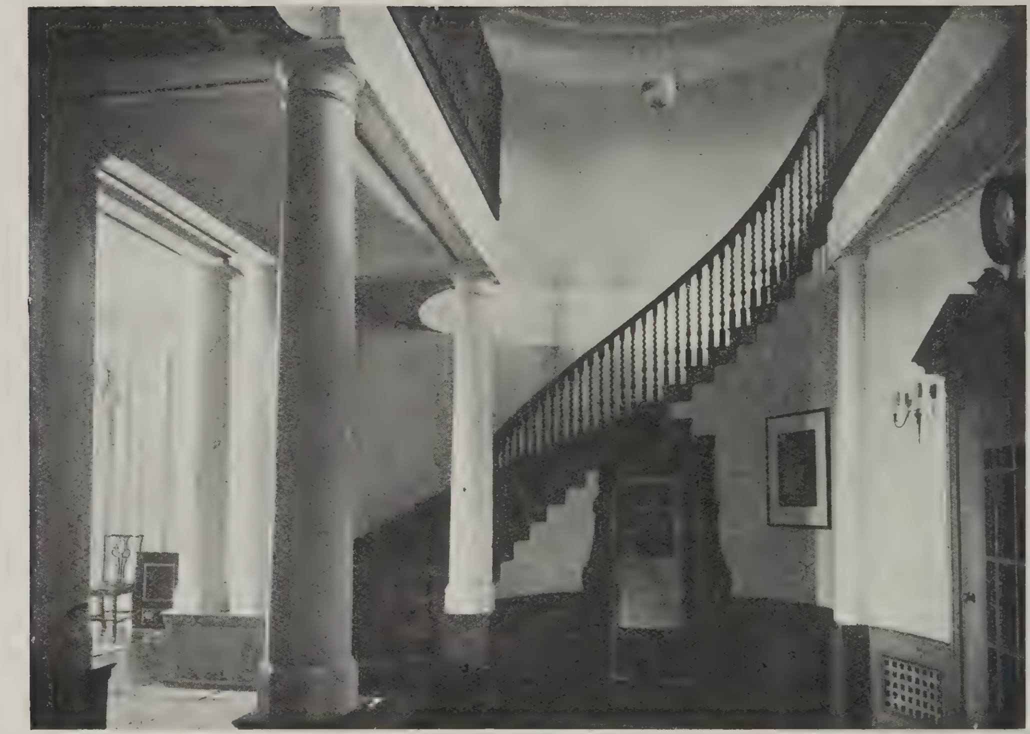


Photos : F. R. Yerbury.

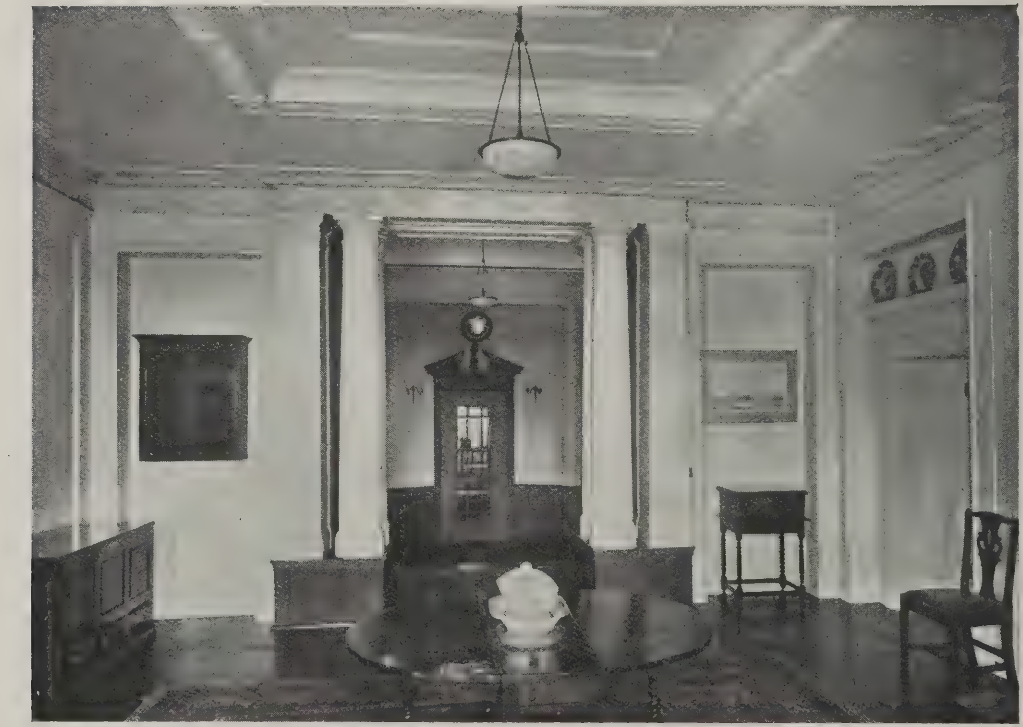
INTERIOR OF THE LARGE LOGGIA.

"RUSHYMEAD," COLESHILL

A. DUNBAR SMITH AND THE LATE CECIL C. BREWER, ARCHITECTS.



THE ENTRANCE HALL.

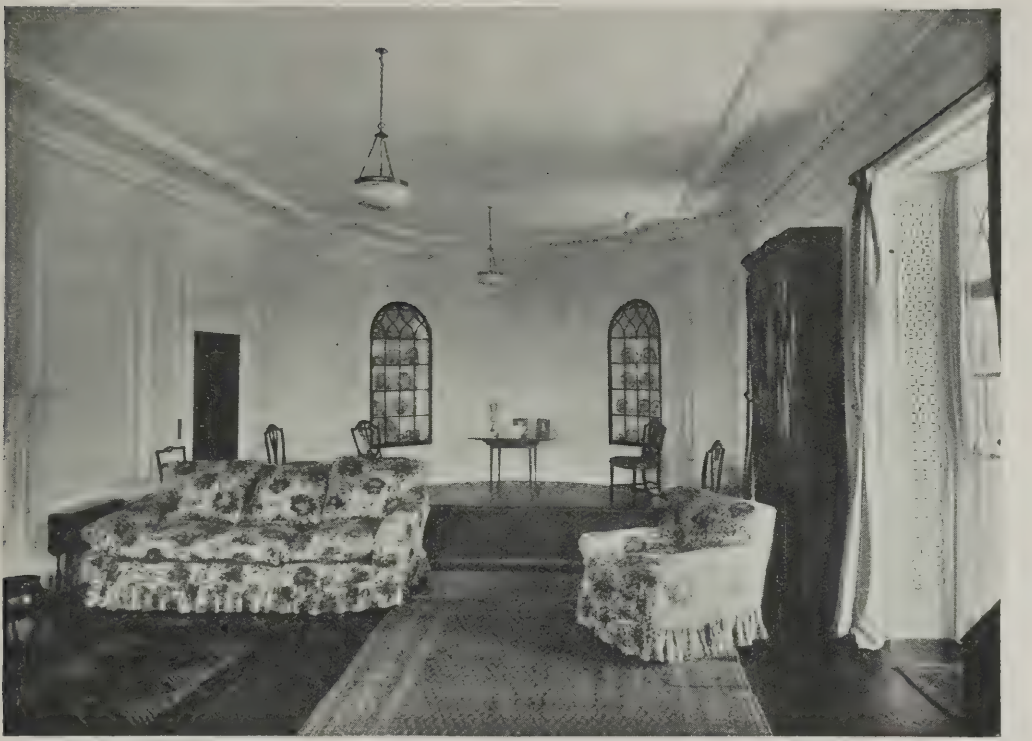


Photos: F. R. Yerbury.

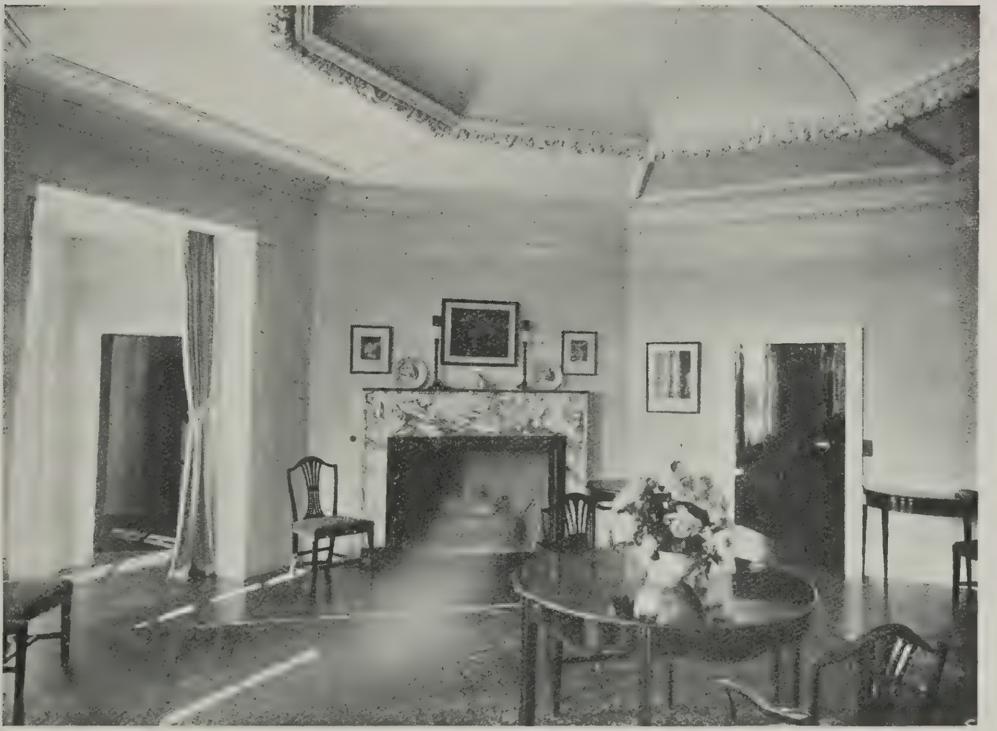
THE RECEPTION HALL.

"RUSHYMEAD," COLESHILL.

A. DUNBAR SMITH AND THE LATE CECIL C. BREWER, ARCHITECTS.



THE DRAWING-ROOM.



Photos: F. R. Yerbury.

THE OCTAGONAL DINING-ROOM.

"RUSHYMEAD," COLESHILL.

A. DUNBAR SMITH AND THE LATE CECIL C. BREWER, ARCHITECTS.

"Pantiles," Thames Ditton, Surrey

G. ALAN FORTESCUE, A.R.I.B.A., Architect

THE greatest objection that is urged against the bungalow is that the sleeping apartments usually obtrude themselves upon the domestic offices and living rooms. In the one illustrated—designed by Mr. G. Alan Fortescue, A.R.I.B.A.—this has been avoided by planning the house with two wings—the bedrooms and bathroom being self-contained in one wing, and the dining-room, kitchen, and maids' bedroom in the other. The connecting block is taken up with the lounge and sitting-room.

Such a plan lends itself to a greater lightness of design than when all the rooms are grouped together, and a paved court between the two wings can form a distinctive feature.

In designing the elevations the architect has availed himself of all the advantages of the plan. The space between the two blocks is paved as a court, with a pergola in front. At the back of the bungalow the slight recess between the two wings forms a loggia. The columns to the pergola are 10 in. octagonal, and were cast in concrete on the job. The bearers and cross-sparring are oak.

The bungalow is brick built, finished with Portland cement, the last coat finished with "wood float" and twice distempered white with "Duresco." The brick plinths are twice tarred.

The roof is constructed with 4 in. by 2 in. rafters, with $\frac{3}{4}$ in. close boarding, and 3 in. by 2 in. rafters spaced 8 in. apart to receive Italian tiling. The tiling is by Messrs. Ames and Quinis, London. Three-quarter inch beaded boarded eaves project 6 in. from the face of the wall.

The interior is particularly well lighted, the plan allov ing windows to be inserted in two sides of the room

The fire-place in the lounge (of which an illustration given) is plain brick with a dog-grate and fireback distinctive pattern. The overmantel is dark oak.

The windows are steel in wood frames. These we supplied by Messrs. W. Games & Co., Willesden. Th external window sills and thresholds are formed by har red brick-on-edge, while the internal sills and threshol are formed of 6 in. by 6 in. quarry tiles twice beeswaxed.

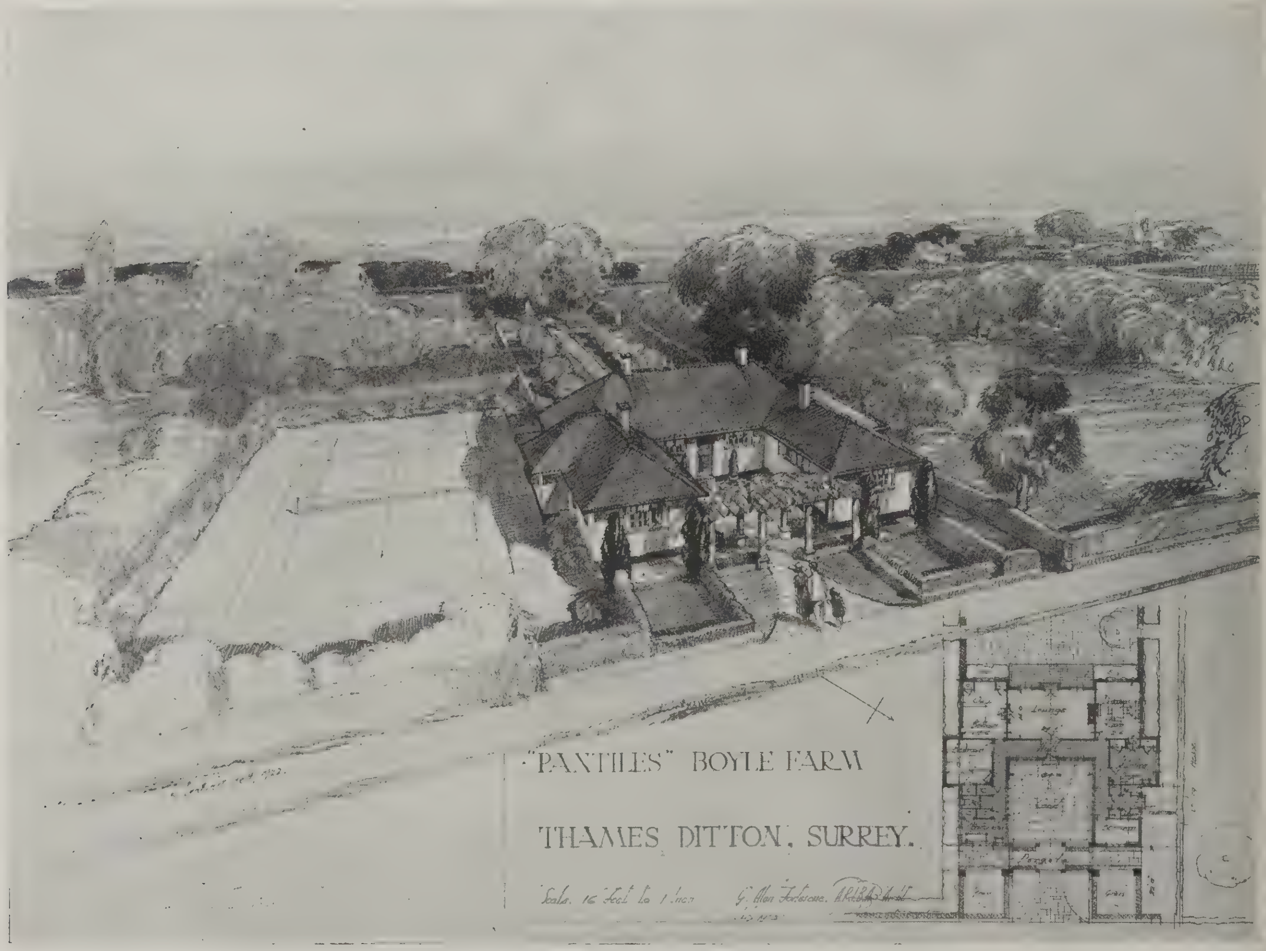
For the floors to the kitchen, corridors, bathroom, et 9 in. by 9 in. quarries were used.

The doors are two-panel, square both sides, the pane being filled in with $\frac{5}{8}$ in. birch Venesta and painted whit with 6 in. by 1 in. square skirting painted black. The fing plates and other door furniture, and the electric light swit plates, etc., are black ebony.

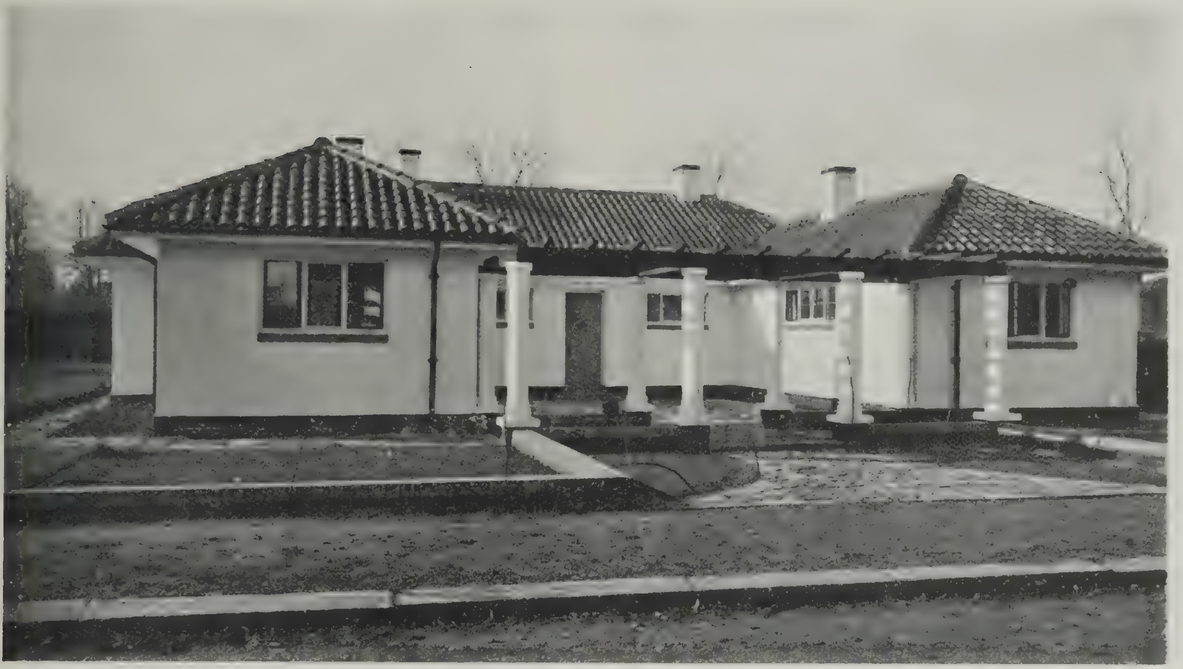
The coal fire to lounge and built-in gas fires to bedroon are constructed of concrete flue-blocks. An Eco anthraci range is provided in the kitchen.

As in the architect's other house, "Dormers," at Tham Ditton (illustrated in our issue for November 1, 1922), the is a service hatch from the kitchen to the dining-room, ar on the kitchen side the top part of the hatch forms a rece tacle, with a glazed door, in which china may be store Beneath the serving portion are drawers to pull in and o either side for knives, and underneath these and above t skirting a cupboard for glasses and decanters, etc.

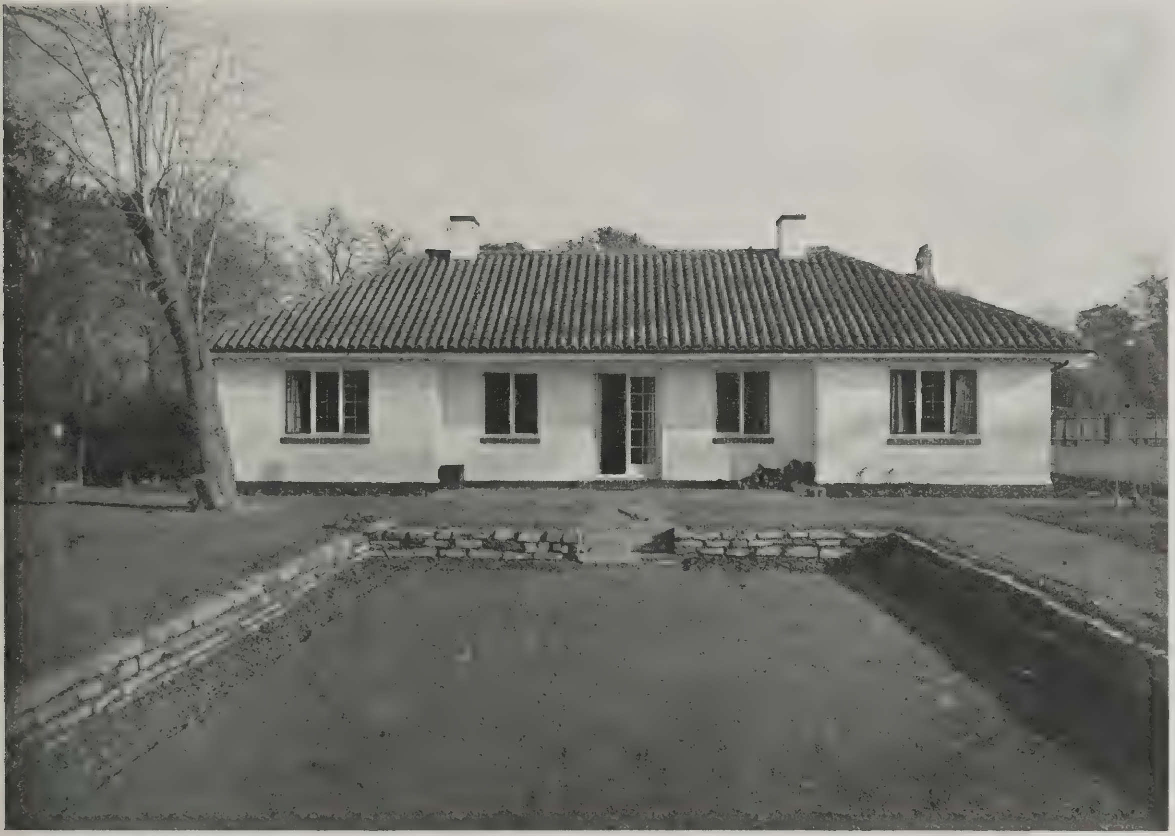
Built-in cupboards are installed in all the bedrooms.



A PERSPECTIVE SKETCH.



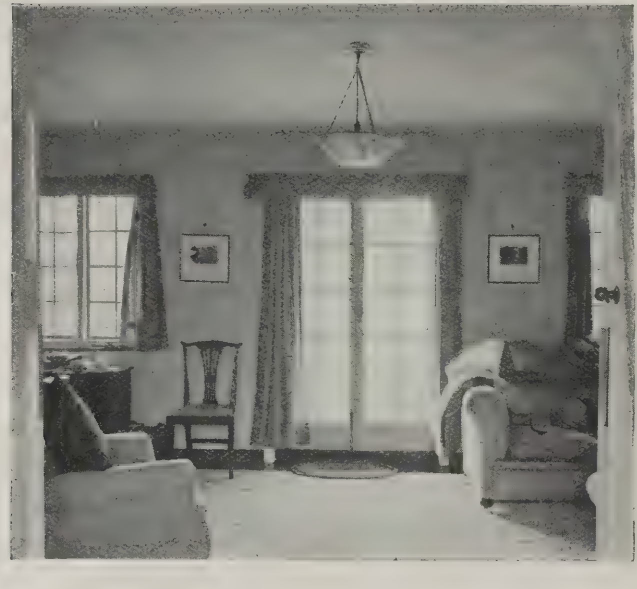
THE ENTRANCE FRONT.



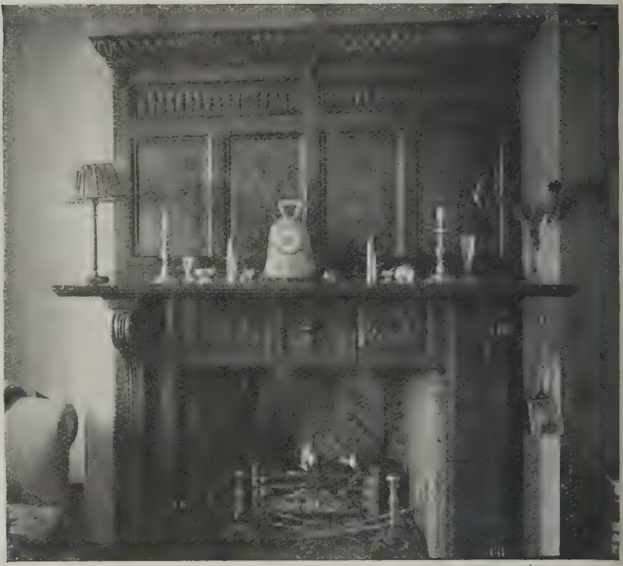
BACK ELEVATION AND SUNK LAWN.

Photos: "Architects' Journal."

"PANTILES," THAMES DITTON, SURREY.
G. ALAN FORTESCUE, A.R.I.B.A., ARCHITECT.

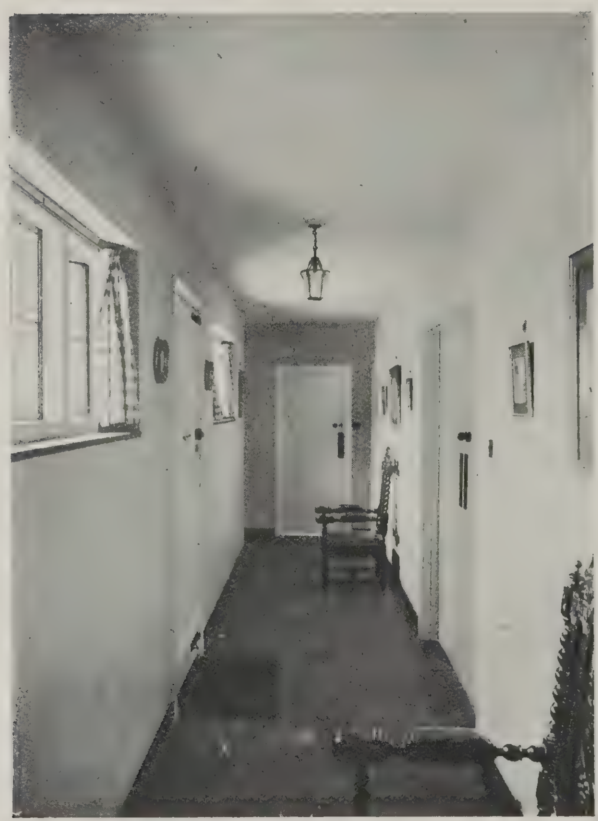


THE LOUNGE.

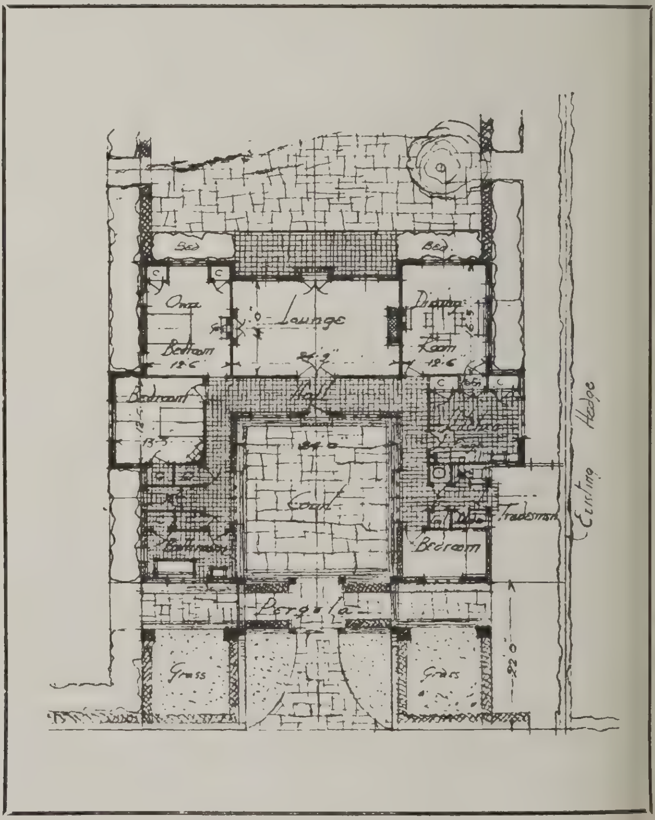


Photos: "Architects' Journal."

FIREPLACE IN LOUNGE.

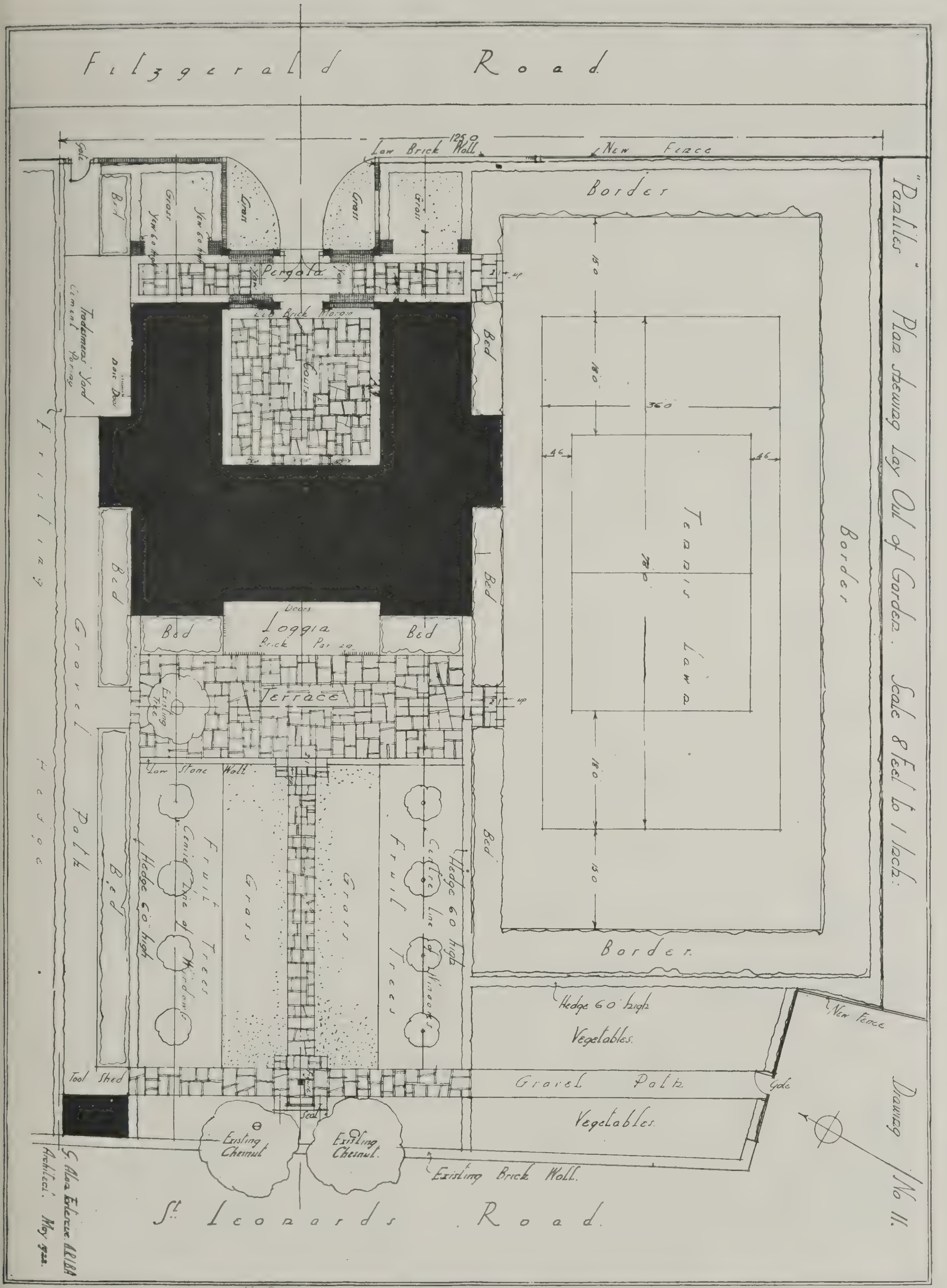


CORRIDOR CONNECTING THE TWO WINGS.



PLAN.

"PANTILES," THAMES DITTON, SURREY.
G. ALAN FORTESCUE, A.R.I.B.A., ARCHITECT.



PLAN SHOWING LAY-OUT OF GARDEN.

"PANTILES," THAMES DITTON, SURREY. G. ALAN FORTESCUE, A.R.I.B.A., ARCHITECT.

Llandudno War Memorial

S. COLWYN FOULKES, A.R.I.B.A., Architect

ORIGINALLY the Llandudno War Memorial was the subject of an open competition in which the design of Mr. S. Colwyn Foulkes, A.R.I.B.A., secured first place, and when it was decided to change the site Mr. Colwyn Foulkes was entrusted with the design of the present memorial. The type of the memorial has been determined primarily by its site. The fine width and length of Gloddaeth Street, terminating in the horizontal line of the promenade against the sky, called for some high form in contrast to this. It was felt that any memorial of a pronounced warlike or realistic character should be avoided, and that some form should be sought which, while satisfying the above considerations, would remain of permanent significance.

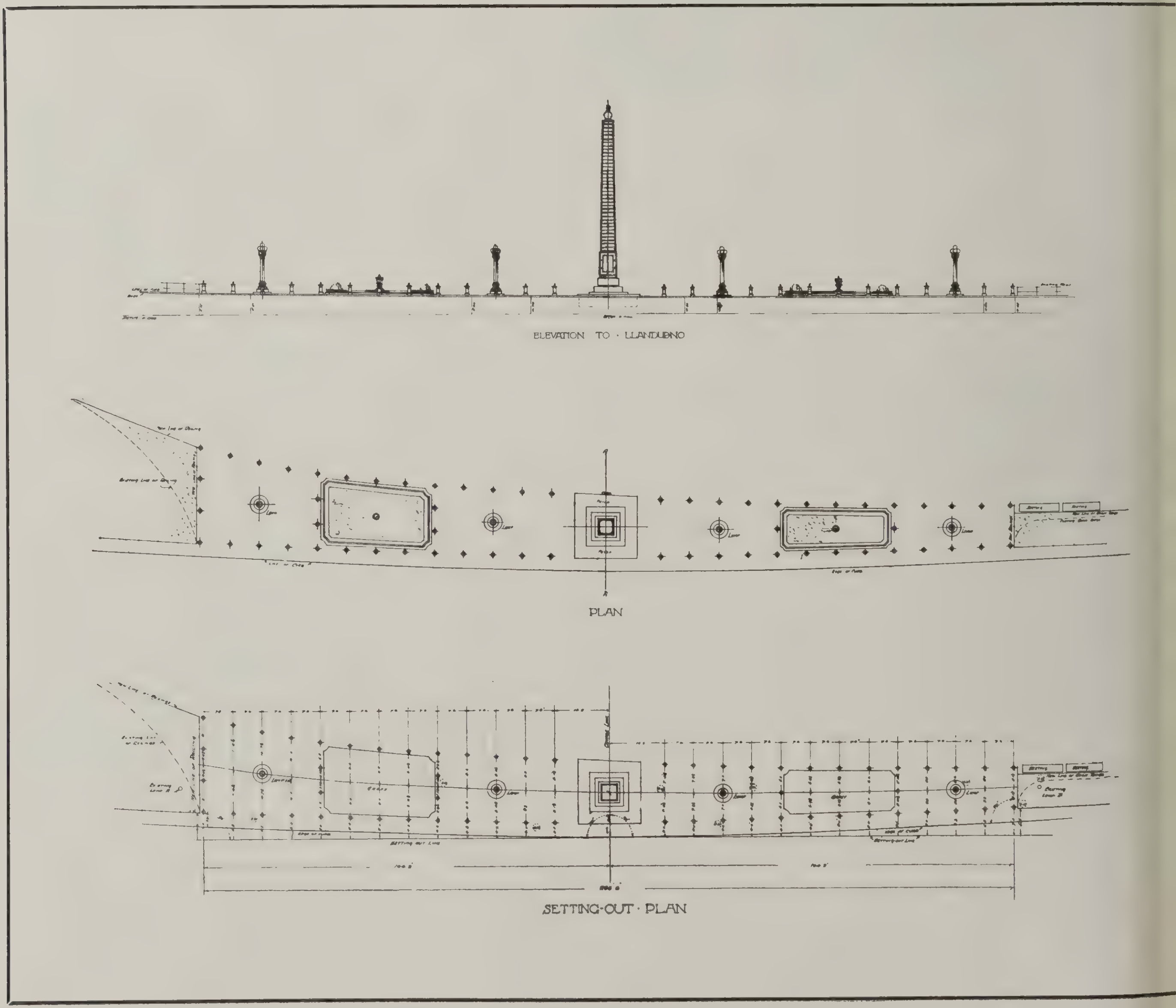
In reviewing the memorials of the past, it was felt that the obelisk was the type most fitting the conditions. It is a type which has been used as a commemorative monument by succeeding generations for nearly 4,000 years. In most of the principal European cities it survives to-day, where it usually marks the "place" or point of greates importance.

Unlike most of the classic examples, which are surrounde by buildings, this monument has the advantage of a complete silhouette against the sky. The lay-out on eithe side is designed to connect up the curves of the promenad and by its low character to lead up to and emphasize th memorial.

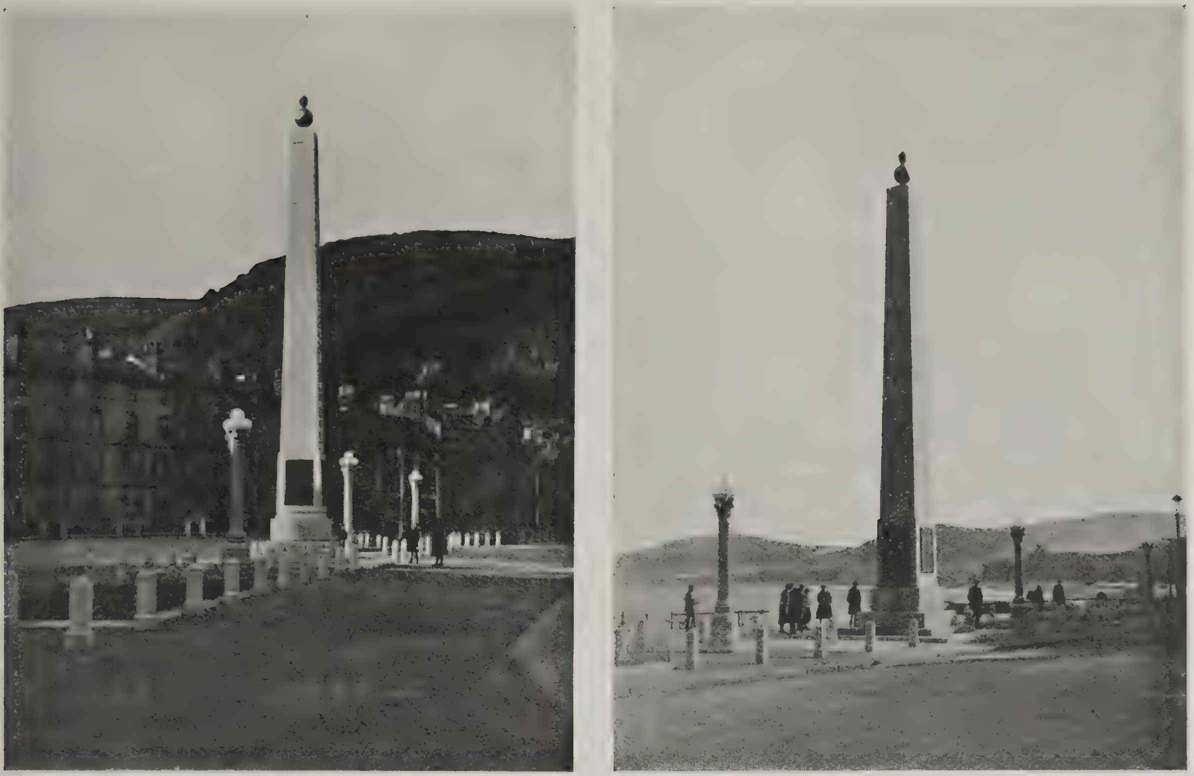
The monument is built of Cornish granite, and the co of the shaft is of reinforced concrete, the reinforcemen being carried down and connected with a reinforced concrete base 18 ft. square. The height of the memorial 50 ft. from the pavement to the top of the bronz grenade.

The work has been carried out under the supervision the architect by the following firms :—

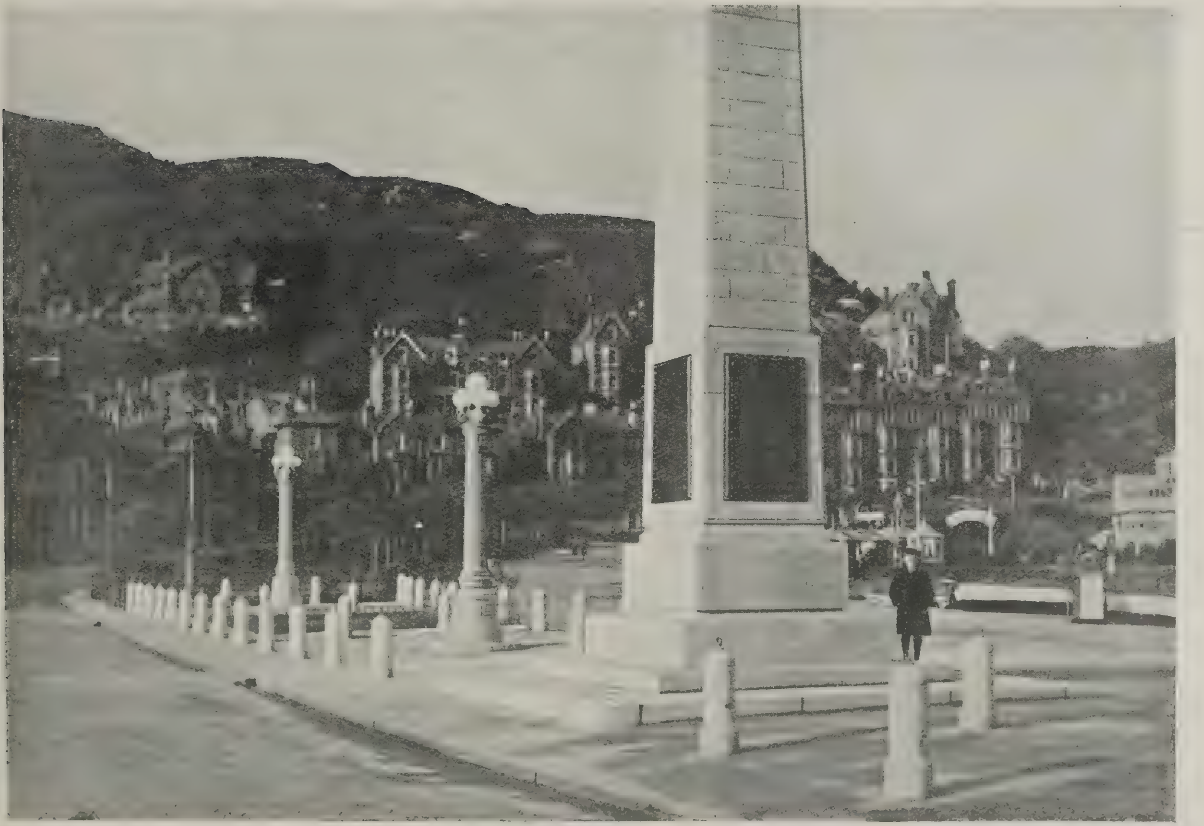
J. and H. Patteson, of Manchester (obelisk); J. Whit and Sons, Birmingham (lay-out); and The Bromsgrov Guild, Bromsgrove (four lamps).



ELEVATION AND DIAGRAM OF LAY-OUT.



TWO GENERAL VIEWS.



A VIEW OF THE BASE.

LLANDUDNO WAR MEMORIAL.

S. COLWYN FOULKES, A.R.I.B.A., ARCHITECT.

R.I.B.A. Street Architecture Medal

FOLLOWING are the conditions, subject to which the R.I.B.A. will award the medal for the street frontage of a building erected or completed within a radius of four miles from Charing Cross during the year ending December 31, 1922:—

1. With a view to encouraging excellence of design in street architecture, it has been decided to examine annually the buildings erected or completed during the year ending December 31, within a radius of four miles from Charing Cross, and to award a premium for the most meritorious external design.

2. Premiums.—The architect of the premiated building will receive a bronze medal, presented by the Royal Institute, together with a diploma signed by the Jury of Assessors.

3. Conditions:—

(*a*) The building must front to a street, road, square or court, to which the public has access within the four-mile radius. The award is intended for a street façade as opposed to churches or public buildings.

(*b*) The architect is the person from whose design the building has been executed.

(*c*) Any member or Licentiate of the Royal Institute shall be at liberty to nominate any building (not excluding his own work) for consideration by the jury. Forms of nomination will be issued with the first two numbers of the Journal in each session. These forms, which must be accompanied by an elevation to scale and a photograph of the exterior of the completed building for the information of the jury, must be in the hands of the Secretary R.I.B.A. by the end of February, 1923. These documents will be returned (carriage paid) to the sender after the award has been made. The jury do not
bind themselves to confine t
selection to the buildings no
nated.

4. Jury.—The award will be made
a jury of five appointed by the Counc
the Royal Institute. The jury for
award for the present year consists of

The Earl of Crawford and Balca
(Hon. F.), Chairman; Sir Aston W
(F.), P.R.A., Past President R.I.B.
Mr. Paul Waterhouse, P.R.I.B.A.;
Reginald Blomfield, R.A., Past Pr
dent R.I.B.A.; Mr. E. Guy Daw
F.R.I.B.A.

Before making their award the j
will personally inspect such of the bu
ings as they deem worthy. The aw
will be final and binding on the Cou
of the Royal Institute and the archit
concerned.

5. Presentation.—The presentation
the premium to the architect will be m
annually at a meeting of the Royal
stitute, of which the date will be announ
in the Press.

Correspondence

The Architect's Niche

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In his presidential address to the Architectural Association Mr. Hamp states that his visit to Holland proves to him that the general public in this country do not fully appreciate the architect and his work, and it seems to me that the fault lies very much with the architect himself.

What do they know of the architect? And what media has the general public for learning what are the functions of an architect? Rarely indeed do we see in the ordinary Press any reference to the architect's work. A public function takes place, such as the unveiling of some monument—the distinguished person invited to perform the ceremony is mentioned; any well-known visitor also, and nearly always the Mayor or other official, and often the Mayor's wife and his secretary, but never, or very rarely, the name of the creator of the monument.

The architectural publications proper are too costly to reach the hands of the many. Unless the architect's work is therefore displayed in the periodicals which the public habitually read, how can they be familiarized with or appreciate the work which the architect performs?

Mr. Hamp then goes on to refer to matters other than advertising or publicity, and suggests that the architect should originate and design all internal decoration, but in later paragraphs remarks that it is the task of specialists to experiment in materials, and with this I fully agree. The actual workers in the materials are the ones who know most about it, and they are as much experts as Mr. Hamp acknowledges the steel engineers to be.

I take it that Mr. Hamp means in effect that the draughtsmen designers who are employed by firms of craftsmen are there to develop the original ideas designed by the architect, and, being men who have made it their life's special study, should be given opportunities of finding an expression for their art. Mr. Hamp does not definitely state, but evidently means to suggest that every body of "enthusiastic" and "conscientious" craftsmen, whether designated by the name of firm or working as individuals, is one of the "groups of various experts whom architects can consult, and whose knowledge and experience are so necessary to all architects."

In more than one architect's office it is looked upon as little less than a crime that firms of craftsmen keep a staff of designers whose life-work it is to study the subject of design as more particularly applied to their own branch of usefulness. Surely the most capable interpreters of an architect's own ideas are the men or body of workers who are able themselves to originate and design.

The man who is unable to speak the language is not the man to understand the intention even if it is carefully written, and no drawing, however carefully prepared, will make a second-rate craftsman produce a first-class article.

Life is too short for an architect to pass through a practical course in every branch of activity which goes to the making of architecture; on the other hand, the specialist in any one branch cannot acquire the general knowledge which must control the assembly in one complete and harmonious whole.

One of the most important subjects dealt with by Mr. Hamp is the urgent necessity of finding some means of expression which will enable the general public to know more about architects and what they do.

The public know what a builder is. Why should the architect not be equally known? Surely there is some way of "letting their light so shine, etc.," which will not be undignified.

If the job is good we, the public, want to know who is the responsible man—
architect; if it is a bad job we, the pub
ought to know who did it so that he n
not perpetrate another like it.

Mr. Maurice Webb mentioned
question of payment of the extra spec
ists employed, and this point will
doubt be carefully considered by
proper authorities.

Mr. Austen Hall's desire that buildi
by "A.A." men could be recognizable
their fineness is stimulating, but we w
not only the founders and friends
have made the "A.A." what it is to-d
but the general public to know also,
the latter have no means of acquiring
necessary knowledge, no handbook,
regularly appearing article in any p
lication which they read. Can this
remedied? The practical suggestion
difficult to find, but can the architectu
profession not have an expert who
"write architecture" for the daily P
so that the discussion of architectu
subjects may be entered into, as spor
entered into, because people have
interest in it? H. W. CASHMOR

Acoustical Research

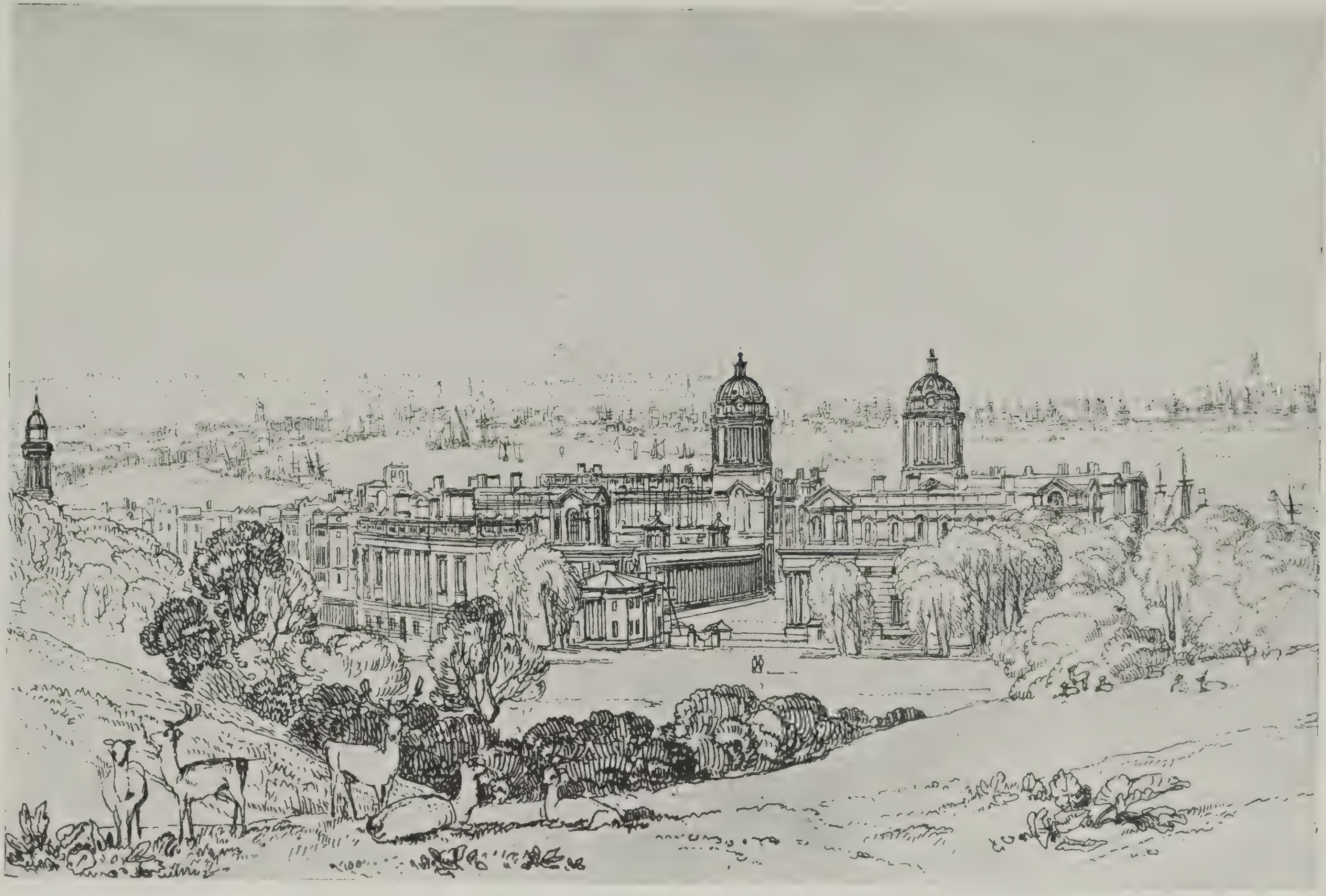
SIRS,—I was greatly interested in y
inspiring leading article in last we
issue, and hope that the elected lea
of the architectural profession will
quick to act upon the suggestion you
forward.

It is quite certain that given a pro
lead from headquarters, there are ma
capable architects who would be wil
to co-operate with scientists in ma
taining the prestige of this nation in
advancement of knowledge.

I, personally, know of a fair numbe
architects and scientists who are speci
interested in the study of architectu
acoustics, and if they can only be brou
together and their efforts co-ordina
the practical value of their services to
profession and the nation will be
hanced tenfold. JAMES CHAPMAN

London from Greenwich

From an Etching by J. M. W. Turner, R.A.



The above illustration of one of the etchings exhibited recently at the Cotswold Gallery gives us a glimpse of the profound imagination of Turner. His lines infer a thousand sounds, scents, vistas which they do not limb. He leaves a blank in a landscape, and instantly the fields, forests, rivers, hills, which he has not delineated, come crowding upon the mind in all their variations of colour and form.

Architecture and the Public

MR. ERIC MORLEY, F.R.I.B.A., F.S.I., in the course of his presidential address to the Leeds and West Yorkshire Architectural Society, said that the Department of Architecture had founded a Diploma course, on the successful completion of which students would be awarded the diploma of the School of Architecture. It was hoped before long to bring this course to the standard required by the Board of Architectural Education for exemption from the Associateship Examination of the R.I.B.A.

As to the future, the Committee for increasing benefits in the Society had now submitted their report, and had secured the consent of the Council to several of their suggested improvements. For one thing it had been decided to establish a travelling studentship of the value of £10. The method of selecting the student to whom this would be awarded, and other details regarding it, were still under consideration. Furthermore, it had been decided to inaugurate a series of junior members' meetings or debates. These were to be held on Friday evenings at a local café, and, it was hoped, they would at any rate partially supply the very urgent need for a permanent meeting-room for the Society. The date fixed for the annual dinner was January 24, and it was expected that the President of the R.I.B.A. would be present.

He thought that one of the most notable events in the records of the Society this year was the course of lectures which Mr. Addison had been giving at the School of Art on "How to appreciate Architecture," and the fact that these lectures were primarily intended for the public was unquestionably indicative of a step in the right direction.

He was quite sure the public were anxious to be instructed in the many vital things which constituted good architecture, and there were now a good many indications that the profession as a whole was at last beginning to take some action in helping them.

The medal and diploma for street architecture, which the R.I.B.A. had decided to award each year for the most meritorious external design amongst buildings erected in London, would inevitably attract considerable attention, not only within the profession itself, but through the Press from a wider public altogether. The very considerable publicity which would be given to the premiated building could not fail to create a new interest and cause the public to appreciate other buildings in relation to it, and to formulate for themselves definite opinions on buildings in general.

Indeed, in London and elsewhere the public were already evincing a growing interest. The recently opened County Hall had aroused a spirit of criticism far beyond expectation, and he was informed that discussions on the subject could be heard at almost any dinner-table in London. Decided opinions had been formed as to the success or otherwise of the design of the building; discussions had taken place as to its suitability for the site, and although for some time its cost was considered excessive, it was gradually being approved as a sound financial proposition.

Again, the recent decision to reconstruct and to erect additional stories over the Bank of England had created abnormal interest in the City, and rich financiers and stockbrokers appeared to be seriously perturbed.

Whether those building schemes were generally approved or not, however, was of less importance to the profession than the growing evidence that the indifference of the public towards art was being gradually dissipated, and was being replaced by a keen definite opinion.

In short, they might confidently hope that people were now beginning to realize the value of sound work, and to appreciate what banks, insurance companies, and some of the multiple shops had known for some time, that a building of distinction, to its owner, was a definite business asset, because of the attention it aroused amongst the buying public.

But the man who received from his architect a building of character, besides creating this interest and enlarging his own business connections, conferred benefits on his fellows more than he knew, for no man could be content with a dull and uninteresting building for his own when its near neighbour was one of beauty and distinction, and it was inevitable, in the end, that further good building would result.

To the profession this evidence of a wider interest in architecture on the part of those not actually engaged in the practice of it should be a great help and encouragement. One could not surely afford to neglect it, but should rather stir oneself to increased and effective effort and see that this same newly-discovered interest was stimulated and extended.

A society like their own had many opportunities, and by seeking the co-operation of the press they could help the public considerably, and once they got them to appreciate architecture it should of necessity follow they would begin to appreciate architects themselves.

The late Professor Aitchison, R.A., in one of his presidential addresses at the Institute, said: "The poetry, the eloquence, and the music of the past become the cherished possessions of all civilized nations. The statues, the bas-reliefs, the engraved gems, the coins, the plate, and the jewellery are spread over the civilized world. The architectural monuments alone point out the places where the great life of the nation once throbbed, and enable us to penetrate the thoughts that created them and to see the skilled handiwork of the people. . . . It is only by the people cultivating a knowledge of architecture, and so appreciating its beauties and emotional qualities, that a love for its masterpieces can be engendered and the architect rewarded, for the architect's principal reward is the enthusiasm and gratitude his works excite."

It was true that, at the present time, there was a noticeable lack of this enthusiasm, and, indeed, there were f opportunities for it, but if they equipp themselves to meet the new conditio which the commercial spirit of the a demanded, then the architect's right position would surely be maintained.

Although architects were most of the men of peace, he felt they must adop more aggressive policy, and by anticipati the inevitable developments in constru tion and design, they must convince t public that they had a real place in th lives, and that it was to the general we being for them to be consulted.

"There is," he said, "a challenge each one of us, by avoiding profession ism on the one hand, and a benevole neutrality on the other, to interest t public in our work; to convince them th we are here to assist progress and n simply to enjoy ourselves by designi enrichments and embellishments whi the builder or structural engineer mig find beyond his powers."

A tactful caution was essential, ho ever, in approaching the public, for th had one or two deeply rooted opinic regarding the architect.

At present no one knew, except t members of their own profession, what tremendous amount of work was oft required to solve what appeared to the simplest of problems, for, as a ru the better the solution appeared the le work would seem to have been requir to attain it.

It should, he thought, be more genera recognized that probably nearly all t nation's most successful buildings we evolved only after a host of differe attempts, and that the simple resu finally achieved was due to the successi efforts which preceded it.

For, in his opinion, it was the wo done, as it were, behind the scenes whi mainly went to differentiate the go architect from the bad, the man w really possesses skill from him who handicapped by not having adequa gifts.

In conclusion, he said: Let us be arch tects first, at all costs, and as we acknow ledge with Emerson that "Nothing gre was ever achieved without enthusiasm so let us be enthusiasts as well. F nothing so surely tells in the long ru and nothing so clearly points the mast architect, as the reflection of this san untiring enthusiasm in buildings whi in every way fulfil the demands and r quirements of a modern civilization.

The presidential address was followe by the distribution of the Society prizes, the successful competitors, wh are all past or present students of th Architectural Department, Leeds Scho of Art, being as follows :—

Measured Drawings (Society's Silv Medal): Frank Chippendale.

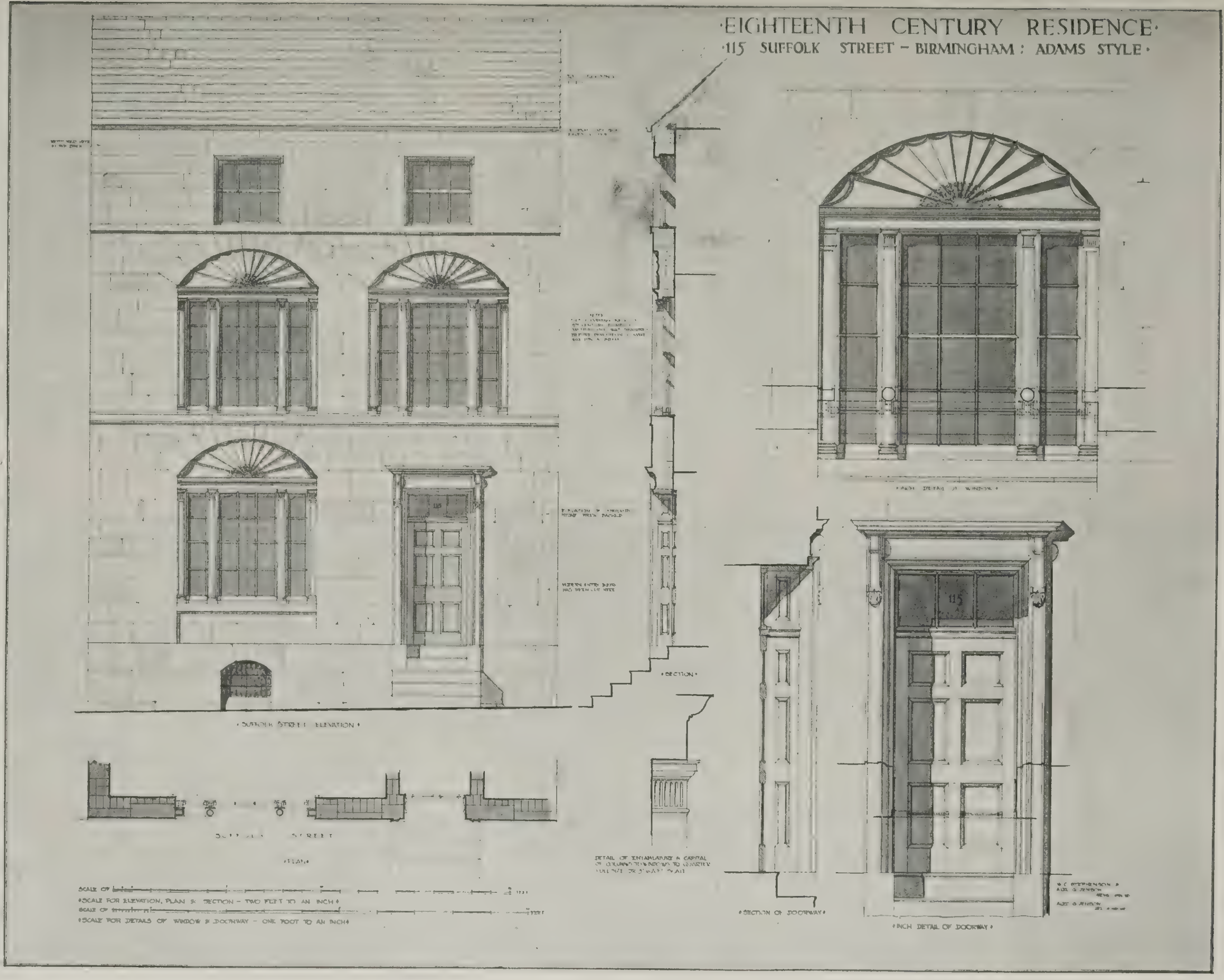
Essay Prize: R. G. Easdale.

Architectural History Prize: C. R. Hi

Design Prize: 1st, H. Conolly; 2n G. W. Alderson.

The Nicholson Prize: T. R. Shaw.

Measured by W. C. Stephenson and Alec G. Jenson. Drawn by Alec G. Jenson

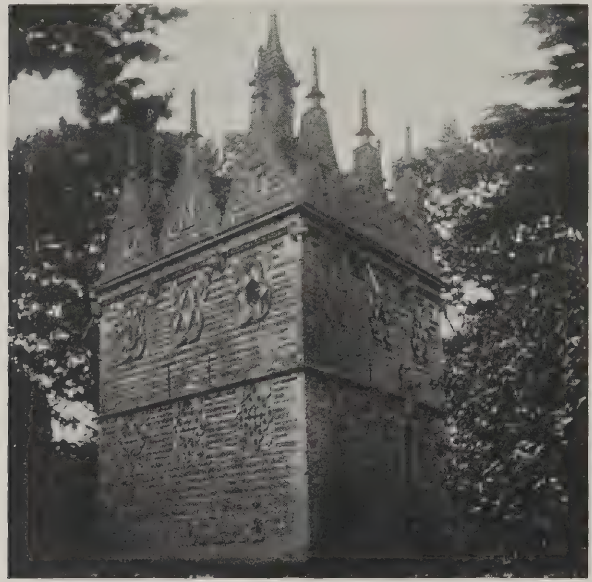

·EIGHTEENTH CENTURY RESIDENCE·
·115 SUFFOLK STREET – BIRMINGHAM : ADAMS STYLE·
·SUFFOLK STREET ELEVATION·
·SECTION·
SUFFOLK STREET
·PLAN·
DETAIL OF ENTABLATURE & CAPITAL OF COLUMNS TO WINDOWS TO QUARTER FULL SIZE OR 3" SCALE SCALE
SCALE OF FEET
·SCALE FOR ELEVATION, PLAN & SECTION – TWO FEET TO AN INCH·
SCALE OF FEET
·SCALE FOR DETAILS OF WINDOW & DOORWAY – ONE FOOT TO AN INCH·
·INCH DETAIL OF WINDOW·
115
·SECTION OF DOORWAY·
·INCH DETAIL OF DOORWAY·
W. C. STEPHENSON &
ALEC G. JENSON
ALEC G. JENSON

The residence here shown has been demolished to make way for a picture palace. It was an eighteenth-century building in the Adam style—though without the refinements of the genuine Adam work—Portland stone-fronted and red roofed.

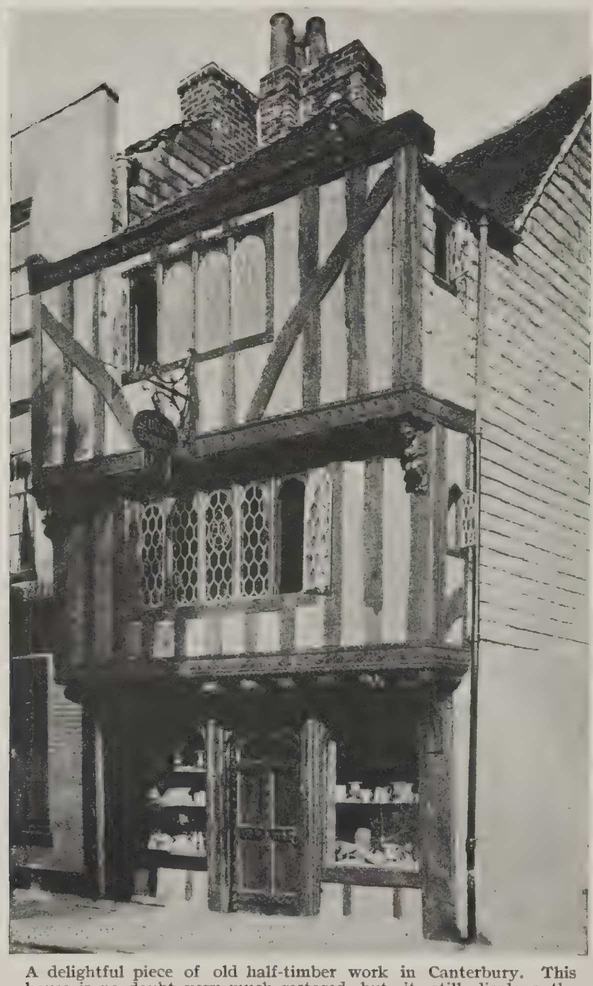
A Pictorial Review

Illustrations of Topical, Practical, or Curious Interest

Readers are invited to send in sketches and photographs for publication in these pages. A fee of 2s. 6d. will be paid for each illustration accepted. Contributions should be accompanied by short explanatory notes.

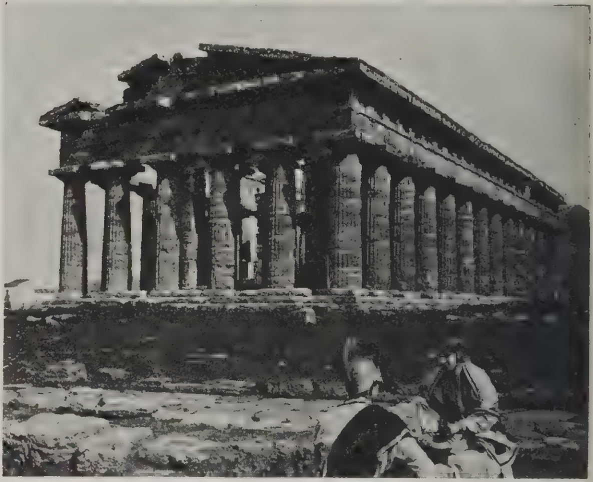


The Triangular Lodge in Rushton Park, Northants, was built by Sir Thomas Tresham about 1593. The ground plan is an equilateral triangle, and each side measures 33 ft. 3 in. There are three floors, three windows in each story on each of the three sides, and each window has three divisions. The roof has three gables on either side, and each of the Latin inscriptions is made up of thirty-three letters. The building is supposed to be emblematic of the Holy Trinity.—J.B.T.

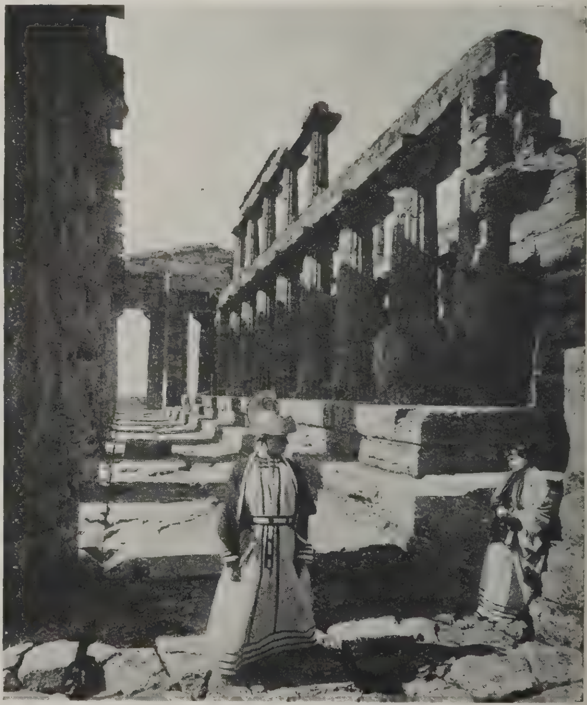


A delightful piece of old half-timber work in Canterbury. This house is no doubt very much restored, but it still displays the humorous and delicate fancy of the craftsman who built it. The gargoyles acting as consols are full of life and the sills have quite a subtle pattern.—H. H.

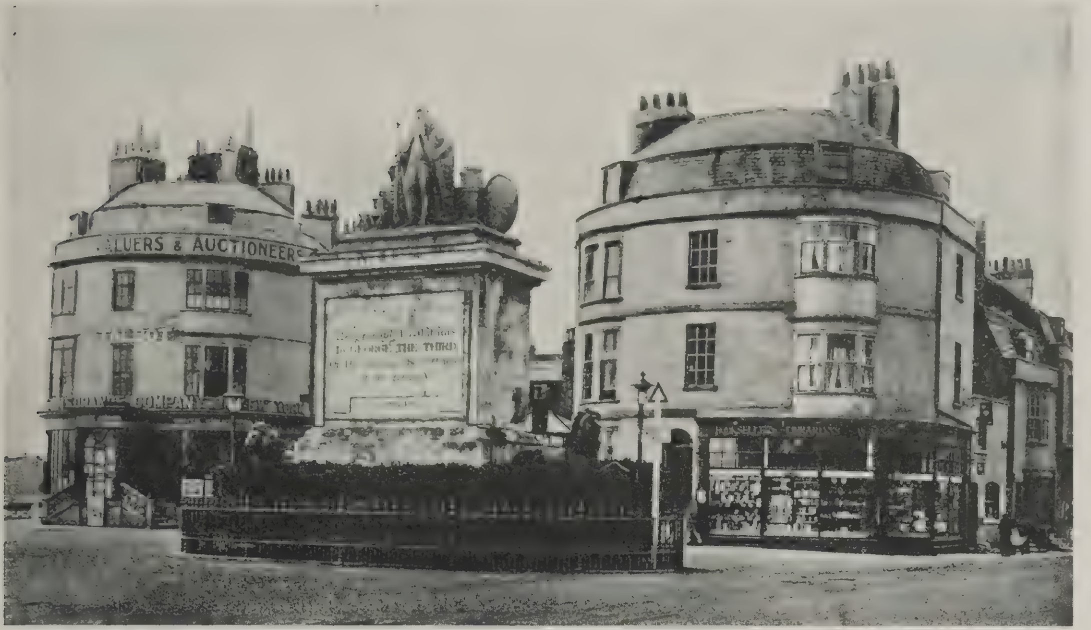
Until about seventy years ago this picturesque old building was the workhouse at Uckfield, Sussex. Divided into tenements it now houses several working-class families.—J. B. T.



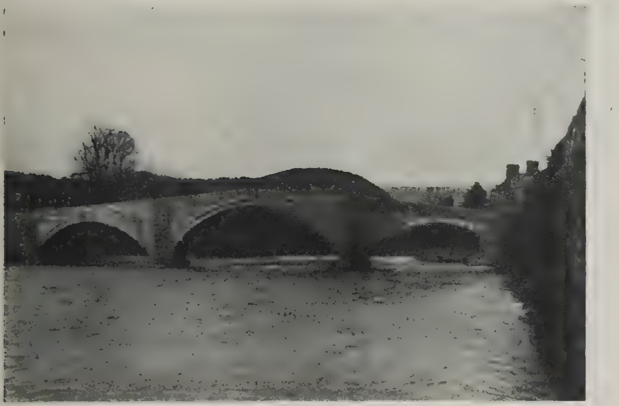
A view from the south-west of the Temple of Neptune, which is the grandest and most beautiful of the three at Pæstum. This temple is a fine example of Greek architecture of 2,400 years ago.—REALISTIC TRAVELS.



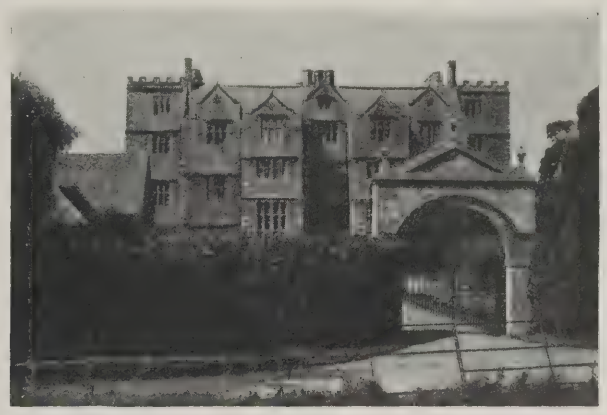
The south side alley along the Cella of the interior of the Temple of Neptune. There are two series of seven columns, each about 7 ft. in diameter, with a second row of small columns above which support the roof. The stone is a kind of travertine to which age has imparted a mellow tone. It contains fossil reeds and aquatic plants.
—REALISTIC TRAVELS.



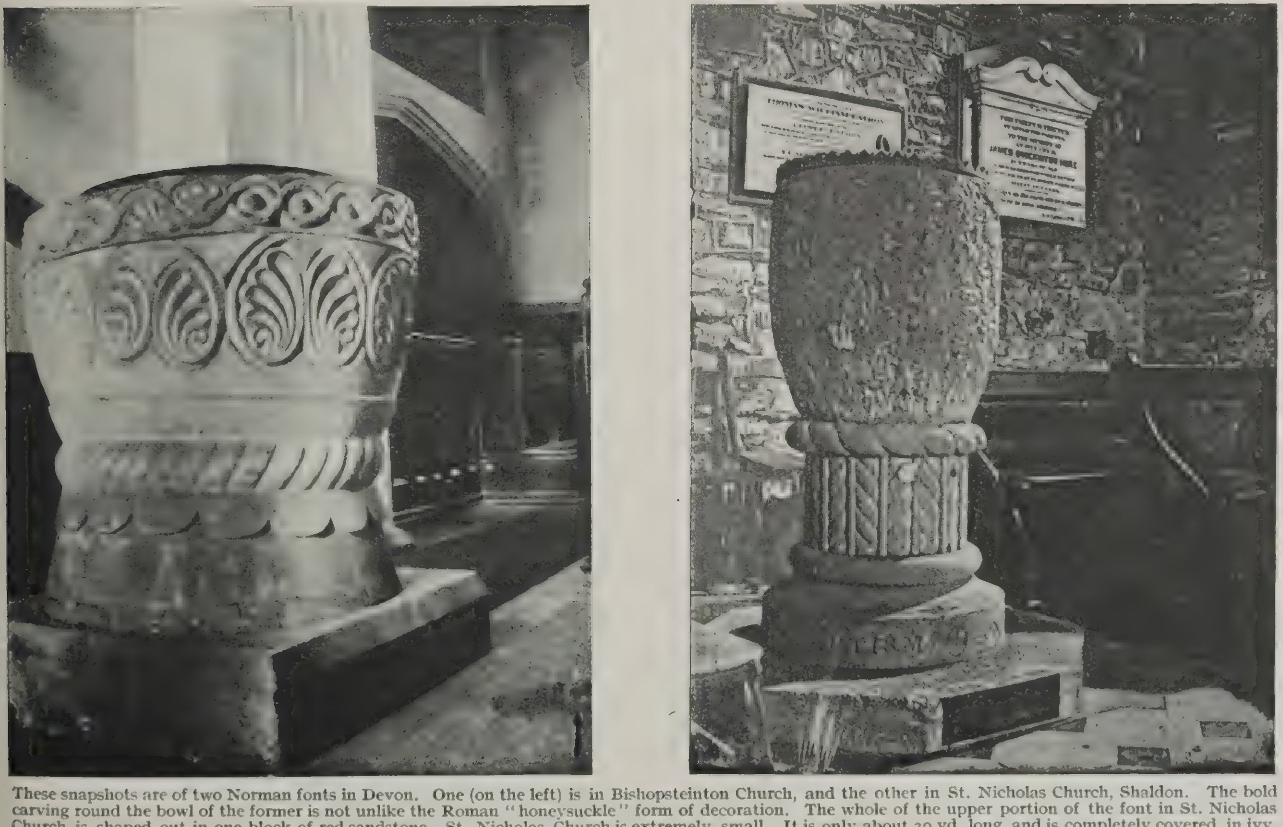
This statue of King George the Third at Weymouth is particularly interesting in view of the notes in your JOURNAL on the signing of architectural and other works of art. It will be noticed that in this case the unusual practice has been adopted of giving the name of the architect in lettering almost as large as the inscription itself.—C. S.



This bridge, which crosses the Conway at Llanrwst in North Wales, was designed by Inigo Jones and built in 1634. Its remarkable point is the shape of the arches, which instead of being semi-circular, as in the case of contemporary bridges, is semi-elliptical. The Llanrwst bridge set the fashion to future bridge-builders, and it is consequently of the greatest interest.—J. B. T.



Chastleton Manor House stands a little to the south of the main road between Chipping Norton and Moreton-in-the-Marsh. It was built by Walter Jones at the beginning of the seventeenth century on land bought from Catesby, the Gunpowder Plotter, who used the purchase money to further the affair of 1605. It abounds with masked doors and secret hiding places.—J. B. T.



These snapshots are of two Norman fonts in Devon. One (on the left) is in Bishopsteinton Church, and the other in St. Nicholas Church, Shaldon. The bold carving round the bowl of the former is not unlike the Roman "honeysuckle" form of decoration. The whole of the upper portion of the font in St. Nicholas Church is shaped out in one block of red sandstone. St. Nicholas Church is extremely small. It is only about 30 yd. long, and is completely covered in ivy.
—H. A. J. L.

Mr. G. W. S. Jarrett, M.P.

THE new M.P. for Dartford, Mr. G. W. S. Jarrett, whose portrait appears on this page, was at one time a member of the architectural profession, but since the war has devoted himself to journalism and politics.

In 1900, at the age of eighteen, he was assistant manager, and for the last six months manager, of the contract for the Frimley and Farnborough Waterworks. He then gravitated into architecture and learnt the profession with Messrs. Keith D. Young and Henry Hall, FF.R.I.B.A., with whom he stayed five years. From 1907 to 1909 he was assistant architect to the Devon Education Committee.

Mr. Jarrett passed the Intermediate Examination of the Royal Institute of British Architects, and sat for the final after unfortunately having lost his right arm, but failed in design. Owing to a breakdown in health, which necessitated his going abroad, he was unable to sit for this examination again.

After his restoration to health Mr. Jarrett became secretary and surveyor to the Lancing College, a position he held for two years.

During the war he served as staff officer, No. 7 District, and was not allowed to go abroad owing to the loss of his arm.

In 1918 he contested Mansfield (Notts), and from 1919 to 1921 edited "The British Citizen."

Mr. Jarrett won his seat at Dartford from a labour member.

MR. G. W. S. JARRETT, M.P

St. Paul's Bridge

THE decision of the London City Council to postpone the scheme to build the new bridge over the Thames in a line with St. Paul's is undoubtedly a wise one. The original scheme was ill-conceived, as the proposed bridge would be close to Southwark Bridge and not far from Blackfriars and there is never congestion on wide Blackfriars and very little traffic at all on Southwark.

The real problem is, of course, west of Waterloo Bridge, which is itself narrow and always congested, and about half a mile from Westminster Bridge. A bridge at St. Paul's would be superfluous, and London would still have to build a new bridge at Charing Cross.

The St. Paul's scheme was given Parliamentary powers in 1909. Since then Southwark Bridge has been rebuilt, and the Council have found that it is hardly used, while motor traffic has increased the congestion at Waterloo.

A bridge at Charing Cross would mean the destruction of the present bridge and the removal of the railway station to the south of the Thames. Here, too, time has worked for the Charing Cross scheme. The Charing Cross traffic has not increased in proportion to that of the other termini and Victoria has largely taken its place. The railway amalgamations also have removed many vested considerations. Another helpful factor since 1909 is the Bakerloo Tube crossing the river and linking up with the whole tube network.

Following is a report of the debate which took place at the meeting of the Corporation of London at Guildhall, last week, on a report of the Bridge House Estates Committee recommending that the work of constructing St. Paul's Bridge should be proceeded with. An amendment was moved by Colonel Vickers Dunfee urging that before the Court arrived at a final decision the committee be directed to confer:—

With the local authorities concerned with the approaches to the bridge outside the confines of the City, to see what street improvements are necessary to conform with the stipulations of the Ministry of Transport.

With the Improvements and Finance Committee as to the widening necessary to streets within the precincts of the City, and the necessary cost of same.

With the London County Council as to their contribution towards the improvement of the thoroughfare at the east end of St. Paul's Churchyard and Aldersgate Street.

With the Ministry of Transport with regard to financial assistance in improving this great highway.

The London Society had petitioned the members asking them to give the fullest consideration to alternative schemes.

Mr. A. Stanley-Stone, chairman of the committee, said that for thirteen years th Corporation had followed a consisten policy in regard to the bridge, and ha incurred an expenditure of £50,000 i preliminary work.

Colonel Vickers Dunfee, moving hi amendment, asked which authority wa going to pay for the great improvemen that would have to be made at the junc tion of Guildford Street and Marshalse Road, Southwark. An enormous are of insanitary property was being cleare in that borough in connection with th committee's operations there, and whethe the bridge was built or not that improve ment, which would provide an enormou amount of work for the unemploye would be proceeded with. The fou viaducts which were part of the bridg scheme would be detrimental to propert and one of them would cross the faires and finest thoroughfare in the City— Queen Victoria Street — while littl Knightrider Street would be simply tunnel. The Corporation wanted t know in black and white exactly wha other authorities were prepared to do i the direction of financial help.

Sir Banister Fletcher seconded.

Sir William Treloar said the Corpora tion should admit that it had made mistake. The proposed viaducts woul ruin the City.

On a division, Colonel Vickers Dunfee' amendment was carried by ninety-fiv votes to sixty-two.

Reinforced Concrete Calculations for Beginners. IV

By Professor HENRY ADAMS, M.Inst.C.E.

(Continued from November 22, page 734.)

SUMMARY of the effects of altering the proportions of a reinforced concrete beam will be found very ful in designing so that the maximum economy can be obtained. They are follows :—

a) Increasing reinforcement and leav- concrete unaltered reduces the stress the steel and slightly reduces that in concrete.

b) Reducing reinforcement and leaving crete unaltered increases the stress in steel and slightly increases that in concrete.

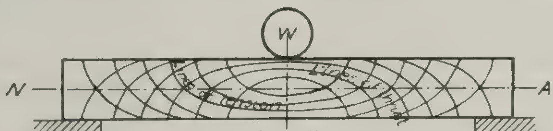


FIG. 5

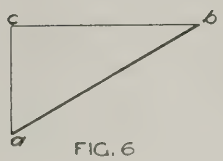


FIG. 6

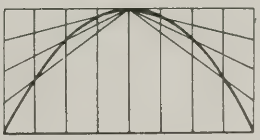


FIG. 7

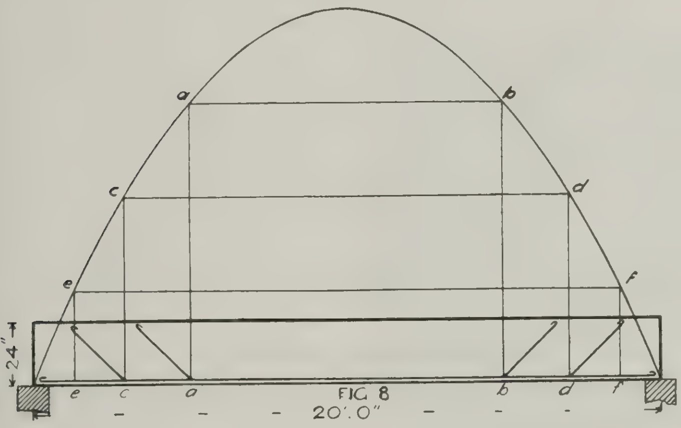


FIG 8

c) Increasing the depth of concrete leaving reinforcement unaltered htly reduces the stress in the steel considerably reduces that in the crete.

d) Reducing depth of concrete and ving reinforcement unaltered increases stress on both materials.

e) Reducing reinforcement and in- asing depth of concrete increases the ss on the steel and reduces that on the crete.

f) Increasing reinforcement and re- ing depth of concrete slightly reduces stress on the steel and considerably reases that on the concrete.

f we could see the lines of stress in a ded beam we should find them some- g like Fig. 5, and taking a piece of any of these lines as indicating the direc- of the stress at that part we can nsform the diagonal stress into longi- inal and vertical stresses by the iangle of forces." For example, in Fig. 6 let *a b* be a piece of a thrust line, draw horizontal and vertical lines to meet at *c*, then if *a b* represents the amount of diagonal thrust, *c b* will represent to the same scale the effect in longitudinal thrust or compression, and *a c* the effect in vertical shear. It would be too intricate to attempt to work directly from these curves in designing a beam, and all are agreed to take their horizontal and vertical equivalents. The horizontal forces are measured by the bending moments and the vertical by the shear forces. Every variation of loading produces a different bending moment diagram, and it is usual to draw this out to scale. The bending moment diagram for a uniformly distributed load on a beam supported at the ends is a parabola, with a base equal to the distance from centre to centre of the supports to any given scale. The method of drawing a parabola is shown in Fig. 7.

The relationship between a bending moment diagram and the tensile and compressive stress may be explained simply as follows: Take a flanged beam under distributed load and supported at the ends, the bending moment will be $\frac{WL}{8}$; divide this by the mean depth centre to centre of flanges, and it will give the total stress in either flange; divide again by the area of one flange and it will give the tension or compression per square inch; or $f=\frac{WL}{8ad}$. In the tables of strength of rolled joists we have the section-modulus given as Mx, sometimes known by the letter Z. This Mx is merely the *a d* in above formula. For reinforced concrete beams it is convenient to draw the height of the parabola equal to the full size combined diameters of the steel rods. Thus, for the beam we have been calculating, Fig. 8 shows the elevation with a parabola $4\times\frac{3}{4}=3$ in. high. Projecting downwards from points *abcdef* where the lines representing the rods cut the parabola, we find that between *a* and *b* on the base line we require all four rods to satisfy the bending moment, but at these points we can do with one less, so that one of the bars may be turned up at each end as shown. Then a second bar may be turned up at *c* and *d*. At *e* and *f* a third bar might be turned up, but it is hardly worth while, and the two outer bars would then be left to run through to the ends of the beam. The turned up ends will help to provide against the shearing forces. In the next chapter we will consider these shearing forces more in detail.

(*To be continued.*)

Exhibition of Contemporary British Architecture

The Annual Exhibition of Architecture in the R.I.B.A. Galleries at 9 Conduit Street, W.1, was opened by the President, Mr. Paul Waterhouse, on Friday, December 1.

Among those present at the Private View were :—

Lord and Lady Aberconway; Lord Carmichael, Lady Carmichael, and Miss Carmichael; the Earl of Crawford and Balcarres; Lord Hemphill; General Lord Horne; Lord and Lady Morris; Lord Muir Mackenzie; Lord and Lady Eustace Percy; Lord Shandon; Lord and Lady Strathspey; Lord and Lady Stuart.

Sir Herbert Austin; Sir John Burnet, R.A., and Lady Burnet; Sir Edward and Lady Busk; Sir Anthony A. Bowlby, President of the Royal College of Surgeons; Sir James and Lady Crichton-Browne; Sir Theodore and Lady Cook; Lady Eve; Sir Park Goff; Sir Charles Holme; Sir Arthur L. Lever, M.P.; Sir Malcolm and Lady Macnaughten; Sir William and Lady Plender; Sir Edmund Phipps; Sir Charles and Lady Ruthen; Sir Alfred Temple; Sir Charles and Lady Walston; Lord St. John of Bletso; Sir Charles Hobhouse; Sir Alfred Mond, M.P.; Sir Edgar Bonham Carter and Miss J. F. Bonham Carter; Sir Isidore and Lady Spielmann; Mr. Wm. C. Noxon (Agent-General for Ontario); Bishop Gore; General Swinton; General Spears and Mrs. Spears; Mr. Ramsay Macdonald, M.P.; Mr. John P. Hay, M.P.; Mr. G. W. S. Jarrett, M.P., and Mrs. Jarrett; Mr. W. Reynolds Stevens; Mr. Gilbert Bayes.

Commander Carlyon Bellairs, M.P., and Mrs. Bellairs; Dr. W. A. Chapple, M.P., and Mrs. Chapple; Major F. H. Fawkes, M.P.; Mr. H. D. Lorimer, M.P., and Mrs.

Lorimer; Mr. Maxwell Thornton, M.P.; Major R. D. T. Yerburgh, M.P.; Mr. H. Hughes-Stanton, A.R.A., and Mrs. Hughes-Stanton; Mr. Nigel Playfair; Miss Irene Vanbrugh and Mr. Dion Boucicault; Mr. H. Gordon Selfridge; Mr. Arnold Bennett; Mr. L. Cope Cornford; Mrs. Harcourt Smith; Mr. and Mrs. Baillie Scott; Canon Alexander; the Dean of Windsor and Mrs. Baillie; Mr. and Mrs. John Galsworthy; Mr. Thomas Marlowe; Miss Marie Lohr; Mr. Charles Marriott; the Hon. Peter C. Larkin (High Commissioner for Canada); Mr. A. H. Ashbolt (Agent-General for Tasmania); Mr. and Mrs. Greville Montgomery; Mr. and Mrs. Ouless; Mr. J. E. K. Studd and Lady Kathleen Studd; Mr. Eric Barnard; Mr., Mrs., and Miss Evans; Lt.-Col. C. P. Crane and Mrs. Crane; Mr. E. K. Chambers and Mrs. Chambers; Mr. and Mrs. H. V. Lanchester; The Rev. Dr. and Mrs. Haynes; Miss Haynes; Mr. G. Rowland Hill; Mr. J. Allen Howe; Mr. Roland B. Chessum; Mr. and Mrs. Starkie Gardner; The President, the Institution of Electrical Engineers; the President, Royal Meteorological Society; the President, Law Society; the Master, Society of Apothecaries; the Master, Armourers and Brasiers' Company; the Master, the Painters' Company; the Master, the Clothworkers' Company; the Master, the Wheelwrights' Company; the Master, the Vintners' Company; the Master, the Tallow Chandlers' Company; the Master, the Poulterers' Company; the Master, the Fruiterers' Company; the Master, the Fishmongers' Company; Mr. Charles L. Hartwell, A.R.A., and Mrs. Hartwell; the Headmaster of Bradfield College.

The Mayors of Paddington, Lambeth, Kensington, Marylebone, Hampstead, Holborn, Woolwich, Poplar, Deptford, Westminster.

Competition News

Edinburgh Housing Scheme.

In the open competition in connection with the Edinburgh Corporation's housing scheme in the Grassmarket, architects had to submit designs for block dwellings. Mr. T. P. Marwick, architect, was the assessor, and the awards are: First, Messrs. Begg and Lorne Campbell, Edinburgh; second, Mr. T. Aikman Swann, Edinburgh; third, Messrs. Reid and Forbes, Edinburgh. The Corporation are building these houses and others to provide dwellings for people dispossessed by slum clearance operations.

The Henry Saxon Snell Prize.

The subject given for essays in competition for The Henry Saxon Snell Prize of the Royal Sanitary Institute was "Improvements in the Sanitary Appliances and Fittings for New Housing Schemes, having regard to Efficiency and Economy." Eight essays were received, and they have been brought under the consideration of the Council. The adjudicators appointed for the competition were:—Louis C. Parkes, M.D., D.P.H.; Mr. A. Saxon Snell, F.R.I.B.A.; Sir Henry Tanner, C.B., I.S.O., F.R.I.B.A.; and Professor E. R. Matthews, F.G.S., A.M.Inst.C.E., nominated by H.M. Office of Works.

Acting on the advice of the adjudicators the Council do not see their way to award the prize to any one of the competitors. They have decided, however, in view of the considerable amount of work and preparation involved in regard to the following five essays, that the amount offered for the prize shall be divided equally between the writers:—"Finis Coronat Opus"; "Reliable"; "Dum Spiro Spero"; "Tubalcain"; "Efandec."

The Late Mr. H. H. Thomson, F.R.I.B.A.

We regret to announce the death of Mr. Howard Henry Thomson, F.R.I.B.A., of Leicester, at a nursing home in London after undergoing an operation. Mr. Thomson, who was 57 years of age, was a Devonian, and was born and educated at Exeter, and articled to Mr. J. Crocker of that city. He went to Leicester about thirty-six years ago and became assistant to Mr. A. Wakerley. Afterwards he went into practice with Mr. J. Blackwall, of Kettering, and conducted the Leicester office.

Mr. Thomson had been in practice for himself since 1904, first at Halford Street Chambers, and later took over the practice of Messrs. Goddard and Catlow, at Market Street, Leicester. He became a member of the R.I.B.A. in 1889, and was elected a Fellow in 1906. From 1906 to 1908 he was president of the Leicester and Leicestershire Society of Architects, and was an acting member of the Council up to the time of his death.

A very considerable part of his work was won in competition, and included the Leicester Isolation Hospital, the Masonic Hall, Leicester, the Usher Hall, Edinburgh (of which he was joint architect with Messrs. S. Harrison and Sons), the Wyggeston Boys' School, and, since his death, his design secured first place in the competition for Southend Schools.

THE LATE MR. H. H. THOMSON, F.R.I.B.A.

Amongst his other works were Messrs. Greenlees' warehouse, Leicester, the Liberty Shoe Factory, Leicester, St. Alban's Church, Leicester, and many striking examples of domestic architecture.

Mr. Thomson was a prominent Freemason, and was a past-master of the Knight of Malta Lodge, Hinckley, and a past senior warden for the province of Leicestershire and Rutland.

List of Competitions Ope

Date of Delivery.	Competition.
Dec. 16	Laying-out of Hill's Estate of 14 acr Douglas, Isle of Man, for the erection four- and five-room houses suitable for t working class: 12 houses to the ac First prize, £50; second prize, £20. T Council do not intend to engage the su cessful competitor to carry out the wor Apply Mr. H. A. Bridge, M.I.M.C. Borough Surveyor. Deposit £1.
1923 Jan. 15	Hospital for a typical small community America. Competition open to all Arc tects. Premiums $500, $300, and $2 Apply The Modern Hospital Publishi Company. Inc., 22 E. Ontario Stre Chicago, Ill. Closing date for applicatio November 15.
Feb. 28	Scheme for the distribution of drinking wat for the town of Mantes-sur-Seine. App Mairie, Mantes, or at the offices of Renaissance des Cités, 23 Rue Louis Grand (11e). Premiums: 4,000, 3,000, a 2,000 francs.
March 31	War Memorial for Port Said, Egypt, to t memory of the soldiers of the Australian a New Zealand Forces who fell in Egy Palestine, and Syria during 1916, 1917, a 1918. Premiums: 250 guineas, 100 guine and 50 guineas. Apply High Commission for Australia, Australia House, Strand, W.
March 31	War Memorial in Crow Nest Park, Dewsbu Assessor, Professor C. H. Reilly, O.B. M.A., F.R.I.B.A. A copy of the conditio together with plans of the site may obtained on application to Mr. H. Deard A.R.I.B.A., Borough Surveyor, Town Ha Dewsbury. on payment of one shilling.

A Small Exhibition

On Thursday and Friday of this wee a small exhibition of work by two youn lady artists—Miss Phyllis Blundell an Miss Carey Morgan—is being held No. 9 Woodstock Street, Oxford Stree W. The display includes a variety excellent things, both of ornament an utility, such as small portrait bust statuettes, reliefs, etchings, calendar etc., as well as a collection of painte trays, bowls, electric light stands an hand-painted bowls for indirect electr light fittings. Miss Blundell's miniatu portrait busts and statuettes are perfe works of art. She has a real gift for portraiture, which is particularly well show in some delightful little studies of children. The exhibition is well worth visit.

An Important Amalgamatio

An amalgamation of importance to th building trade has been arranged whereb the "Poilite" factory and Asbestos Cement business of Bell's United Asbesto Co., Ltd., and the "Everite" factory an Asbestos-cement business of the Britis Everite and Asbestilite Works, Ltd., wi be carried on at the present addresses o the two companies in Southwark Street London, and 29 Peter Street, Manchester under the same management as before but under the name of Bell's Poilite an Everite Co., Ltd., which has been registered with a capital of £500,000.

The new company will thus posses two extensive and well-equipped factories, one at Harefield (Middlesex), an the other at Widnes (Lancashire), in th centre of a great industrial area. It i expected that by standardizing thei manufactures the new company will b able to effect deliveries from the factor nearest to customers, thereby savin transport charges and giving prompt an efficient service. The amalgamation take effect as from December 1.

The Week's News

Wren Street for London.

he City of London Corporation is mmended to name a street after ·n, in connection with next year's entenary celebrations.

Housing at Hertford.

he Ministry of Health have agreed houses which cost the Corporation of tford £1,120 each may be sold at) and £600 each.

Workhouse Turned into Houses.

unmow Urban District Council are conring a scheme to acquire a workhouse conversion into flats in order to solve housing problem.

Town-planning at Sevenoaks.

movement is on foot to introduce and ot the Town Planning Act in respect evenoaks town and part of the rural rict.

New York Building Lock-out.

ew York master builders have issued k-out order which affects 9,000 brickrs and labourers, and will hold up ding projects amounting to millions ounds.

Architectural Practice.

r. G. W. Jackson, M.S.A., and Mr. A. Greenen, M.S.A., have entered into nership, and will commence practice om January 1 next at No. 5 Yelver-Road, Bournemouth.

Lincoln Cathedral.

ncrete porridge is being squirted lectrical machinery into the cracks of oln Cathedral at the rate of 1,000 ns per week. The work will take five s. Further cracks are reported to be aring.

Sherborne Abbey Lady Chapel.

fresh appeal is being made for funds he restoration of the Lady Chapel at borne Abbey, which was destroyed hat the Bishop of Salisbury terms an ortunate act of desecration in the enth century."

New Bridge on Isle of Ely.

has been decided to erect a bridge the River Nene at Guyhirne, Isle of at a cost of between £7,000 and 0, of which the Ministry of Transwill contribute a grant of approxily 40 per cent.

Monmouthshire Church Rebuilt.

zah Church, Cwm, Mon., which was letely destroyed by fire in December, is being rebuilt. Over £6,000 has spent, and about £2,000 more is red to complete the work.

Stage Scenery by Sir Aston Webb.

John Martin Harvey has now pracy completed all preparations for the ntation of "Via Crucis" at the orial Theatre, Stratford-on-Avon, on y, December 15. The scenery has designed by Sir Aston Webb, P.R.A.

Clitheroe Castle Keep.

e suggestion that a monument to the of the town who fell in the war should laced against the Clitheroe Castle has been vetoed by the Office of s on the ground that it would interwith the ancient structure.

Unemployed Building Operatives.

The number of building trade operatives unemployed on October 23, 1922, was 118,739. It is estimated that for the four weeks in October those persons received about £260,000 in unemployment benefit.

Restoration of Belper Church.

The old church of St. John at Belper has been re-opened by the Bishop of Derby, after the thorough restoration which has been carried out by Colonel Hunter, F.S.A., with the approval of the Society for the Preservation of Ancient Buildings. The church dates from the latter half of the thirteenth century.

State-aided Housing.

Major Boyd-Carpenter states in Parliamentary papers that it is estimated that the commitments under the assisted housing schemes, including slum clearances, will amount to £9,900,000 a year, of which £9,100,000 will be borne by the Exchequer.

Sale of Valuable Books.

Messrs. Puttick and Simpson, auctioneers, 47 Leicester Square, London, W.C., announce a sale of valuable books and manuscripts, including the architectural library of the late Arthur H. Newman, F.R.I.B.A. The sale will be on two days, December 13 and 14, and view can be had on the two previous days.

Salford's Dilapidated Houses.

In the annual report of the Salford Medical Officer of Health it is stated that a very great deal has been done in getting repairs to property carried out, but general dilapidations are still far too common, and property owners still show strong disinclination to look after their property in the efficient manner in which it was looked after before the war.

Proposed New Hall for Glasgow.

The erection of a hall to meet the requirements of the Woodside, Ruchill, and North Kelvin districts of the city has been recommended. It is proposed to build the hall on vacant ground in Granville Street and Clarendon Street. The cost is estimated at £18,000. The plans show a large hall, which will accommodate 870 persons, and two lesser halls.

Architects' Fees for State-aided Housing Schemes.

The Ministry of Health and the tribunal appointed by the R.I.B.A. are anxious to obtain a settlement of all claims for architects' fees in connection with State-aided Housing Schemes without further delay. Architects who still desire the assistance of the tribunal are therefore requested to apply to the secretary of the R.I.B.A. on or before December 31, 1922. The tribunal cannot undertake to deal with cases submitted to them after this date.

The Tontine Steeple.

With regard to the proposal to retain the Tontine Steeple on its original site at Glasgow Cross, a highly satisfactory meeting has taken place between Sir Frank Baines and Messrs. Keppie and Henderson, the architects, and Mr. Nisbet, master of works. Sir Frank will report to his department on the matter in due course. Meantime, two piers are to be sunk with a view to ascertaining the nature of the subsoil in the vicinity of the ancient structure.

An Exhibition of Ironmongery.

An exhibition of ironmongery is now being held at the Architectural Association and will remain open until Thursday, December 21. The following are exhibitors: The Brockley Forges, H. F. Ramsay (London), Ltd., J. Starkie Gardner, Thomas Elsley, Ltd., the Bromsgrove Guild, Comyn Ching & Co., Ltd., C. B. Davis & Co., Burt, Escare and Denelle, Ltd., Birmingham Guild, Ltd., Josiah Parkes and Sons, the South Kensington Museum, and Mr. Robert Atkinson.

We shall notice the exhibition more fully next week.

An Architectural Revue.

An architectural revue, arranged by the Architectural Association Lyric Club, will be given this month at 34-35 Bedford Square. All the proceeds will be devoted to the Architects' Benevolent Fund. The revue will be given on Monday, Tuesday, Wednesday, Thursday, and Friday, December 11, 12, 13, 14, and 15, at 8.0 p.m.; and on Tuesday 12, Thursday 14, and Friday 15, at 2.30 p.m. Tickets 5s. and 2s. 6d. may be obtained from the Secretary Lyric Club, M. L. Anderson, 34-35 Bedford Square, W.C.1.

Relic of Bermondsey Abbey.

During recent excavations at Bermondsey on the site where a new building is to be erected for the Anglo-American Oil Company, a stone bearing the consecration mark of Bermondsey Abbey was found in the ruins. This stone is stated to be the only one in existence, the others having been destroyed by Henry VIII. Bermondsey Square marks the spot where a once famous abbey stood. A monastery was founded there in 1082 by Alwyn Childe, a London citizen, in what was then the Meads of Bermondsey. Later the monastery was raised to the dignity of an abbey, which in due course received a grant of the manor from William Rufus.

A.A. New Members.

The following new members were elected at the last ordinary general meeting of the Architectural Association:—Messrs. Leslie C. Powell, Hubert C. Morton, H. Greville Montgomery, F. W. Walford, R. Randal Phillips, Miss K. M. Wallis, Messrs. S. E. Lester, J. P. Nisbet, J. J. Reynolds, W. R. Brinton, H. E. G. Browning, E. B. Cumine, Naozo Shiga, E. S. North, C. R. Crickmay, J. M. Tandy, Miss N. A. Nickalls, Messrs. L. L. Brown, G. R. Barnsley, J. H. S. Woddington, K. D. Sanders, E. H. Beale, L. P. Williams, S. A. Elijah, B. C. Sherren, B. H. R. Murray, J. R. D'Oyly, Christopher Green, Miss J. Wall, Mr. S. N. Bertram, Miss L. M. Sharpley, Messrs. Ian Forbes, F. E. Parr, Miss M. L. Bennett, Messrs. H. W. Kelham, Evelyn Freeth, R. H. W. Richardson, J. V. Hamilton, L. C. Varcoe, Miss M. F. Rigg, Miss M. L. Wilkinson, and Messrs. L. N. Holt, A. Vetchinsky, and W. V. Trubshawe.

Rates of Wages in the Building Trades*

The following table, which is published in the first issue of THE JOURNAL for each month, shows the rates of wages of craftsmen (bricklayers, masons, carpenters an joiners, woodcutting machinists, slaters, plumbers,* plasterers, painters †) and labourers in the building industry. The labour rates for London are given in the Tabl of Current Prices on pages xxv, xxvi.

District.	Grade A.		Grade B.		Grade C.		Grade D.	
	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.	Craftsmen.	Labourers.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
North East Coast	1 8	1 3	—	—	—	—	—	—
Yorkshire	1 8	1 3	1 6½	1 2	1 4½	1 0½	—	—
North Western Counties‡	1 8	1 3	1 6½	1 2	1 4½	1 0½	1 4	1 0
Midland Counties	1 8	1 3	1 6½	1 2	1 5	1 0¾	1 4	1 0
Eastern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
Southern Counties	1 4½	1 0½	1 4	1 0	1 3	0 11¼	—	—
South Western Counties	1 8	1 3	1 6	1 1½	1 4½	1 0½	1 3½	0 11¾
South Wales	1 8	1 3	1 4	1 0	—	—	—	—
Scotland§	1 8	—¶	1 7	—¶	1 6	—¶	—	—

* In the case of towns printed in *italic type* below, the rates shown in the Table for craftsmen do not apply to plumbers.
† Except in Scotland, where painters are not included within the scope of the area grading scheme.
‡ Excluding Liverpool and Birkenhead, where the rates are 1s. 11d. for plumbers, 1s. 10d. for other craftsmen, and 1s. 5d. for labourers.
§ Excluding Aberdeen, where the rates remain unaltered at 1s. 7½d. for masons, joiners, and plasterers, 1s. 8d. for slaters, and 1s. 9d. for plumbers.
¶ In Scotland, labourers are not included in the general grading scheme.

Grading of Towns.

The localities in which the above rates have been reported to be in operation are as follows. In the case of localities printed in *italic type*, the rates shown in the abov Table for craftsmen do not apply to plumbers. The rates of wages per hour for men employed by electrical contractors in England and Wales (except Southampton and Londonderry are as follows:—Grade A districts (London and Watford) 1s. 10d. Grade B (including Burnley and Preston) 1s. 7¾d. Grade C 1s. 6¼d. Grade (including Sussex) 1s. 4¾d. In Southampton and Belfast the rates are 1s. 6½d. per hour.

NORTH EAST COAST:—

Annfield Plain, Birtley, Bishop Auckland, *Blackhill, Blyth, Chester-le-Street, Consett, Darlington, Durham, Ebchester, Gateshead, Hartlepools, Hebburn, Hexham, Jarrou Lanchester, Leadgate,* Medomsley, *Middlesbrough, Morpeth, Newcastle, North and South Shields, Seaham Harbour, Stanley, Stockton, Sunderland, Thornaby, Tynemout Wallsend, Whitburn,* and *Whitley Bay.*

YORKSHIRE:—

Grade A.—Altofts, Barnsley, Batley, Bingley, Birstall, Bradford, Brighouse, Calder Valley, Castleford, *Cleckheaton, Colne Valley, Crosshills, Dewsbury, Doncaste Gomersal,* Grimsby, *Guiseley, Halifax, Harrogate, Hebden Bridge, Heckmondwike,* Holmfirth, *Horbury, Hoyland,* Huddersfield, Hull. *Ilkley,* Immingham, *Keighle Knottingley, Leeds, Liversedge, Mexborough, Mirfield, Morley, Normanton, Ossett, Penistone,* Pontefract, Pudsey, *Rawdon, Rotherham,* Scunthorpe, *Selby, Sheffiel Shipley, Sowerby Bridge, Stocksbridge, Wakefield, Wombwell, and Yeadon.*

Grade B.—Barnoldswick, Beverley, Bridlington, Goole, Hornsea, Scarborough, Skipton, *Whitby* (plumbers 1s. 7d.) and York.

Grade C.—Driffield, Kirby Moorside, Malton, Norton, Pickering, and Wetherby.

NORTH WESTERN COUNTIES:—

Grade A.—Accrington, Adlington, *Alderley Edge, Altrincham, Ashton-under-Lyne, Atherton, Bacup,* Barrow, Birkdale, Bispham, *Blackburn,* Blackpool, Blackro *Bolton,* Broughton (Flints), *Burnley, Bury,* Carlisle, Chester, Chorley, *Church,* Cleveleys, *Clitheroe, Colne,* Connahs Quay, Dalton-in-Furness, *Darwen, Denton, Droylesde Eccles, Farnworth,* Fleetwood, Frodsham, *Glossop, Great Harwood, Haslingden,* Hawarden, Helsby, *Heywood,* Higher Kinnerton, *Horwich, Hyde,* Lancaste *Leigh,* Leyland, *Littleborough,* Longridge, Lymm, Lytham, *Manchester, Middleton,* Morecambe, *Mossley, Nelson, Ormskirk, Oswaldtwistle, Oldham, Padiham, Pendlebur* Poulton, *Preston, Prestwich,* Queensferry, *Radcliffe, Ramsbottom, Rawtenstall, Rishton, Rochdale,* Runcorn, St. Anne's-on-the-Sea, St. Helens, *Saddleworth, Sale, Salfor Shaw,* Shotton, Southport, *Stalybridge, Stockport, Swinton,* Thornton, *Todmorden, Tyldesley, Walkden, Warrington,* Westhoughton, *Whalley, Whitefield,* Widnes, *Wiga* and *Wilmslow.*

Grade B.—Askam, Broughton, Buxton, Cleator Moor, Congleton, Coniston, Crewe, Distington, Egremont, Grange-over-Sands, Harrington, Knutsford, *Macclesfiel* Maryport, Market Drayton, Middlewich, Millom, Mold, Nantwich, *New Mills,* Northwich, Sandbach, Tarporley, Ulverston, Winsford and Over, Whitehaven, Workingto and Wrexham.

Grade C.—Ambleside, Bala, Bangor, Bowness-on-Windermere, Carnarvon, Colwyn Bay, Conway, Grasmere, Holyhead, Holywell, Kendal, Langdale, Llandudn Llandudno Junction, Mostyn, Penrith, Prestatyn, Rhos, Rhyl, and Windermere.

MIDLAND COUNTIES:—

Grade A.—Alfreton, *Belper,* Bilston, *Birmingham, Blackheath, Burslem, Cheadle, Chesterfield,* Coalville, Coventry, *Derby, Hanley,* Heanor, Hinckley, *Ilkeston,* Kenilwort *Leicester,* Lincoln, *Long Eaton, Loughborough, Mansfield,* Newcastle-under-Lyme, *Nottingham, Nuneaton,* Oldbury, Ripley, Stoke-on-Trent, *Sutton Coldfield, Sutton-i Ashfield,* West Bromwich, Willenhall, and Wolverhampton. (Plumbers employed by the Birmingham Master Plumbers' Association within 8 miles of Birmingham, 1s. 9d

Grade B.—Atherstone, Bewdley, Boston, Brierley Hill, Bromsgrove, Burton-on-Trent, Cannock, Coseley, *Darlaston* (plumbers 1s. 7½d.), Dudley, Gainsborough, Gorna Grantham, Halesowen, Hednesford, Kidderminster, Knowle, Leamington, *Leek,* Lichfield, Louth, Malvern, Market Harborough, *Matlock,* Melton Mowbray, *Newar* Northampton, Oakengates, Old Hill, Peterborough, Redditch, Retford, Rugby, *Rugeley* (plumbers 1s. 7½d.), Sedgley, Shifnal, Shrewsbury, Skegness, Sleaford, Solihu Southwell, *Stafford,* Stamford, Stourbridge, Stourport, Stratford-on-Avon, Swadlincote, Swanwick, Tamworth, *Walsall* (plumbers 1s. 7½d.), Warwick, Wednesbur Wellington, Worcester, and Worksop.

Grade C.—Ashbourne, Bridgnorth, Church Stretton, *Horncastle,* Kettering, Ludlow, Newport, Oakham, Oundle, Raunds, Rushden, Spalding, Thrapston, Uttoxete Wellingborough, and Wirksworth.

Grade D.—Buckden, Eaton Socon, Huntingdon, St. Ives, and St. Neots.

EASTERN COUNTIES:—

Grade A.—Baldock, Bedford, Berkhamsted, Biggleswade, Braintree, Brentwood, Chelmsford, Cambridge, Colchester, Halstead, Hatfield, Harpenden, Hemel Hemp stead, Henlow, Hertford, Hitchin, Hoddesdon, Ingatestone, Ipswich, Letchworth, Luton, Norwich, Ongar, St. Albans, Sandy, Sawbridgeworth, Stevenage, Stotfol Ware, Welwyn, and Witham.

Grade B.—Aldeburgh, Ampthill, Attleborough, Aylsham, Braughing, Chatteris, Cromer, Dovercourt, Dunstable, Ely, Fakenham, Felixstowe, Frinton, Gorlesto Halesworth, Harwich, King's Lynn, Leighton Buzzard, Leiston, Lowestoft, March, Much Hadham, Newmarket, North Walsham, Puckeridge, Renthem, Saxmundhar Southwold, Standon, Stowmarket, Walton-on-the-Naze, Wickham Market, Wisbech, Woodbridge, Wymondham, and Yarmouth.

Grade C.—Bungay, Coltishall, East Dereham, Royston, Saffron Walden, and Tring.

[N.B.—Bury St. Edmunds:—bricklayers, masons, carpenters and joiners, slaters, plumbers and plasterers, 1s. 4½d.; painters, 1s. 2d.; labourers, 11d.]

SOUTHERN COUNTIES:—

Grade A.—Abingdon, Addlestone, Amersham, Ascot, Ashford (Middlesex), Banbury, Beaconsfield, Bournemouth, Bracknell, Brighton, Byfleet, Chalfont, Cheshan Christchurch, Cremborne, Eastbourne, Eastleigh, Egham, Eton, Gerrard's Cross, Goring, Gosport, Gravesend, Guildford, Henley, Hove, Laleham, Maidenhead, Marlov Northfleet, Oxford, Poole, Portsmouth, Reading, Southampton, Staines, Stanwell, Sunningdale, Sunninghill, Tilehurst, Tonbridge, Tunbridge Wells, Wallingford, Windso Winkfield, Woking, Wokingham, and Wycombe.

Grade B.—Arundel, Ashford (Kent), Aylesbury, Bagshot, Basingstoke, Bexhill, Bicester, Bletchley, Bognor, Bosham, Broadstairs, Brockenhurst, Buckingham, Burge Hill, Camberley, Canterbury, Chatham, Chichester, Chipping Norton, Cranleigh, Deal, Dorking (plumbers 1s. 5d.), Dover, Fareham, Faringdon, Faversham, Fen Stratford, Folkestone, Gillingham, Godalming, Hailsham, Haslemere, Hastings, Havant, Herne Bay, Horsham, Hythe, Lambourn, Liphook, Littlehampton, Lymingto Maidstone, Margate, Midhurst, Milford, Milton Regis, Newbury, New Milton, Newport Pagnell, Oxted, Pangbourne, Petworth, Ramsgate, Redhill, Reigate, Rocheste Sandgate, St. Leonards, Sevenoaks, Sittingbourne, Strood, Stony Stratford, Stow-on-the-Wold, Thame, Walmer, Wantage, Wendover, Westerham, Westgat Whitstable, Winchester, Winslow, Witney, Wolverton, Woodstock, and Worthing.

Grade C.—Andover, Ardingley, Farnham, Godstone, Hawkhurst, Hartley Wintney,* Haywards Heath, Horley, Isle of Wight, Liss, Petersfield, Rye, Smallfiel Staplehurst, Steep, Turners Hill, and Uckfield.

[N.B.—Leatherhead:—painters, 1s. 5½d.; plumbers, 1s. 6½d.; other tradesmen, 1s. 6d.; labourers, 1s. 1½d.]

SOUTH WESTERN COUNTIES:—

Grade I.—Bristol.

Grade II.—Plymouth* and Devonport.*

Grade III.—Dartmouth,* Exeter,* Kingswear,* Newton Abbot, Paignton, Portishead, Stroud,† Taunton, and Torquay.

Grade IV.—Barnstaple, Beaminster, Povey Tracey, Bradford-on-Avon,* Bridgwater, Bridport,* Brixham, Bruton, Burnham-on-Sea, Calne,* Castle Cary, Cheddar Cirencester,* Clevedon, Coleford,* Corsham,* Crewkerne,* Dawlish, Dorchester,* Exmouth, Fairford,* Frome,* Glastonbury, Lydney,* Melksham,* Midsomer Norto Minehead,* Radstock, Shepton Mallet, Street, Swanage,* Teignmouth,* Tetbury,* Thornbury,* Totnes,† Trowbridge,* Wells, Westbury,* Weston-super-Mar Weymouth,* and Yeovil.*

[N.B.—Bath, Cheltenham, Gloucester* (except painters), Hereford,* and Swindon*:—tradesmen, 1s. 5d.; labourers, 1s. 0¾d.]

SOUTH WALES AND MONMOUTHSHIRE:—

Grade A.—Aberavon, Aberdare, Abergavenny, Ammanford, Barry, Bridgend, Briton Ferry, Brynmawr, Cardiff (plumbers, 1s. 8½d.), Chepstow, Duffryn Valley, Ebb Vale, East Glamorganshire and Monmouthshire Valleys, Garw Valley, Gorseinon, Llanelly, Maesteg, Merthyr, Mountain Ash, Neath, Newport, Ogmore Vale, Pontardulai Pontypool, Pontypridd, Porthcawl, Port Talbot, Rhondda and Rhymney Valleys, Sirhowy Valley, Swansea, and Tredegar.

Grade B.—Haverfordwest, Pembroke and Pembroke Dock.

[N.B.—Brecon and Carmarthen:—tradesmen, 1s. 6d.; labourers, 1s. 1½d. Llandrindod Wells:—tradesmen, 1s. 5d.; labourers, 1s. 0¾d.]

SCOTLAND:—

Grade A.—Airdrie, Alloa, Alva, Armadale, Ayr, Bathgate, Bellshill, Bridge of Weir, Buckhaven, Burntisland, Clydebank, Coatbridge, Dumbarton, *Dund* Dunfermline, Edinburgh, Falkirk, Glasgow, *Gourock,* Grangemouth, *Greenock,* Haddington, Hamilton, Harthill, Irvine, Kennoway, Kilmarnock, Kirkcaldy, Larber Largs, Leith, Leslie, Leven, Markinch, Methil, Motherwell, Neilston, Newmains, Paisley, Pencaitland, Perth, *Port Glasgow,* Renfrew, Stenhousemuir, Stirling, Uddingsto Uphall, Wemyss, Whitburn, Windygates, and Wishaw.

Grade B.—Arbroath, Montrose, and Peebles.

Grade C.—*Dumfries,* Galashiels, Hawick, and *Maxwelltown.* (Plumbers at Dumfries and Galloway, 1s. 6d.; and at Inverness, 1s. 7d.)

[Douglas and District (Isle of Man:—Bricklayers, masons, carpenters and joiners, plumbers, plasterers, and painters, 1s. 4½d.; labourers, 1s. 0½d.]

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* The rate for painters is 1d. per hour less than that shown for craftsmen in the above table.
† The rate for painters is ½d. per hour less than that shown for craftsmen in the above table.

* From "The Labour Gazette."

nesday, December 13, 1922 Vol. LVI. No. 1458

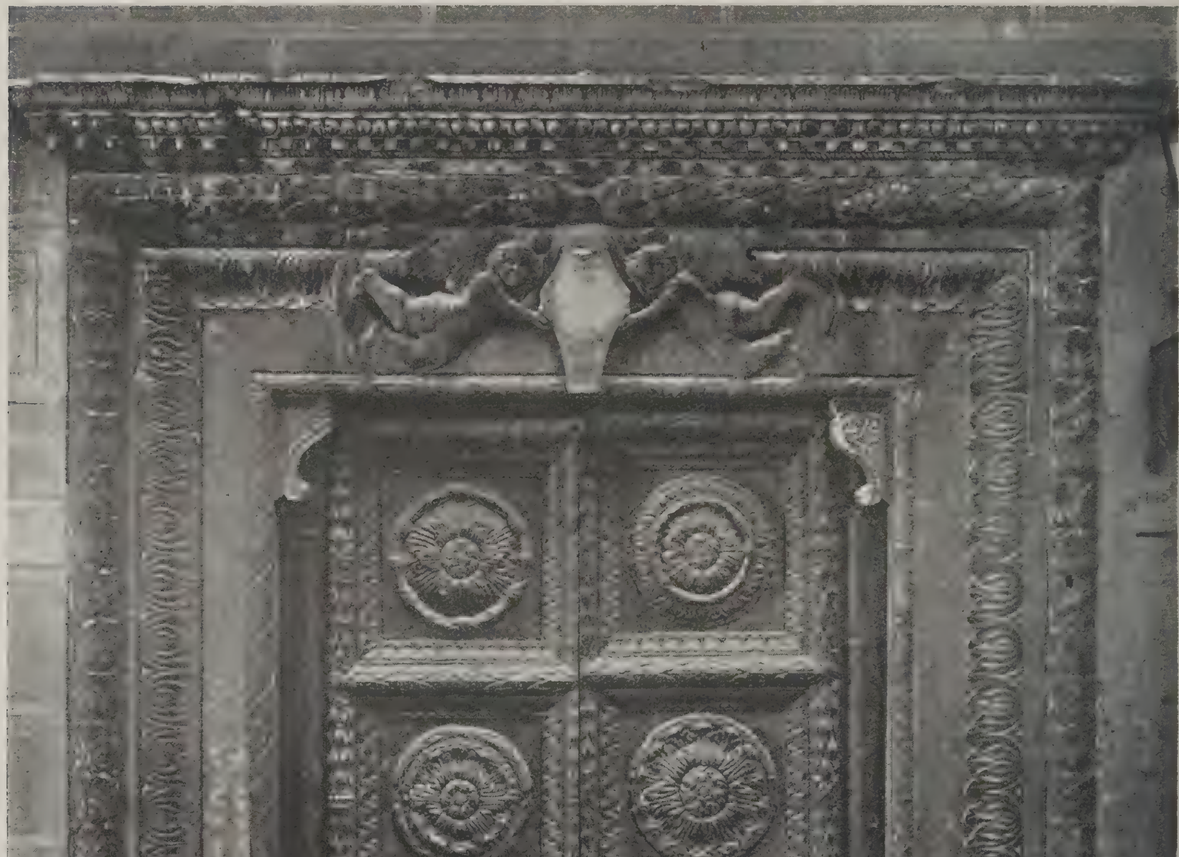
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

THE CUNARD BUILDING, LIVERPOOL.
WILLINK AND THICKNESSE, ARCHITECTS.
(The Exhibition of Contemporary British Architecture.)
(See also page 821.)

27-29 Tothill Street, Westminster, S.W. 1.

Architectural Details. 39.—Doorway in the Arcivescovile Palace, Lucca.



This doorway, in the Chancery of the Arcivescovile Palace, Lucca, is Italian Renaissance in style, and displays the enormous amount of work that the Italians expended on every detail. Each rosette in the door panelling differs and, rich as it all is, never a moulding is repeated either on architrave or door.

THE

ARCHITECTS' JOURNAL

27-29 Tothill Street, Westminster, S.W.1.

ednesday, December 13, 1922 Volume LVI. No. 1458

The Passing of Rural Street Architecture

THOSE who have travelled through the country by road—and who have not in these days of increased motor transport facilities?—must have become aware of an insidious change that is coming er our villages and small towns. In many places the uses that have been built during the last two years are stinctly superior to their predecessors, yet something is cking, and a certain monotony pervades these newly mpleted groups. The thing that is lacking is the village reet.

It is easy to understand that with the violent swing of e pendulum against the endless rows of narrow-fronted, rniciously ornamented houses which composed the tter half-century's contribution towards "housing," a action should take place in favour of the semi-detached use. But one monotony—albeit a superior one—must t be allowed to replace another, and this surely is the esent danger. This, let it be understood, is no charge ainst town planning, or against garden cities or garden burbs; we are sufficiently aware of the enormously creased amenities which have accrued owing to the aseless propagation of high ideals and standards by bodies nnected with these movements to make such a mistake; is, however, a plea to avoid too much insistence upon a rticular solution to a complex problem. It is a mistake, o, to imagine that to-day everyone demands the seclusion hich is yielded by the forecourt and the gravelled path proach. There are many to whom the beat of the village vement, the light, the warmth, the gregariousness, the ry gossip which it yields, are more than compensation r the loss of a few square feet of front garden, the hedge paling, and the swinging gate. And, architecturally, ho can deny the ineffable charm of the village streets up d down the country? Those placid-fronted houses, in ick or stone, or half-timber, with bay windows, their w-fronted shops, their cornices or eaves, their little sements or lengthy white-lined sashes, the odd juxtasitions, the discrete units making a concrete whole, a ole of indescribable charm. Are we, of this age, to make such contribution for the delectation of our own and bsequent generations?

This should not be interpreted as an exhortation to solve e problems of the present by an imitation of the past. one particular, at least, the present-day conditions call a somewhat different treatment. The enormously creased road transport has brought acute discomfort to e inhabitant of many a village street. Nevertheless, this insufficient reason for the complete abandonment of a race treatment of houses whose entrance should be ectly from the pavement. It may be that the main ffic road will be given over completely to shops, banks, mmercial and public buildings, with a village square ening off this road. Into this square will be drawn ivate houses, the village lawyer, and the doctor, and ers who desire to be "on the spot" and yet sheltered m the worst noise and dust which are the unavoidable comitants of the increased road traffic.

It is the passing away of any conglomerate masses of ildings that is to be deplored; the endless repetition of pairs of houses, whether of similar or of diverse design, with here and there a carefully placed close or cul-de-sac, will not compensate for that slowly matured blossom of rural architecture, the high street of our small county towns and of our large country villages. Is there any reason why contemporary development should not sometimes take the form of a harmonious prolongation of the main street? A block of half-a-dozen houses, or a group of shops in the same pleasant brick or plasterwork, with the same dignified sashes, or lowlier casements, would surely be a welcome addition to the existing architectural effect, yet what actually happens is that the approach to almost every small town is notified by a succession of semi-detached houses each snugly—and smugly—ensconced behind its front garden; then with a violent transition we pass into the old street rich in humble architectural achievements. There would seem to be no attempt at co-ordination, and the legacy of the past is altogether ignored. In some of the more populated rural districts, villages of the utmost charm, rich in architectural deposits, are linked up by attenuated series of semi-detached houses with a complete disregard of the existing state of affairs—no attempt, in fact, is made to achieve any unified architectural scheme; it is just this which constitutes the difference between a road lined with houses and a street considered as an architectural composition, and it is for the latter that we plead.

To-day the opportunities are immense. All over the country schemes are in active preparation, and by them will prosperity, in the fullness of time, judge us and our labours. If the garden city or garden suburb method is ruthlessly to be applied, whether or no that application be the most suitable for the particular circumstance, there will assuredly pass away, at least for the present, a development which, if hitherto on less scientific lines, has, at least, yielded results the beauty of which none can deny. Although town-planning may be regarded as a science, architecture yet remains an art, and as such it cannot thrive if overburdened and hampered by an excess of theories. For this reason a certain amount of laxity, of flexibility must remain. Zoning and the segregation of buildings of different classes and purposes is desirable enough, yet if pressed to its utmost limits it inevitably leads to dullness. Who, for instance, would desire to lose the rare old bow-fronted shop window set surprisingly between sedate dwellings to beguile the unwary purchaser, because it is not placed among its fellows in the "shopping centre"?

Architecture, and especially town-planning, is so eminently a human art that those who practise it must bring to bear the same sympathy and forbearance with which they would handle human problems. For, however much we may theorize about humanity, when we actually come to deal with individuals we recognize their right to depart from type and to be judged and handled according to idiosyncrasies and circumstances. This is the treatment required for towns and villages, and if this were done the village street would more often become a nucleus for a further development on similarly gracious lines instead of an isolated gem compressed in an uncongenial and ill-harmonizing setting.

The remedy, of course, is to entrust this work, upon which so much depends, to men of wide knowledge and sympathy, with whom there will be no chance of the ruthless application of some newly-acquired theory—suitable enough in particular circumstances—to every situation.

Theories in the hands of the unskilful are dangerous weapons, and to-day, with our quick dissemination of knowledge and information, we are beset not only by theories but by fashions, crazes, and other ephemeral dangers. The real town-planner must have a vision that transcends such things, for if he has not then, indeed, the rural street is doomed, and the countryside and the nation will be left (unless, indeed, as we can hardly think, it has ceased to have an eye or a care for such matters) to mourn its loss.

A Philip Webb House in Danger

Sir Aston Webb, Mr. W. R. Lethaby, Mr. Halsey Ricardo, and Mr. Edward Warren, are prominent among the signatories to a letter protesting against the destruction of the house known as No. 1 Palace Green, Kensington, of which, they have been informed, it is in imminent danger. The Earl of Crawford and Balcarres, Mr. G. K. Chesterton, Mr. John Drinkwater, Mr. J. W. Mackail, and Mr. J. C. Squire, eminent men of letters all, who also sign the protest, believe the house to be worthy of preservation because it was designed by Philip Webb, and set up a new and beautiful tradition in domestic work. "This house," the letter states, "a work of the late Philip Webb, the lifelong friend of William Morris, was practically the first essay in the modern type of thoughtful and individual town-house building, and is altogether a remarkable work of art." The site is believed to be leased from the Woods and Forests Commissioners, to whom this appeal should not be made in vain.

Regional Surveys

In the current issue of "The Geographical Journal," Mr. C. C. Fagg, president of the Croydon Natural History and Scientific Society, demonstrates some of the virtues of the regional-survey idea. Since 1912, the members of his society have been engaged in making a regional survey of the district in which they live, "exploring, and setting down on large-scale maps accounts as complete as they can be made of the physical and biological features of their district." This excellent idea may have first taken really popular form in school nature-study rambles. Elementary-education authorities have always greatly stimulated and encouraged it, although at first they did little more than cause the points of the compass to be marked on floor or ceiling. From this definite indication of locality the children were taught to look beyond the parish, and to explore a little, actually or in imagination, the regions round about. They made descriptive inventories of what they saw, and with some, when they grew up, the habit of accurate topographical observation was cultivated and developed until the notion of regional surveys took form in collective effort, first local and sporadic, then regional and systematic, its finest results being those achieved by the architects and surveyors banded together to parcel out parts of Britain into regional-survey districts during the war. The fruits of those regional surveys should not be allowed to wither. They are of the greatest importance to architects and town-planners, and ought to be digested and co-ordinated at the expense of the State and for the special benefit of the building community as well as for the benefit of the business community in general. Such useful materials as those collected in the course of the surveys should not be allowed to moulder in museums or be buried in archæological archives. Nor should the London County Council's fine collection of photographic records of notable buildings be stored away, as they are, where nobody thinks of looking for them. Architecturally, as well as historically, they are very valuable from many points of view, and should be made more easily accessible.

Wanted, a Building Code

For some few years past Scotland has enjoyed—
otherwise, but there is no evidence of serious objection
a building code that, at all events, has the advantage
showing the architect and the builder definitely what th
may and may not do. England has not yet adopted
general building code. Building by-laws vary with t
district; so that if one side of a street happens to be
the A district, while the other side is under the control
the local authority of B, in A the builder may do wi
impunity that which B might penalize: or *vice vers*
That may be an exceptional case, but at any rate t
divergencies of local by-laws have been so great th
it was always rash to make plans for any given distri
without first conning its by-laws, which, as often as n
were only to be seen at the local authority's offices, i
volving, too often, a long and an expensive journey f
the architect. While, however, it is certain that a nation
building code would offer many substantial advantages,
is equally certain that it would meet with tremendo
opposition, especially where vested interests and privileg
are involved, as they often are—in the matter of wat
fittings, for example. The R.I.B.A., which appointed
joint-committee last January to discuss the question, a
understood to have considered the advisability of esta
lishing a new building code of general application throug
out England and Wales, but to have come to the conclusi
that Parliament would not pass a code overriding t
sacred principle of local autonomy. Vested interests a
the rooted Anglo-Saxon tradition of local self-governme
would, we fear, certainly be strong obstacles. Yet t
case for by-law reform is not altogether hopeless. A dra
Bill which may possibly be adopted by the Governme
introduces many improvements, and in particular do
much to encourage greater uniformity. Two of its pr
posals are that all by-laws shall be revised every t
years, and that local authorities shall give reasons wh
disapproving plans. In an era of rapidly moving even
the revision should be quinquennial rather than decennia
and it would almost seem that all that the authoriti
object to in a building code is its name.

The Late Sir Norman Moore and St. Bartholomew's

Sir Norman Moore, whose death was announced a fe
days ago, had established a strong claim to the gratitu
of Londoners, and, indeed, to that of all lovers of ancie
buildings. At a period in his career when he was at h
busiest as a distinguished physician he contrived to fi
time for the strenuously active advocacy of the restoratio
to dignity and decorum of London's oldest and, therefor
most interesting church. While fulfilling important an
onerous duties at St. Bartholomew's Hospital, first a
physician and afterwards as lecturer on various depart
ments of medical science, Moore nevertheless found tim
to make himself thoroughly acquainted with every stic
and stone of the ancient church of St. Bartholomew-th
Great, West Smithfield. As one result of his carefu
investigations, he wrote a masterly monograph on th
subject. What is more, he so incessantly and so powerfully
in the press and in other directions, awakened publi
interest in the grand old church, that ultimately funds wer
provided for its restoration, and for its rescue from th
encroachments, well-nigh sacrilegious in character, o
blacksmiths, whitesmiths, furriers, curriers, and what-no
whose workshops adjoined and jostled the church. I
was largely owing to the exertions of Sir Norman Moor
that these unseemly excrescences were swept away, an
Sir Aston Webb was given scope to perform his notabl
work of sympathetic restoration. Sir Norman's scant
leisure was always spent vigorously and beneficently
Asked to name his recreations, he wrote in "Who's Who
"*Labor ipse voluptas.*"

Contemporary British Architecture at the R.I.B.A.

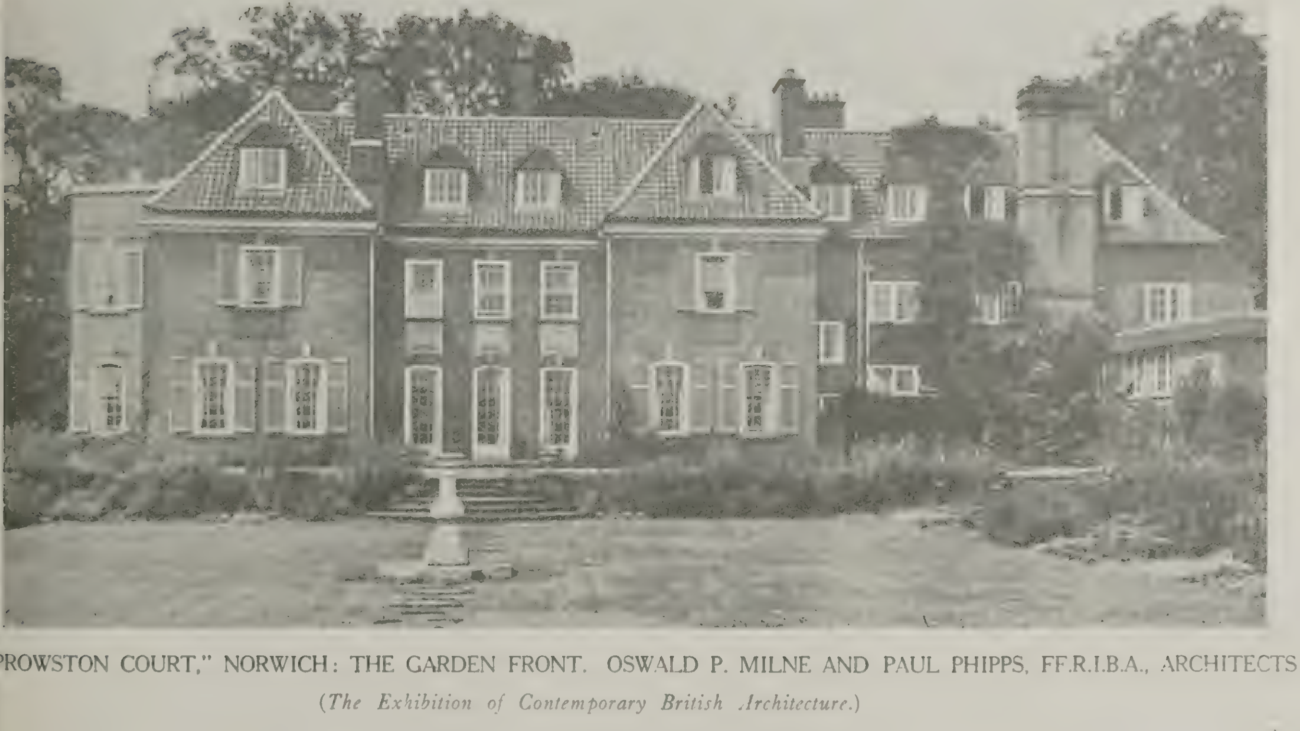
WHEN the Continental exhibition of modern American architecture halted in the hospitable galleries of the Institute on its way back to America we all of us said, "Now *is* is what the English architects ought to do." Well, e R.I.B.A. very sensibly took the hint, and the exhibition of Contemporary British Architecture, now ing held in Conduit Street, is the most interesting sult.

Any architectural exhibition that included contributions om such men as Sir Edwin Lutyens, Sir Robert Lorimer, r. Herbert Baker, Mr. Gilbert Scott, Mr. Edwin Cooper, d Mr. Ralph Knott, with a good body of the less-renowned d a tail of the obscure but promising, will certainly, and t altogether unjustly, be called "Representative." Yet e could name half a dozen good men straight off whose rk would have surely strengthened the show, but who, r some reason, are not represented at all. However, ken as a whole, the exhibition is an extremely interesting e, and makes a distinct step forward in a very important atter—the architectural education of the public.

Those who have been in the habit of seeing THE ARCHI-CTS' JOURNAL and "Country Life" will greet most of the hibits as old friends, and will, perhaps, be surprised at e relatively small proportion of really significant work at has escaped illustration and honourable mention in eir pages. The popular belief that the diligent searching garrets would result in a haul of genius still flourishes in ite of phenomenally little support from actual experice, and some of us may have hoped that this welllvertised exhibition might have discovered some new ar to be acclaimed and added gratefully to the accepted ghts of the architectural constellation. When, however, e remark any of the compositions that are new to us as particularly distinguished or engaging and then turn to our catalogue for the author, we usually find that he is known to us already, and instead of adding another name to our list of "The hundred best architects" we merely add another laurel leaf to the crown of the celebrated Mr. Jones, or the scarcely less distinguished Mr. Robinson. This forces one to the reluctant conclusion that there are in actual fact a quite definitely limited number of really first-class architects in active practice, and that the reserves of talent obscurely languishing in the provinces that one might have hoped to tap are largely non-existent, or, perhaps, not yet discovered even by a building client. The malicious might suggest that the Hanging Committee has hung the best "names" instead of the best available architecture, but reference to the catalogue will sufficiently refute such cynicism, for the merely "eminent" are conspicuously absent, whilst merit outside the fold of the Institute has been generously recognized. "Reference to the catalogue," by the way, is always a tiresome proceeding, and it would surely be an improvement if some neat standard label could be gummed in the corner of each picture giving the subject and the name of the architect, so that the languid (and who does not ultimately grow languid at the most festive exhibition?) may praise the righteous without the tedium of hunting up names in a long list.

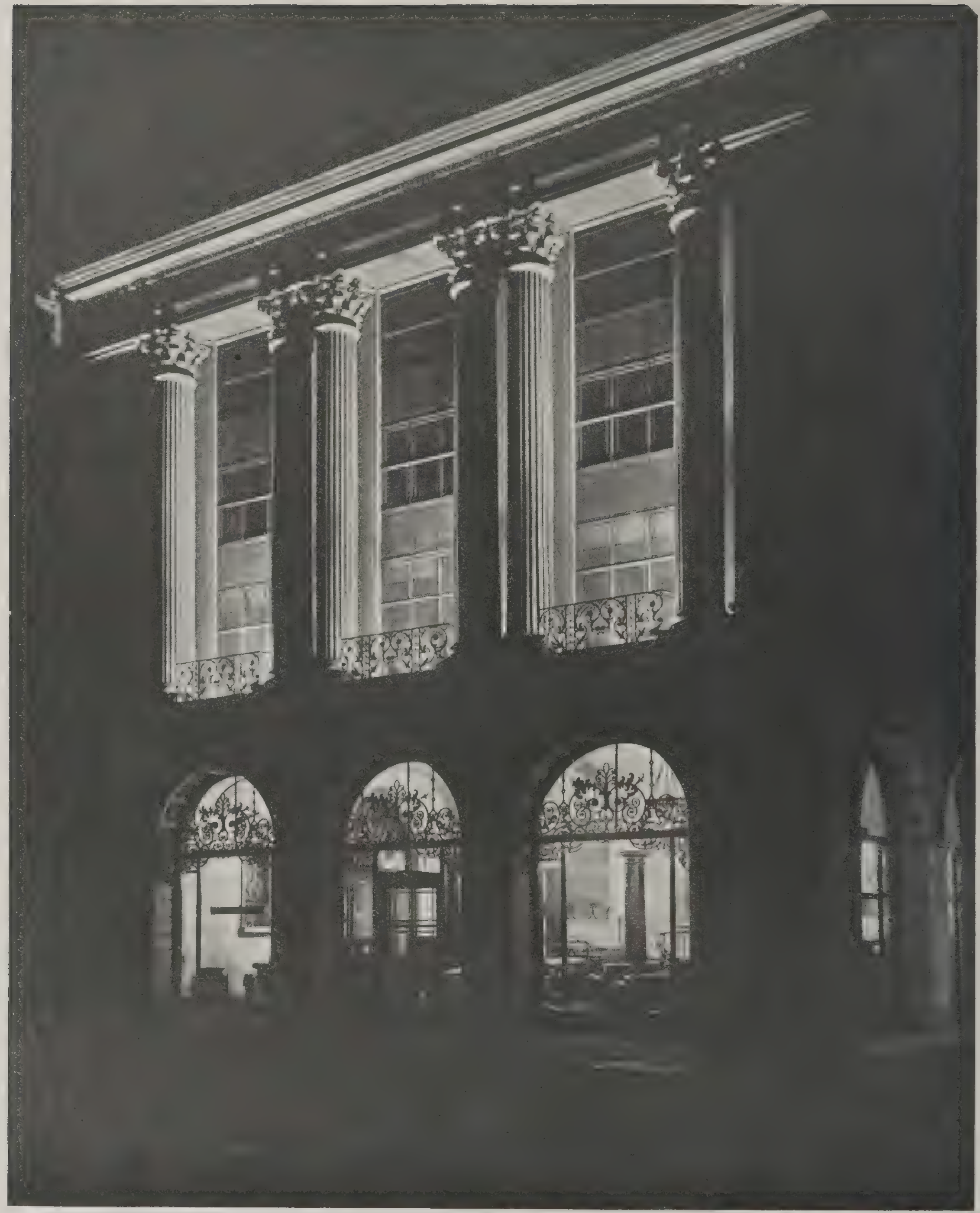
We are probably all now agreed that next to an exhibition of actual buildings, a thing unfortunately impossible, architectural achievement is best displayed by a show of photographs. In this matter the Americans are ahead of us, as certainly as they are our superiors in monumental and grand-scale designing. If we recall the American exhibition held earlier this year in the same galleries we

(*Continued on page* 828.)



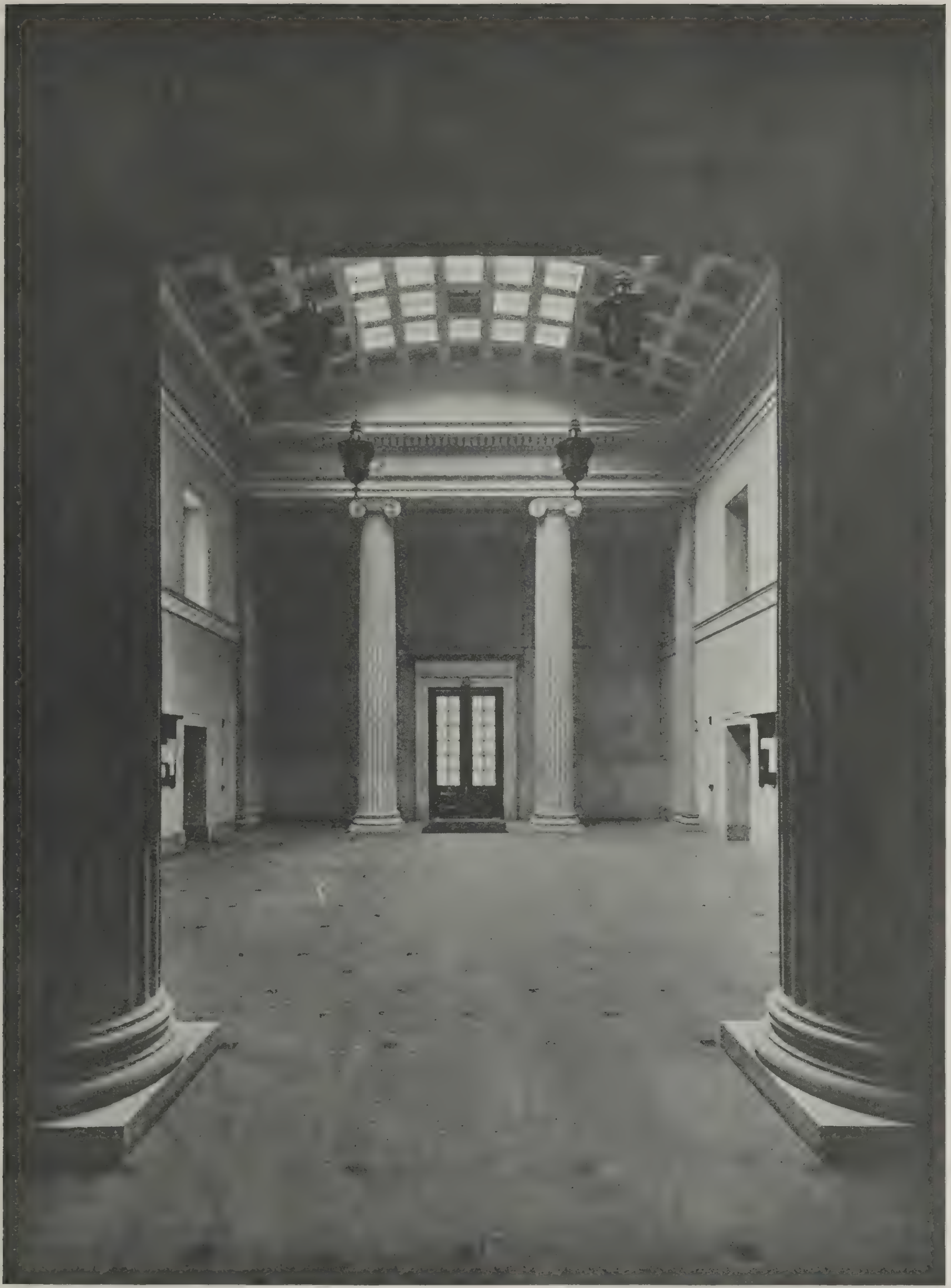
"SPROWSTON COURT," NORWICH: THE GARDEN FRONT. OSWALD P. MILNE AND PAUL PHIPPS, FF.R.I.B.A., ARCHITECTS

(*The Exhibition of Contemporary British Architecture.*)

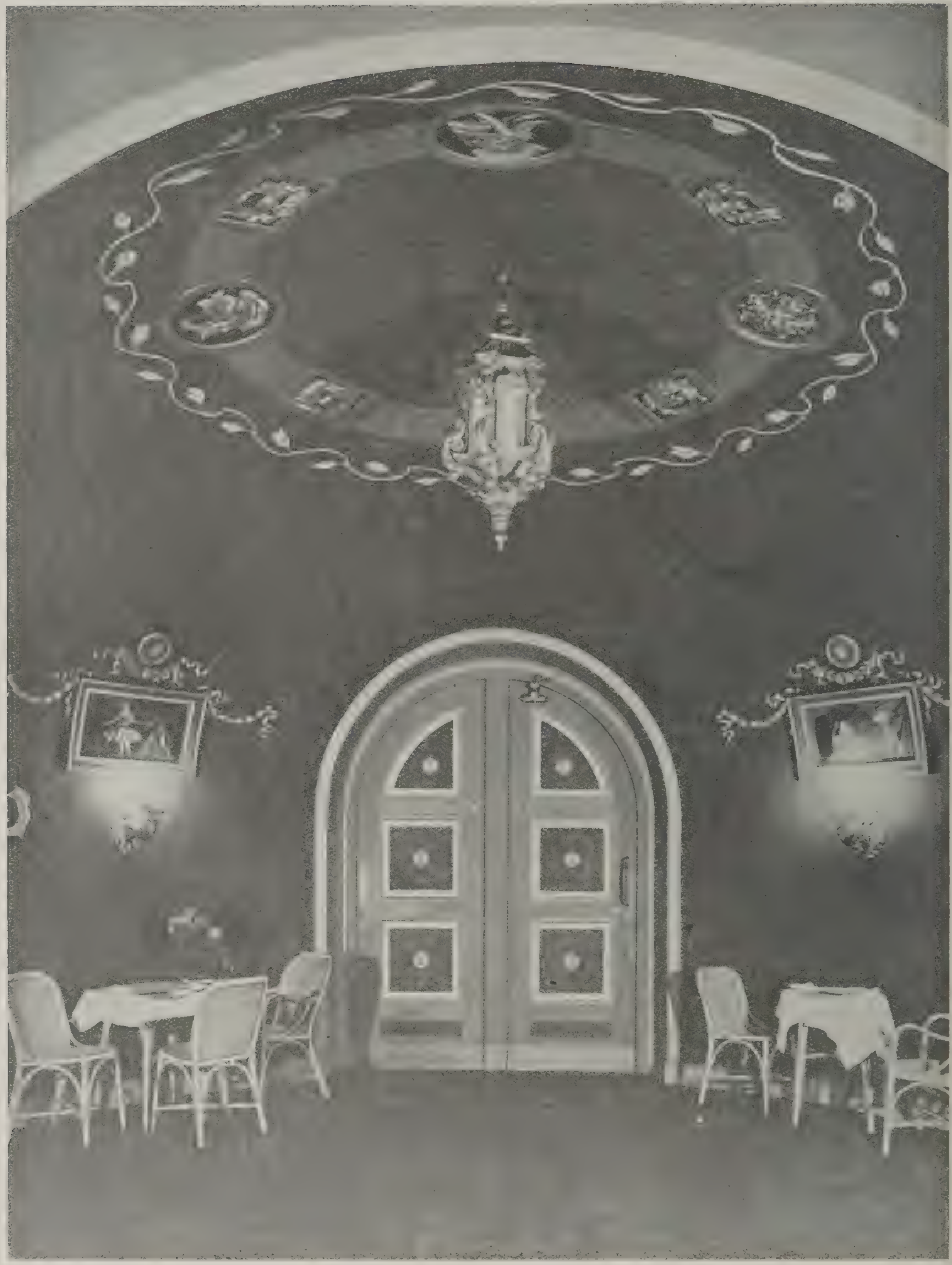


WOLSELEY HOUSE, PICCADILLY. W. CURTIS GREEN, F.R.I.B.A., ARCHITECT.

(The Exhibition of Contemporary British Architecture.)

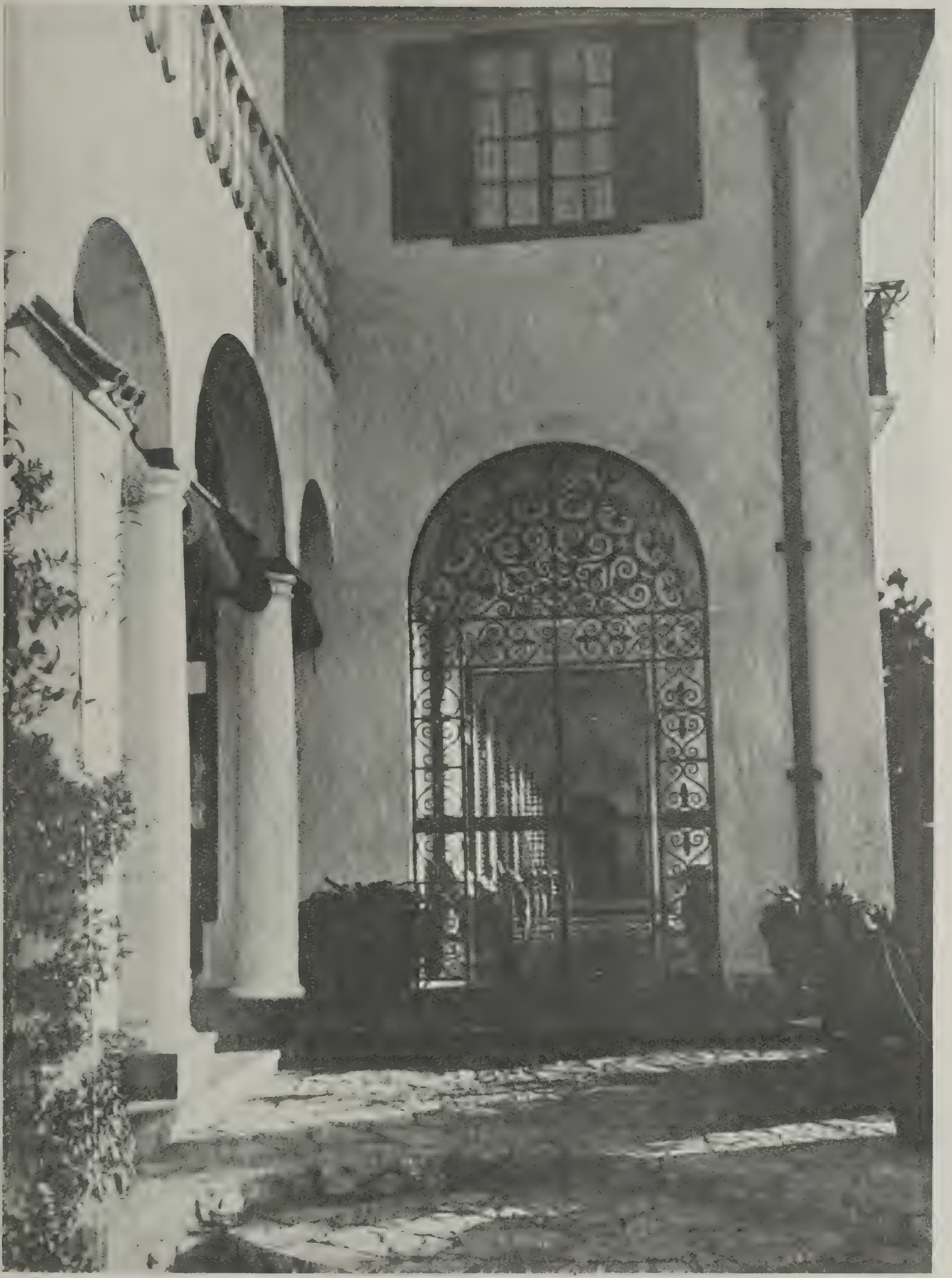


THE NEW BUILDING FOR THE FACULTY OF ARTS, UNIVERSITY OF MANCHESTER.
THOMAS WORTHINGTON & SONS, F. AND A.R.I.B.A., ARCHITECTS.
(The Exhibition of Contemporary British Architecture.)



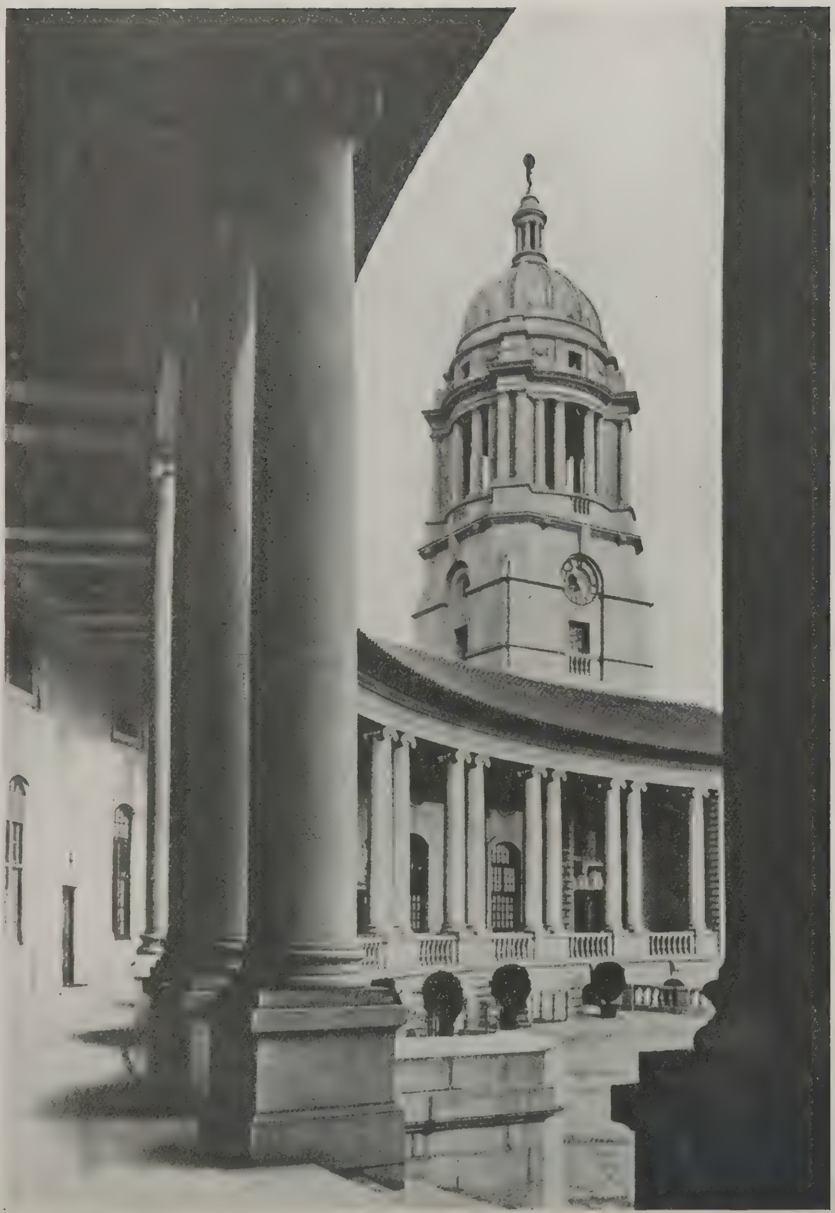
THE REGENT THEATRE, BRIGHTON. ROBERT ATKINSON, F.R.I.B.A., ARCHITECT.

(*The Exhibition of Contemporary British Architecture.*)

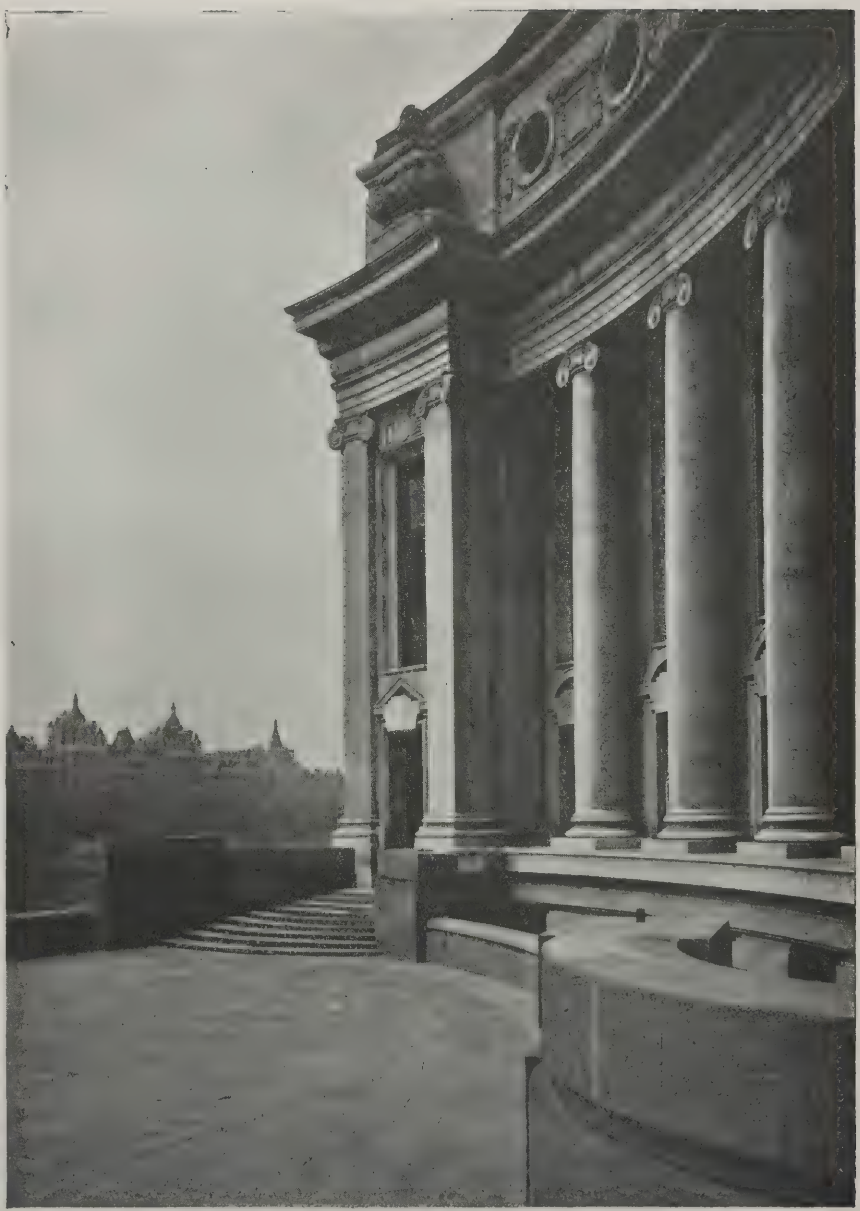


THE VILLA ARCADIA. HERBERT BAKER, A.R.A., F.R.I.B.A., ARCHITECT.

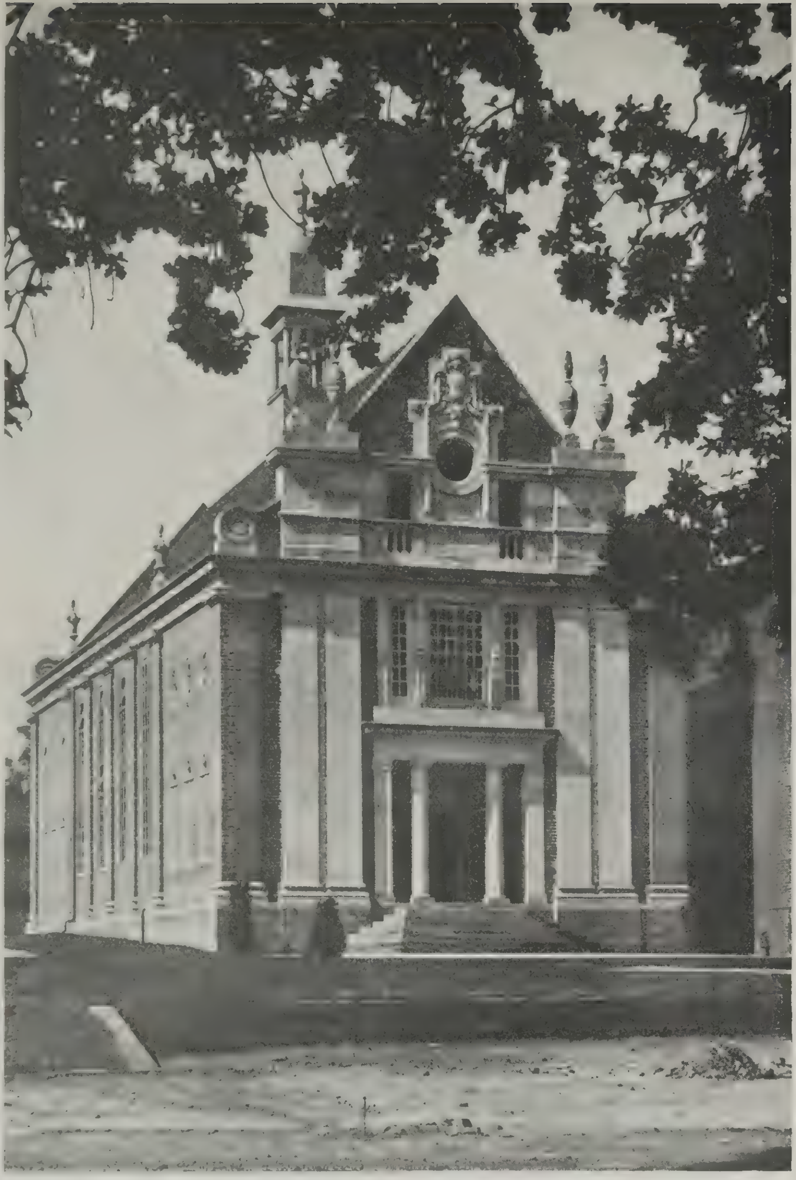
(The Exhibition of Contemporary British Architecture.)



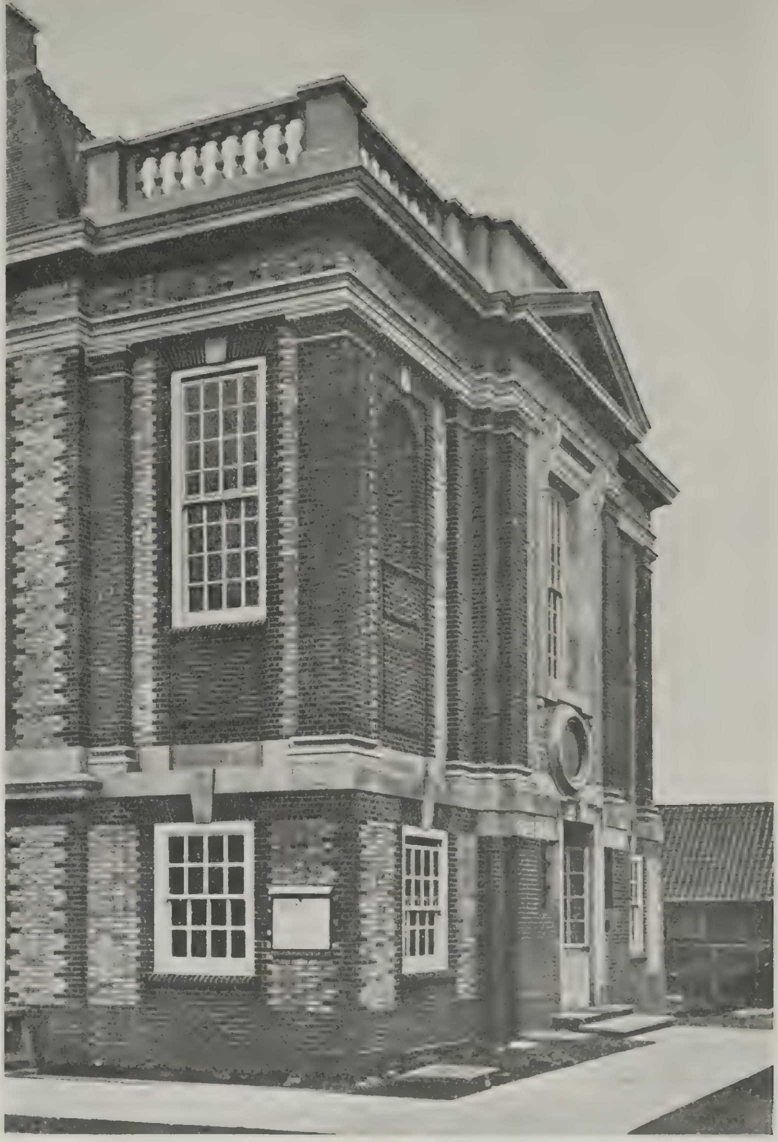
UNION BUILDINGS, PRETORIA.
HERBERT BAKER, A.R.A., F.R.I.B.A., ARCHITECT.



THE LONDON COUNTY HALL: DETAIL ON MEMBERS' TERRACE.
RALPH KNOTT, F.R.I.B.A., AND E. STONE COLLINS, ARCHITECTS, WITH
W. E. RILEY, F.R.I.B.A., R.B.A., M.Inst.C.E., CONSULTING ARCHITECT.



BISHOP'S STORTFORD COLLEGE MEMORIAL HALL AND CHAPEL.
CLOUGH WILLIAMS-ELLIS, ARCHITECT.



THE INSTITUTE, HAMPSTEAD GARDEN SUBURB
SIR EDWIN LUTYENS, R.A., F.R.I.B.A., ARCHITECT.

(The Exhibition of Contemporary British Architecture.)

cannot but remember the great imperial-size photographs proper to the heroic scale of their subjects. No doubt the American architect has larger opportunities than his English brother, but at the present moment he would also seem better to deserve them. Such easy comparisons are, however, apt to be misleading and unfair, as would be too great praise of the American photographs at the expense of our own.

We note the wonderful definition, clear-cut detail, and sharp, informing shadows of the former, forgetting, perhaps, the strength and brilliance of their sunlight; we praise the dramatic value of their photographic nocturnes when we should more properly acknowledge their pre-eminence in the new art of "flood lighting." There are but two photographs by such lighting in the present exhibition, one being Sir John Burnet's "Selfridges," and the other Mr. Curtis Green's Wolseley building in Piccadilly, the last showing a particularly effective result (No. 210). Pending the time when "Adelaide House" shall be ready for the photographer, we are glad that Sir John again exhibits his exhilarating sketch for it, as there is little in the show on the grand scale in the American sense.

Of Mr. Herbert Baker's work we have seen too little, and as most of it is overseas, the photographs here representing him are particularly welcome. Incidentally, they reveal the author of the most attractive memorial gateway to Lord's Cricket Ground that has recently made the St. John's Wood Road architecturally important and wherein W. G. Grace is commemorated in the most ingenious and architecturally satisfying trophies of cricketing gear. That Mr. Baker is equally at home on a big scale is proved by his great Pretoria Buildings (No. 198), whilst the Villa Arcadia (No. 199) shows that tenderness for texture and atmosphere which first brought him into honourable notice.

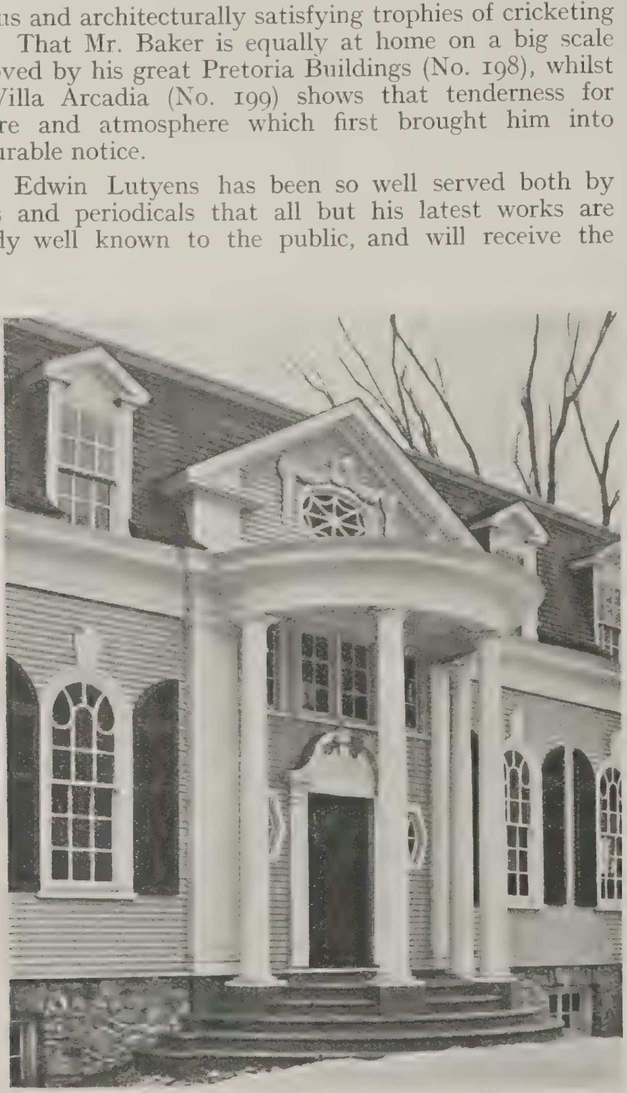
Sir Edwin Lutyens has been so well served both by books and periodicals that all but his latest works are already well known to the public, and will receive the admiration that is their due without special commendation here. As a classic example of English brickwork his Hampstead Garden Suburb Institute (No. 45) still remains pre-eminent.

The "Moderate" house is not so well represented as might have been expected, "Sprowston Court," by Messrs. Milne and Phipps (24), being amongst the best. Mill Hill School is happy in a Gate of Honour, by Mr. Hamp, that the photograph shows to be a composition of considerable dignity (48).

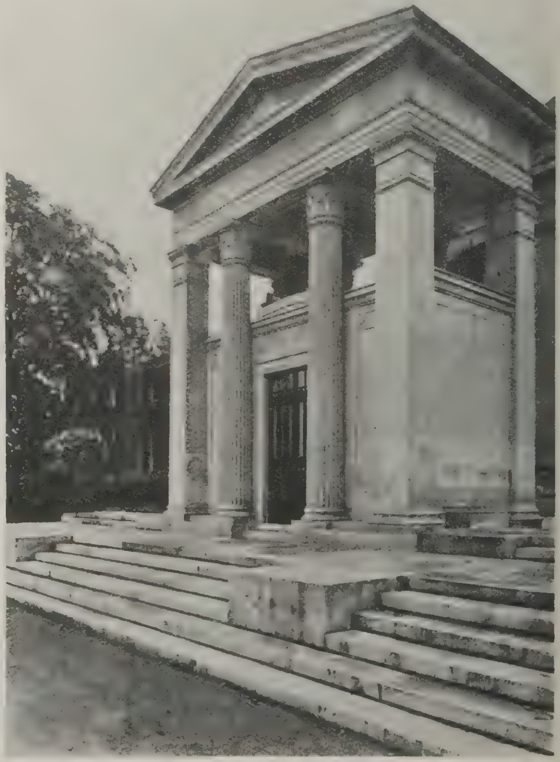
"Housing" houses are commonly only interesting in mass, and do not show to much architectural advantage when studied individually and in detail. The little dwellings erected by Messrs. Hennell and James at Welwyn Garden City are notable exceptions, and have a refinement and charm reminiscent of Professor Adshead's engaging work in the same field.

Thomas Worthington and Sons are well represented by the severely beautiful "Faculty of Arts" building at the University of Manchester, whilst Messrs. Willink and Thicknesse are much honoured by the imposing *palazzo*, called "The Cunard Building," that now distinguishes the Liverpool river front.

The work of Messrs. Lanchester and Rickards is well and amply illustrated, and is interesting as typifying a distinct phase in modern English architecture that is not, one feels, in the main stream of its evolution for all its vigorous ingenuity. Their drinking fountain at Newmarket is not a characteristic work, but individually pleasing. Thanks to the awakening of the daily Press to the importance of architecture as "copy," we are all of us pretty familiar both with the new County Hall and the Port of London building, but Mr. Yerbury's photographs of the former are in themselves a pleasure to look at as compositions in light and shade. Mr. Knott and the light of Heaven have, of course, between them given Mr. Yerbury his opportunities, but he has certainly made good use of them (No. 132).



ENTRANCE PORTICO, HOUSE AT DORVAL.
SEPTIMUS WARWICK, F.R.I.B.A., ARCHITECT.



GATE OF HONOUR, MILL HILL SCHOOL.
STANLEY HAMP, A.R.I.B.A., ARCHITECT.

(*The Exhibition of Contemporary British Architecture.*)

Photography has not quite done justice to Mr. Gilbert Scott's great work at Liverpool Cathedral, and a pale vater-colour of his proposed chapel at Huyton gives a etter taste of his quality.

Mr. Brierley shows what he has done at Sledmere Hall n the eighteenth-century tradition; Mr. Robert Atkinson, is exceedingly festive Regent Theatre at Brighton. As a etting for an "evening out" of light-hearted gaiety the nterior of the Regent is a triumph, combining, as it does, gay sensuousness with real architectural feeling.

In the photographs we of course miss the colour chords hat are so important a part of the whole effect in fact. he street front does not appear to be quite successful, but e are willing to believe that actuality may have been nkindly treated by the camera. To the more æsthetically inded Mr. Maclaren Ross's "The Order of Silence" hould be commended for its broad simplicity, whilst Ir. Warwick shows an engaging little piece of detail in his Portico at Dorval" (No. 258).

But one might continue such not very profitable comment through the whole series of 322 exhibits, dealing out raise or blame as seemed just from one's own individual et arbitrary point of view. In point of fact I have here one little more than indicate a few of the photographs at gave me pleasure without attempting to justify prerences that must, after all, be largely personal and may ven seem capricious.

CLOUGH WILLIAMS-ELLIS.

The President's Message

The following is Mr. Paul Waterhouse's introduction the catalogue of the exhibition:

What did Wren say, the great Sir Christopher, to hom next year we shall offer the honours of bi-centenary membrance? Here are his words: "Architecture has s political use, public buildings being the ornament of a untry. It establishes a nation, draws people and mmerce, makes the people love their native country; hich passion is the original in all great actions of a mmonwealth."

Whether these words were a necessary reproof to the tizens of the seventeenth century, or whether they were it an echo of the popular appraisement of the architect, is happily a fact that in England of to-day there is much ss need to remind people of the importance of architecre than there was fifty, forty, or even thirty years ago. en of commerce, men of trade, are nowadays aware that ere is "something in it"; and it is rare to find the prooter of a big building—however utilitarian his views—10 does not appreciate the necessity of getting skilled lp towards shaping his structure in accordance with cognized rules of propriety. There are several reasons ich will account for this—and perhaps the chief is one which we owe a vote of thanks to prominent individuals the modern world of trade. These men, wise enough to ow that good taste was an asset, and clever enough to ow where and how the good taste could be engaged, have en setting a standard from which their rivals and imitas dare not, for their very lives, fall back. Nor must we erlook the no less commendable, though less unexpected, elity of our modern banks, insurance offices, municilities and public companies to the claims of architecture— fitting mistress and handmaid of their constructional ievements. I shudder to think what would be the sent aspect of London if certain vast enterprises of the t twenty-five years had come to birth in the third quarter the past century. Those were the days when the flames Gothic enthusiasm had died down, only to leave among tain architects an impression that, inappropriate as thic traditions were to the needs of modern commerce, Gothic school had at least broken down all obligations vards the starched correctness (not *my* definition) of the ssic rule. There followed, as an ignoble sequel, a period ich it would be a mere compliment to call an age of nse. It had not even the immodest charms of licentiousness. The unhallowed result of the sense that traditional correctness did not matter introduced a theory, pleasant enough for the ignorant, that any whim which could find its way into the brain of any architect, however untutored, might appropriately find its way out of that brain on to his drawing-board and thence on to his unhappy creations.

It is to this train of reasonless reasoning that we owe most of the faults which make a large part of the City of London, and a larger proportion of Southwark, nightmares of jaded and mongrel effort.

"Originality," its producers would have called it, or possibly "design." But every drawing is a design and every building is original in the sense that it has an origin. It is only by the strangest freak of language that we confine this term to those things whose origin is as far as possible undiscoverable. Some would define as original those things "whose origin is in themselves," which are, in fact, contrary to all laws of Nature. Let it be said at once that spontaneous generation is no fit method of birth for architecture. It is not only indecent but happily impossible, for the product of such birth, whatever name it may take, cannot have the architectural nature.

I am quite deliberately certain that British architecture to-day is healthier, stronger, and nearer to the unattainable level of pure art than it has been for a hundred and fifty years. If this were not a public document, I would go further, and for this reason—that great and beautiful as were the achievements of the eighteenth century, miraculous as was Wren, magic as is the charm of his predecessor, Inigo Jones, and his great successor Gibbs, there was not in the days of those heroes, as there is to-day, so vast a company of contemporary architects among whom safe choice might be made.

To-day, it is true, there are men in the first flight to whom others are secondary; but the number of the secondary is legion, and by calling them secondary I am not calling them second best. Many of them are only on the second step because of certain conditions of standing room, and every year our systems of well-devised rivalry bring fresh men into prominence from the deserving ranks of the juniors or of the less known. Recent inquiries have led me to believe that architectural competitions, which are to many the ladder to fame, are nowhere in Europe conducted with such spotless fairness as characterizes our British methods in this respect. Certainly there can be no land which surpasses the British Isles in the success and universality of its present systems of architectural education—a success and universality which are, I believe, daily increasing. I only allude to this educational subject in order to point out that no person or corporation desirous of erecting a truly architectural building on lines of authentic and scholarly architecture can have any excuse in Britain for failing to find an architect. I am not forgetting the supremacy of France in scholastic architectural training, nor am I overlooking the present laudable efforts of Paris to weld into that training a sounder knowledge of construction; but I do say, armed with some personal acquaintance with modern educational conditions and free from personal doubts, that the employers or would-be employers of architects in this country have before them for their open choice an abundant army of highly trained men in whom taste, knowledge, and energy have been nurtured by the friendliest of rivalry and the most enthusiastic zeal.

In setting up this Exhibition it is not pretended that all the exhibits are of equal merit, still less that the very best work of our time is fully represented. Various circumstances have hindered the inclusion of certain works which the Selection Committee would have desired to see included, and which the visitors to the Exhibition will very probably expect to find. It will be easily understood that suitable photographs or drawings are not always available.

At least, it may be said that the Committee have done their best to make the collection illustrative of a fairly wide area of architectural enterprise and to exclude unworthy examples.

Architects and Housing

By MANNING ROBERTSON, A.R.I.B.A. (Late Deputy Chief Architect to the Ministry of Health, Housing Department)

THE President of the Architectural Association has done valuable service in introducing this important subject into his opening address, and his action has elicited some interesting opinions on the direction in which architects can most effectively give their services to the community. It is unlikely that anyone who has seriously considered the subject will quarrel with the "four points," introduced on the same subject in Mr. Hamp's article in THE JOURNAL for November 29, to the effect that architects are the right persons to design houses, builders to build them, and that the public should understand this and collaborate in the employment of both, each within his legitimate sphere. But Mr. Hamp's further assertion that "the need for houses would by now have been much more successfully met if the architects and builders had been allowed (sic) to work together without any form of Government interference" is open to question.

When the writer first joined the Local Government Board, in January, 1919, local authorities were sending in plans of housing schemes with which it was intended to proceed, and he can assure Mr. Hamp that the schemes then submitted were, without one single exception, such as showed no signs of architectural collaboration. These were the houses that would have been erected if the Government had not interfered. The possibility of architectural co-operation had not entered the heads of the local authorities concerned, and it was solely owing to the powers of veto exercised by the Local Government Board that any new standard of housing was arrived at.

What reason have we to suppose that the house-builder would have been approached by the architectural profession early in 1919 when at the end of 1922 we still find that nothing has been done?

The Local Government Board, in its "Manual on State-aided Housing Schemes," recommended the employment of architects, this being the first real step towards getting any general employment for architects in this class of work, a recognition that could not have been obtained without the power of the Government behind it, in the form of a veto upon houses that did not come up to the standard laid down in the manual, which was itself based on the Tudor Walters report. The credit for this recommendation on the part of the Government belongs principally to the then Chief Architect for Housing, Mr. S. B. Russell, who was untiring in his efforts to give architects the chance to "make good." But for the "official architect," a higher standard of planning and design would never have been attempted, and the tax-payers' money would have been spent upon subsidizing houses of the type that was being erected in pre-war days in our suburbs. If proof is required, what of the houses built under Dr. Addison's subsidiary scheme—the Grant to Private Persons? These houses were erected in 1920-21 entirely by private enterprise, within the most sketchy limitations laid down by the Government, no adequate standard being demanded. What was the result? Is it not notorious that the houses built under this Grant were of a miserably low type? The erector hardly ever went near an architect, and, taken as a whole, the houses both in design and construction were well below pre-war standard. Large numbers of old army huts and similar contrivances were pushed up by persons who were neither architects nor builders. Mr. Hamp tells us that if capital had been provided at a low rate of interest for private enterprise there is every reason to believe that full advantage would have been taken of such action. Experience under the Grant to Private Persons does not support this view. The employment of architects in housing work was a direct result of "Government interference," and without such interference architects would not have been consulted.

The housing standard originally laid down has for t past twelve months been gradually vanishing, and standard worth speaking about is likely to be insisted through the initiative of the present Government, even it subsidizes building. One can only hope that t Government schemes erected under the local authoriti and public utility societies may act as an educatio sufficient to demonstrate the value of the arch tect's contribution. Housing has been in splints lo enough, and architects and builders ought now to capable of carrying on at the higher level that has bee established.

It appears to be generally assumed that wholesa muddling sent up the price of Government houses unheard-of heights, whereas the heavy cost was really d to the Government's efforts to appease the clamour public and Press for houses in impossible numbers to erected with impossible speed. Such an over-demand o labour and materials could have had no other result, an the mistake lay in trying to oblige the electors instead telling them frankly that their demand could only be fu filled by slow degrees (an unsavoury truth that woul have elicited storms of abuse).

To pass now to Mr. Maurice Webb's suggestion. appears to contain one vital defect. It does not provid for the lay-out of the houses. To give a house-builder book of plans and tell him to select which he likes is no nearly sufficient. The lay-out of the site is even mor important than the plans of the houses, and the groupin of plans is a further development depending upon th configuration and aspect of the site in question. Individua attention and advice are surely essential, and a builde should be given both by any qualified architect he ma choose to consult, with sufficient particulars as regard lay-out, type plans, and skeleton specifications to enabl him to produce a job creditable to the architect and himself. The fee must be low enough to be "economic, one that makes it worth a builder's while, from the standpoint of increased amenity and rent, to consult an architect. In this way we would obtain more individualit and local charm than could be achieved by any number o books of type plans. Such a book, prepared by competen architects to suit varying localities and aspects, is alread in existence, having been published by the Ministry o Health, and all the objections that were urged by architects against this book when it first appeared must appl with equal force to any new books that might be produced. The question outstanding at the moment is tha of the "economic fee," and how much an architect will b expected to do under such a fee.

Architects should realize that they can look for further encouragement from the Government. They mus in future not only stand on their own feet (if they are stand at all), but they must push the Government instea of letting the Government push them. It is for th architects, the house-builders, and, one hopes, the doctor to see that the standard of housing is maintained.

The advantages that would accrue from personal co-operation between architects and house-builders would b immeasurable. Together they could attack the by-law and insist on the necessary reforms by forcing the hand of supine local authorities, and, where necessary, of th Government itself. They could resist unjustifiable speculation in land values, and make their united voices hear in the preparation of town-planning schemes. The might even make the public take an interest in its own welfare, a departure that would be almost unique in this country

Le Théâtre des Champs-Élysées

A Democratic Building

By H. BARTLE COX, A.R.I.B.A. (Membre corr. S.A.D.G.)

FIVE million francs for three play-houses with a total
accommodation for 3,000 spectators. A quiet
edifice decorated by eminent sculptors and
painters. Two years' construction in reinforced
crete over a waterlogged site. Such in few words are
striking data of the most complete and cheapest
odern" temple to music in the world.

fter the famous Opera House, the Théâtre des Champs-
sées is the most beautiful operatic and dramatic
ice in Paris. Scientifically it is far finer. Æsthetically
strikes a progressive note in architecture. It was
shed in 1913 at a period, in France, of comparative
riety while the former was begun in 1861, when France
gorged with gold! The
pera" took seventeen years
build, only seats a little
r 2,000 spectators, and
35,000,000 francs of the
ch!

he second empire and the
d republic are forcibly con-
ted by these two theatres,
one a fashionable ren-
vous for bal-masqué and
ballets, with "Escalier
nneur," spectacular
yer," "Loges Intimes,"
acoustic properties, and
xtravagant display of glit-
g ornament; the other a
tific disposition for the
g of drama and the hear-
f classical music. At the
era" the spectacle is as
h in the auditorium as on
stage, but since the time
agner the art of the stage
more moment than the
lity of the auditorium.

od concerts are given
he Théâtre des Champs-
ées, and crowded houses
witnessed "Le Ballet
e" and the first repre-
tion of Stravinsky's "Le
du Printemps." The taste of the twentieth century
rtainly less vulgar than was that of the nineteenth.
les Garnier's world-famous "Académie Nationale de
que" was paid for out of "La Cassette de l'Em-
r," and is monarchical in character, whereas the
re in question is the outcome of private enterprise, and
nocratic in principle. The architectural "programme"
entirely different one, yet since the dazzling splendour
e former Parisians are prone to judge all other lyrical
comedy play-houses from the standpoint of the
ra." A plain, logical, and economical edifice for a
re seems to some monstrous. In spite of good
tectural proportions, comfortable seating, perfect
tic properties, the latest mechanical devices for all
of musical drama, excellent lighting, heating, and
lation, the Parisians were scandalized in 1913 by this
g outrage on their prejudices, even the organizers
to blame their technical advisers, saying that they
ruined, but its serious import rapidly winning favour
dministrators now claim to have shown foresight in
ying the right men.

BUST OF M. AUGUSTE PERRET, BY BOURDELLE (MAÎTRE DE L'ŒUVRE OF THE THÉÂTRE DES CHAMPS-ÉLYSÉES).

The building is severe and the decoration restrained. The architectural style needs no name; it is the rational outcome of the principle adopted. The importance of this building lies in the fact that it is the only competent French effort at an adaptation to all "Modern" conditions.

The first performance given was "Benvenuto Cellini," by Berlioz, on the occasion of the inauguration on April 2, 1913, by Monsieur le Ministre de l'Instruction Publique et des Beaux Arts.

The "Programme" and the "Parti."

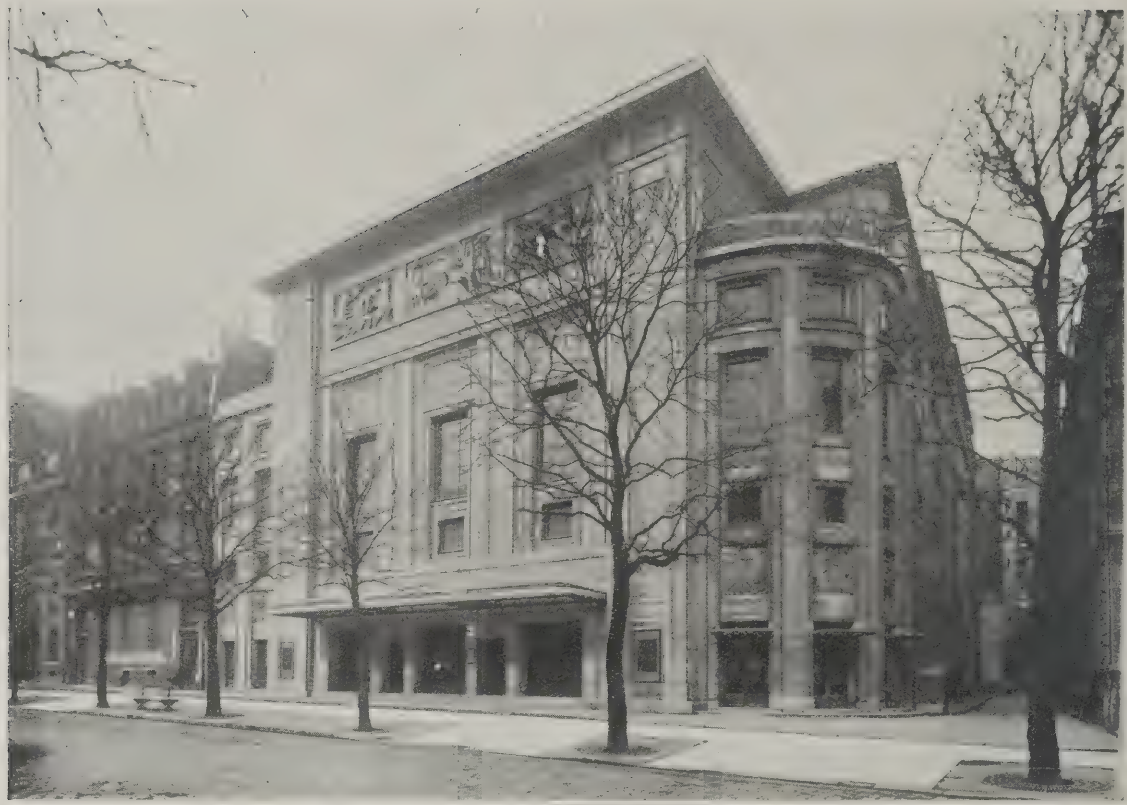
No just estimate of the æsthetic value of any building can be formed without knowing the "Programme" which dictated the solution or "Parti." In all periods of æsthetic building the architecture was the reasoned outcome of the "Programme." In most Renaissance work the programme was the illogical outcome of some preconceived architectural prejudice.

The Théâtre des Champs-Élysées would not be so much praised and blamed if modern artistic tendencies were less confused. Our epoch has no style, no unity of religion, no common social ideal. The majority of architects are without faith and their work without character. Archæological mimicry is less traditional than rational work that adjusts itself to the progress of industry.

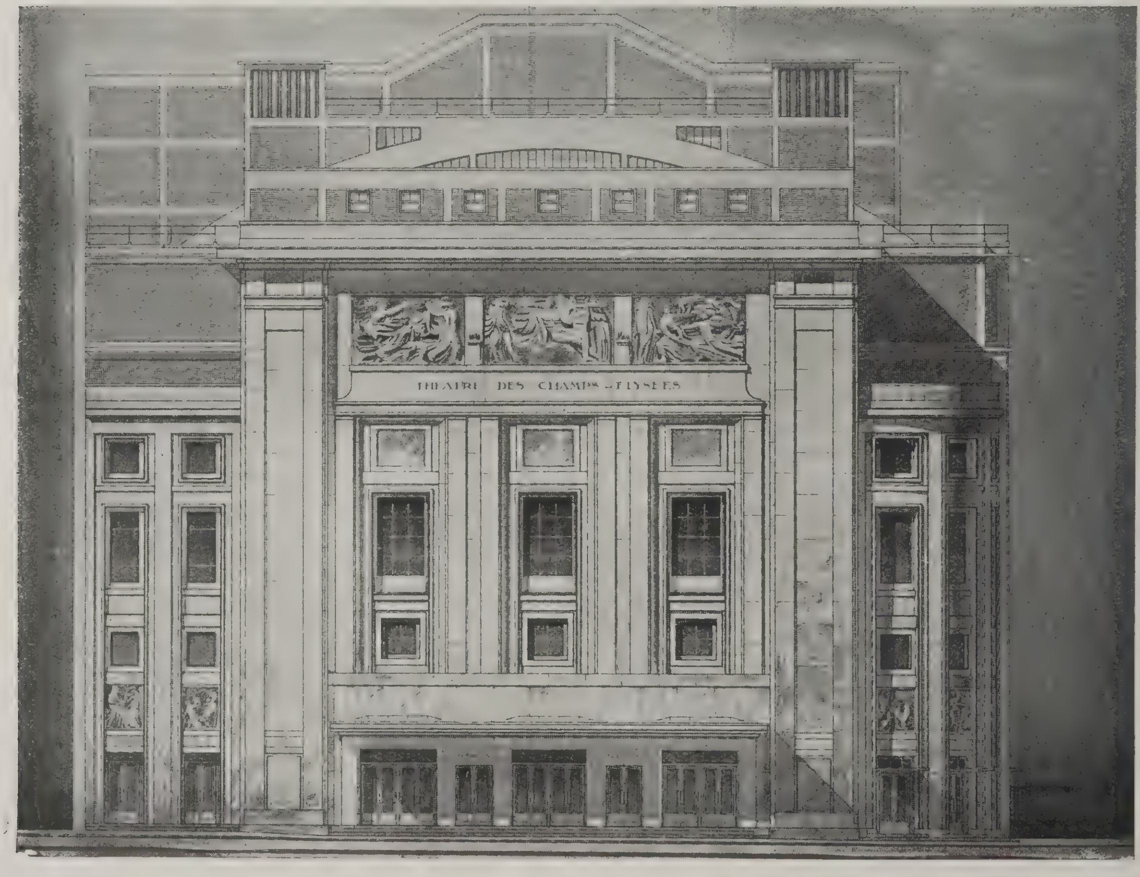
The governing note of the project under consideration was the creation of a "Temple de la Musique," of a theatre specially devoted to the meditative hearing and to the perfect performance of the great lyrical masterpieces. To be an artistic enterprise as a financial undertaking. The slogan launched forth was "English comfort, German technique, French taste."

The commercial idea is due to its founder and Director, Monsieur Gabriel Astruc, a French Israelite theatrical manager renowned in all the capitals of Europe. The "Président du Conseil d'administration," Monsieur Gabriel Thomas, was responsible for most of the organizing. For some time, many personalities felt that the great intellectual "Capital" should be adorned with a sanctuary to choreographic and lyric musical art. The "Opera," it was estimated, was better suited for carnivals, *fêtes de joies et de luxe*, than for the more pure art of music.

It was hoped to build this theatre on the site of the old "Cirque d'été" in the gardens of the Champs-Élysées, hence its name. The Swiss architect Fivaz was entrusted with some preliminary studies, then, for diplomatic reasons, M. Roger Bouvard, son of the "architecte de la Ville de Paris," but the public Press was against a private theatre and the authorization to what was called a sacrifice, of a

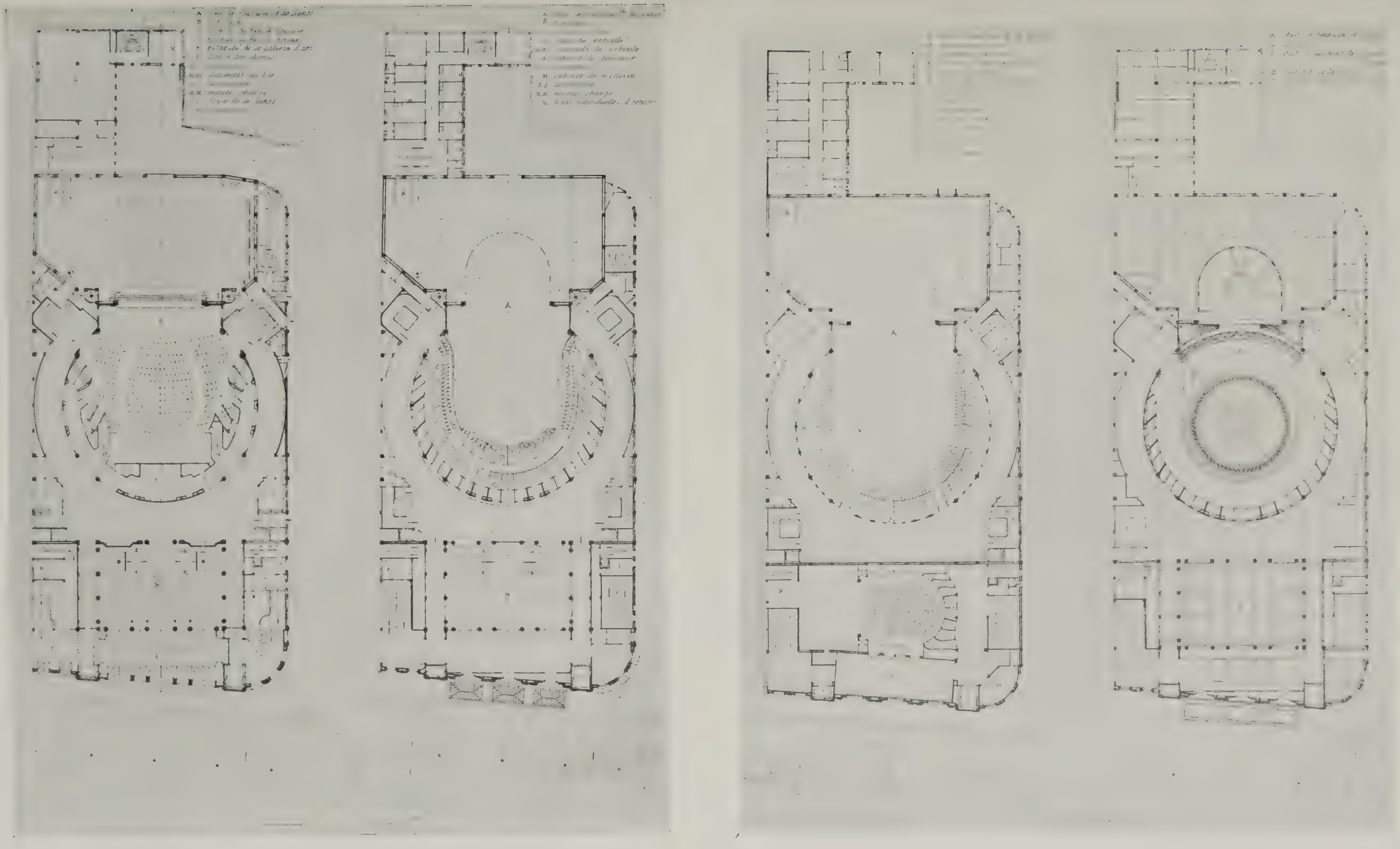


A GENERAL VIEW.



THE PRINCIPAL FAÇADE.

LE THÉÂTRE DES CHAMPS-ÉLYSÉES, PARIS
A. AND G. PERRET, ARCHITECTS

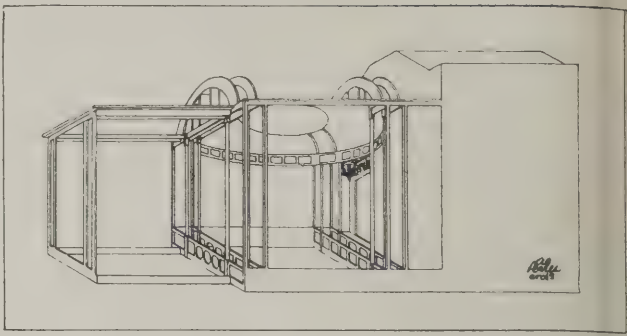


PLANS OF THE THÉÂTRE DES CHAMPS-ÉLYSÉES, PARIS. A. AND G. PERRET, ARCHITECTS.

part of one of the finest public promenades was, in spite of the move, not accorded. Finally a site was found, almost a rectangle, about 325 ft. long by 114 ft. wide, at 13 and 15 Avenue Montaigne, near the Place de l'Alma. The details of the programme were then fixed with some precision. The projected monument to comprise a large theatre with an auditorium as spacious as possible and a stage fitted up with all the latest resources of mechanism. The "ensemble" to be conceived in a manner lending itself as well to lyrical drama, and even tragedies, as to ballets or to symphonic concerts. Not forgetting social custom, it was important to emphasize that such a place was destined for artistic manifestations before all. It was to be a sanctuary to phonetic art and not a rendezvous for fashion ! *

M. Thomas surrounded himself with a host of collaborators, and the principal play-houses of Europe were studied, including the Opera at Paris, the Scala at Milan, the theatres at Cologne, Munich, Cassel, Stuttgart, Dresden, Moscow, and, for machinery, Bayreuth. Monsieur Van de Velde, Belgian architect, was at one time engaged for decorative purposes, but nothing of his work now remains. Monsieur Milon was the engineer chosen for the important electrical and mechanical installations.

After mature consideration it was decided, for economical reasons, to build in reinforced concrete, and by an honest use of the material gain 20 per cent. of space. From this moment the design and construction of the edifice fell to the lot of the firm Messieurs Perret frères, architects and builders. Claude is the contractor, and Auguste and Gustave, reinforced concrete experts, the architects, both of whom were brilliant students at the Ecole des Beaux Arts. They studied in the atelier of M. Julien Guadet, the illustrious Professor of the Ecole, and architect for the reconstruction of the famous "Théâtre Français." Monsieur Auguste Perret is the senior partner, and this firm finally completely remodelled the whole scheme and realized the work both



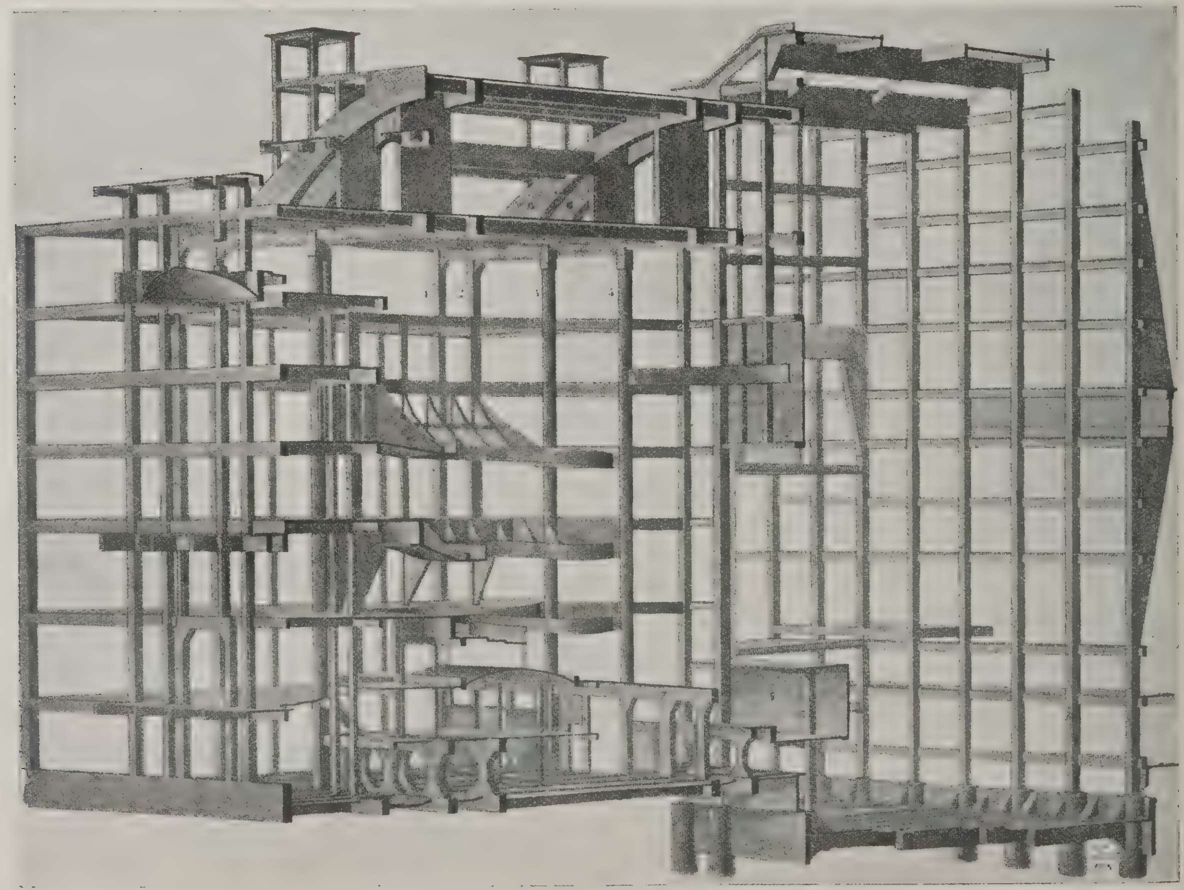
THE DISPOSITIONS AND SHAPES OF THE THREE MAIN BLOCKS OF THE THÉÂTRE DES CHAMPS-ÉLYSÉES.

from the point of view of the general architectural "part and from the constructional and decorative standpoint.

Juxtaposed to the large theatre, arrangements were be made for a smaller one to be worked independently f the representation of comedy; finally a picture gallery (no undergoing transformation and to be opened next seas as a small trial theatre to seat an audience of 250 peo and to be let out for private purposes) was to comple this grandiose and complex problem, new also by t sobriety which the character of the monument imposed !

So much for the "programme." Messieurs Perre *parti* is a disquieting revelation to many "Ecol students who miss their much-cherished *points de poc* (dark spots), indicating strong vaults and souple arrang ments on the old method of arches built in stone. The are no massive walls, consequently an economy of spac The whole is a unified skeleton, with very thin holl wall fillings (130 ft. high, 1 ft. 4 in. thick, including cavit covered with marble on the main façade.

From left to right of the accompanying figure we see t general disposition and shapes of the three main blocks



THE SKELETON OF THE THÉÂTRE DES CHAMPS-ÉLYSÉES, PARIS.

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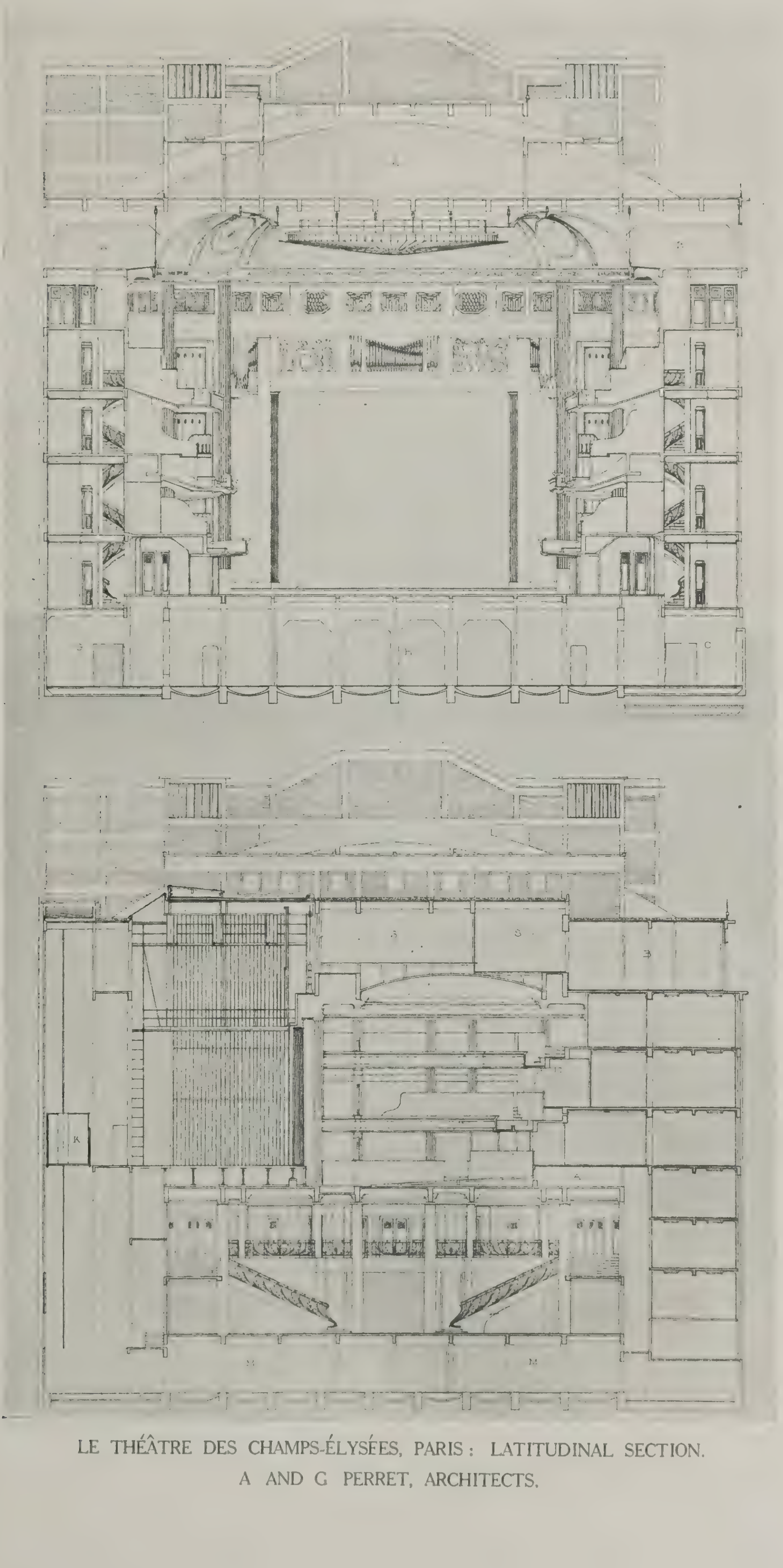
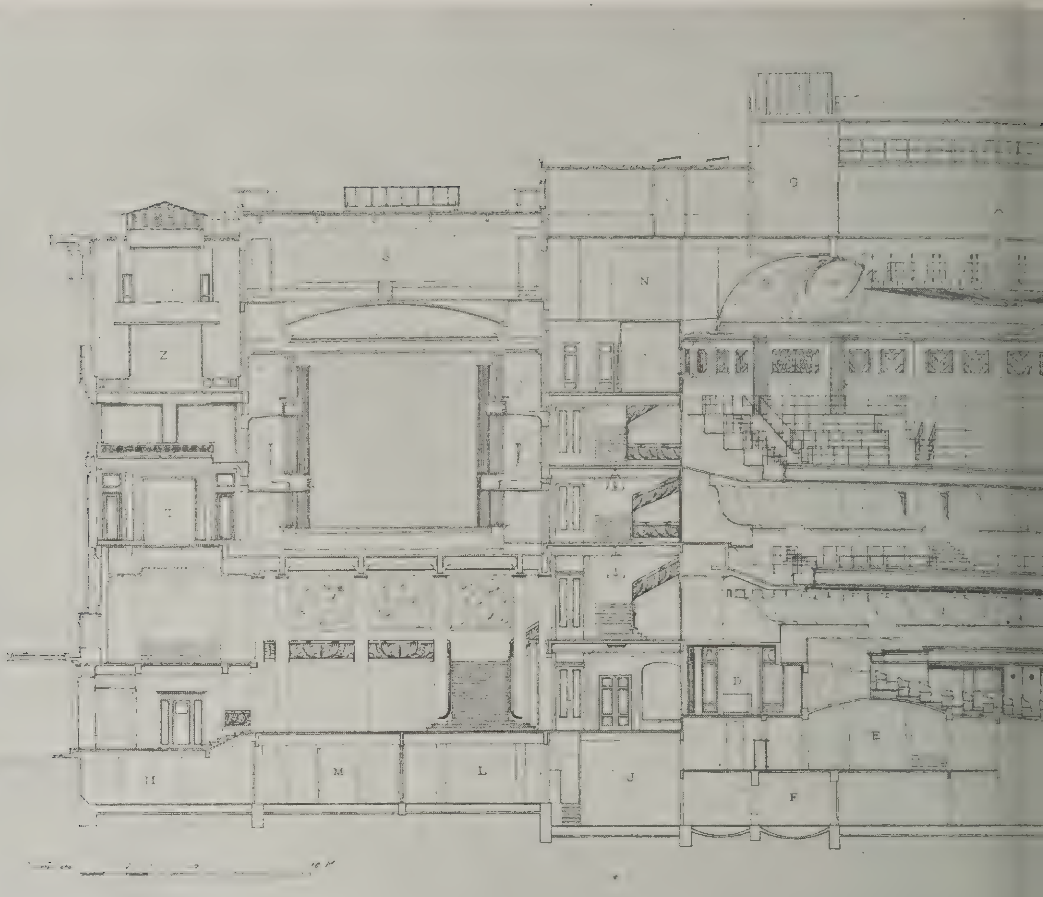
* This is not to say, however, but that the theatre has witnessed some of the most brilliant aristocratic assemblies known in modern times.

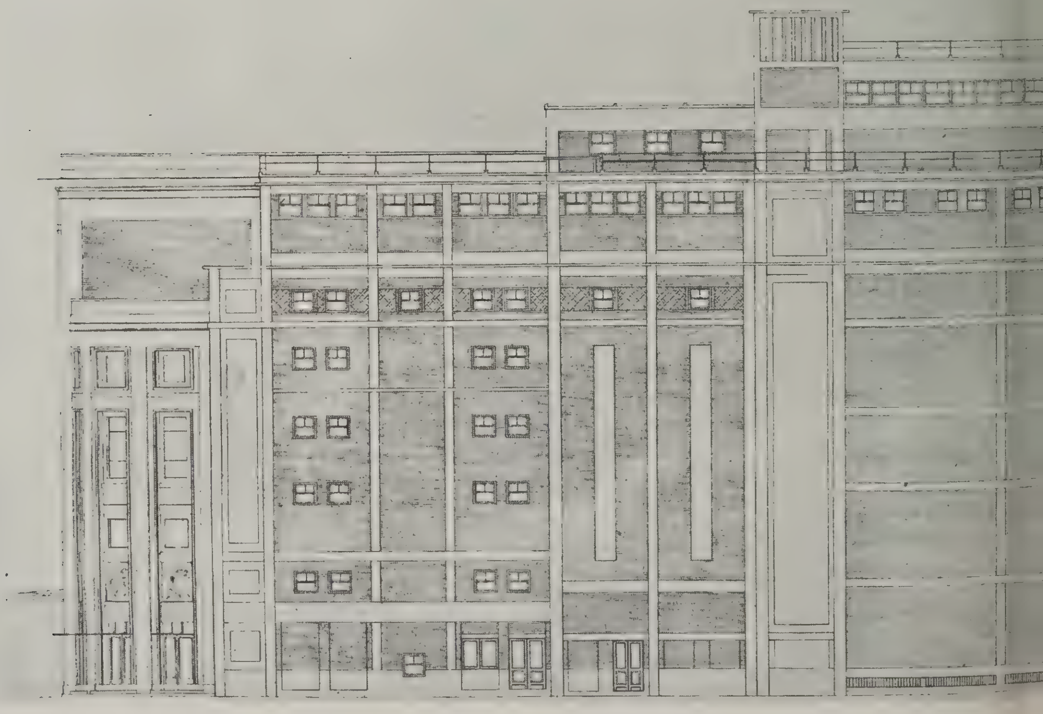


LE THÉÂTRE DES CHAMPS-ÉLYSÉES, PARIS: LATITUDINAL SECTION.
A AND G PERRET, ARCHITECTS.

Architects' Working Drawings. 59.—Le Th

A. and

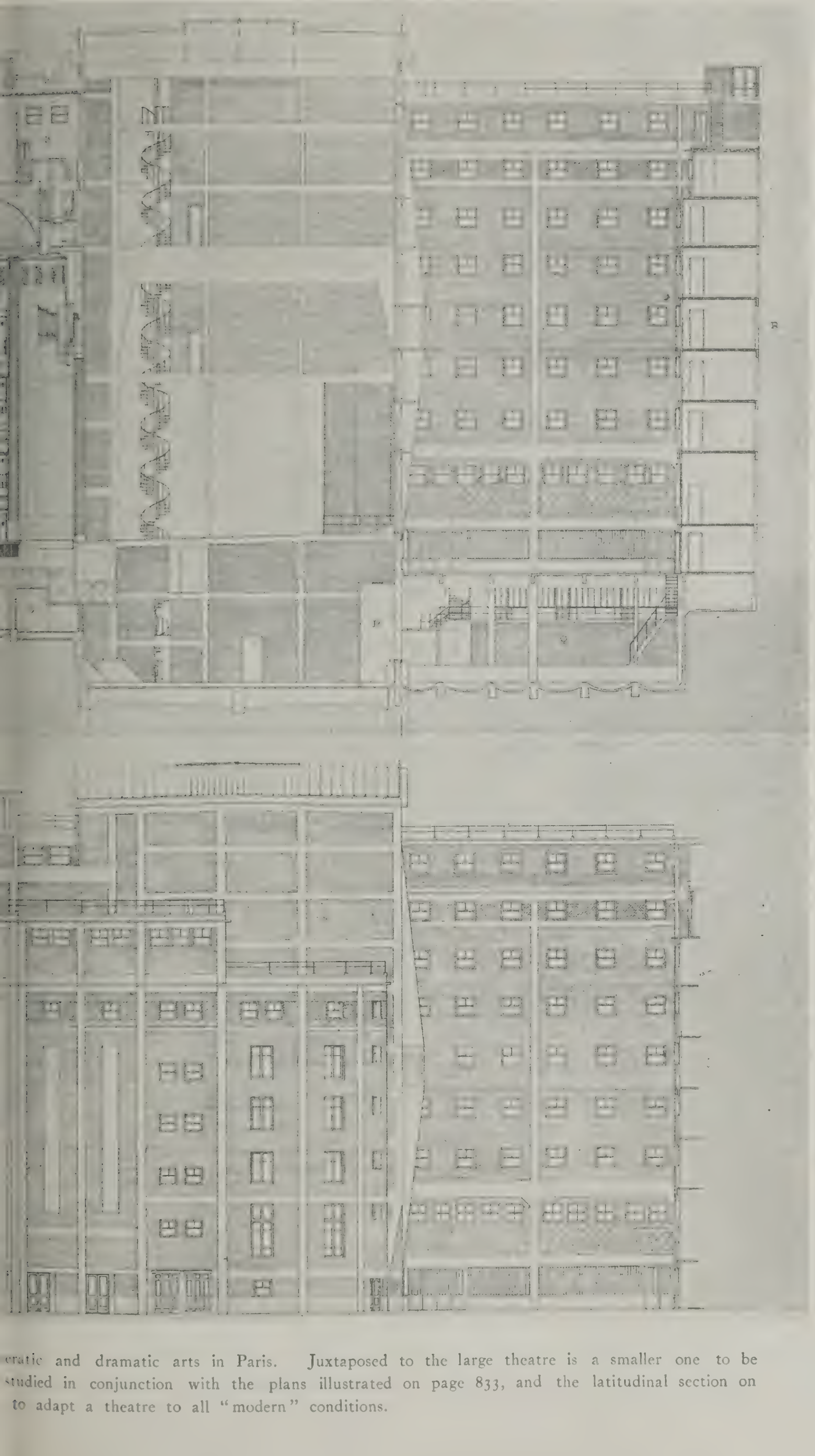




After the famous Opera House the Théâtre des Champs-Élysées is the most beautiful building d worked independently for the representation of comedy. The longitudinal section reproduced a page 835. The building is the only competent Fr

Champs-Elysées, Paris : Longitudinal Section

rchitects



eratic and dramatic arts in Paris. Juxtaposed to the large theatre is a smaller one to be studied in conjunction with the plans illustrated on page 833, and the latitudinal section on to adapt a theatre to all "modern" conditions.

the edifice: 1, Entrance and peristyle; 2, auditorium; 3, stage, etc.

An examination of the plans will show how simply the problem has been solved. The emphatic points of support are the four pylons, making a square supporting the circular auditorium. These pylons are noticeable on the plan of each floor, and the motive logically traverses the building in both directions and is rationally accentuated on both façades.

A plaster model of the entire building was made $\frac{1}{10}$th full size at a cost of 50,000 frs.

Construction and Decoration.

The site, close to the Seine, covers an area of 3,000 square metres, and cost two million francs. The building is adjoined by houses on the left of the façade to the Avenue Montaigne. On the right is a narrow passage leading to the artists' loges.

The waterlogged soil is of clay. The foundations go down, under the stage, some 25 ft. below the level of the road. Great care had to be taken to ward against the rise of the Seine, especially in January, and to be prepared for floods, as in 1910. The basements are naturally waterproof, and the building floats like a flat-bottomed boat. The foundations are composed of a series of inverted arches carrying a certain number of piers on a raft, distributing the weight of the superstructure.

The handling of the façade is, of course, largely influenced by the exigencies of the plan. The regulations of "La Ville de Paris" request 80 cm. (2 ft. 7½ in.) width of door opening to every hundred persons contained in the theatre.

From the road we enter the vestibule, thence direct into the peristyle with the principal staircases. There is no foyer, the lateral galleries serving the purpose; the motive of this peristyle is largely inspired from the masterly composition of Victor Louis at the "Comédie de Bordeaux." The width of the corridors is four metres (13 ft.), as at the "Opera."

The auditorium, the very heart of this complex organism, is the scientific and artistic masterpiece of the theatre. Circular in plan, with three balconies supported on the cantilever principle by the four pylons before mentioned, not a single column interrupts the view of any spectator. It holds 1,974 people, and there are no stage boxes. The seating is extremely comfortable. The orchestra stalls are placed on a gentle double curve, that is, from side to side of the hall and from the proscenium to the back of the hall. Each person has a separate elbow, the width from centre to centre being 2 ft. 1 in., and from back to back 3 ft. 0½ in. At the "Opera" they are only 1 ft. 10½ in. and 2 ft. 6½ in. respectively. Access to the seats is again regulated by the Paris by-laws, viz., 80 cm. (2 ft. 7½ in.) width for every 100 persons. In the rows of seats one can pass without disturbing seated people, which is rare in France. For ingress and egress to the seats one does not have to pass more than eight persons. It is estimated that the theatre could be completely evacuated (except in case of panic) in less than ten minutes.

The size of the auditorium, roughly one-third of the entire structure, is in singular contrast to the ostentatious "Opera" (the largest theatre building in the world), of which the same relationship is popularly demonstrated by placing the thumb-nail in the centre of the hand with the fingers extended.

Acoustics.

There have been no complaints with reference to the acoustic properties of the Théâtre des Champs-Élysées, which are considered as perfect as possible for a hall exceeding 56 ft. in depth. Monsieur Perret claims that the secret of this science is in: 1, the proportions of the auditorium; 2, dry materials; 3, perforations. The width and depth of the hall are about 88 ft., and the height about 65 ft. (the "Opera" roughly 128 ft., 91 ft., and 65 ft. respectively, not so good acoustically speaking, especially the depth from the proscenium). An auditorium that is too large is not good for sound—for that reason a comedy theatre for the representation of intimate plays should be small, as the subsidiary playhouse of the building in question.

Leaving for a moment the scientific proportions, it is worth noting that the artistic handling of the auditorium was greatly appreciated in 1912 when a group of engineering students from the "Ecole Centrale" were conducted over the theatre during the course of its erection. The carcass of the hall was finished, but it was empty and devoid of any decoration, yet the harmony of the proportions was unanimously acclaimed. The nudity of the construction enabled the students to understand the sublime significance of the word "Architecture."

The heating and ventilation throughout are generally recognized as beyond reproach, and the material of the structure being of reinforced concrete the building is perfectly dry. The doors of each "loge" are perforated, and so also are the fronts of the topmost loges in the gallery, which have an artistically designed grating.

This lyric hall is considered a great scientific success for the hearing of sound and its reposeful decoration conducive to the meditation of music.

The width of the proscenium, which is movable, is 62 ft., that at the "Opera" only 52 ft.

The orchestra is hidden at a lower level than the stalls, and is half under the stage, as at Bayreuth. The balustrade separating the musicians from the audience is not solid, but is made of a delicate gilded bronze trellis, so that the hearing in the first rows of the stalls is direct, and not by reflection.

For big concerts the space occupied by the orchestra can be covered. On these occasions the stage receives a platform with scenery background (see the accompanying plans), continuing the architecture of the proscenium. The platform is for the chorus singers, whose voices instead of being lost on the immense stage, are entirely directed towards the hall.

The auditorium being circular (the best shape for avoiding nodical points), it is naturally covered by a cupola, whose form, however, is not a concave spherical surface, but has a convex central motif avoiding vertical echoes. Behind this glazed central shield are strong electric lights which illuminate the hall and show off to advantage the paintings of M. Maurice Denis in the cavetto of the cupola.

* * * * * *

The stage, the central part of which is a big empty box, is fitted up with all the latest mechanical devices for any form of modern performance. Under it are three basements containing machinery of the latest pattern from Germany. The scenery can be lifted without being folded. At the end of the site are the buildings for the artists with the *foyer de la dance*, etc., and an electric station. The back wall of the stage is 130 ft. high and only 16 in. thick—such are the capabilities of reinforced concrete—but as this wall has no auxiliary support (floors, etc.) it is reinforced by two triangular ribs somewhat as engineers strengthen their connecting rods.

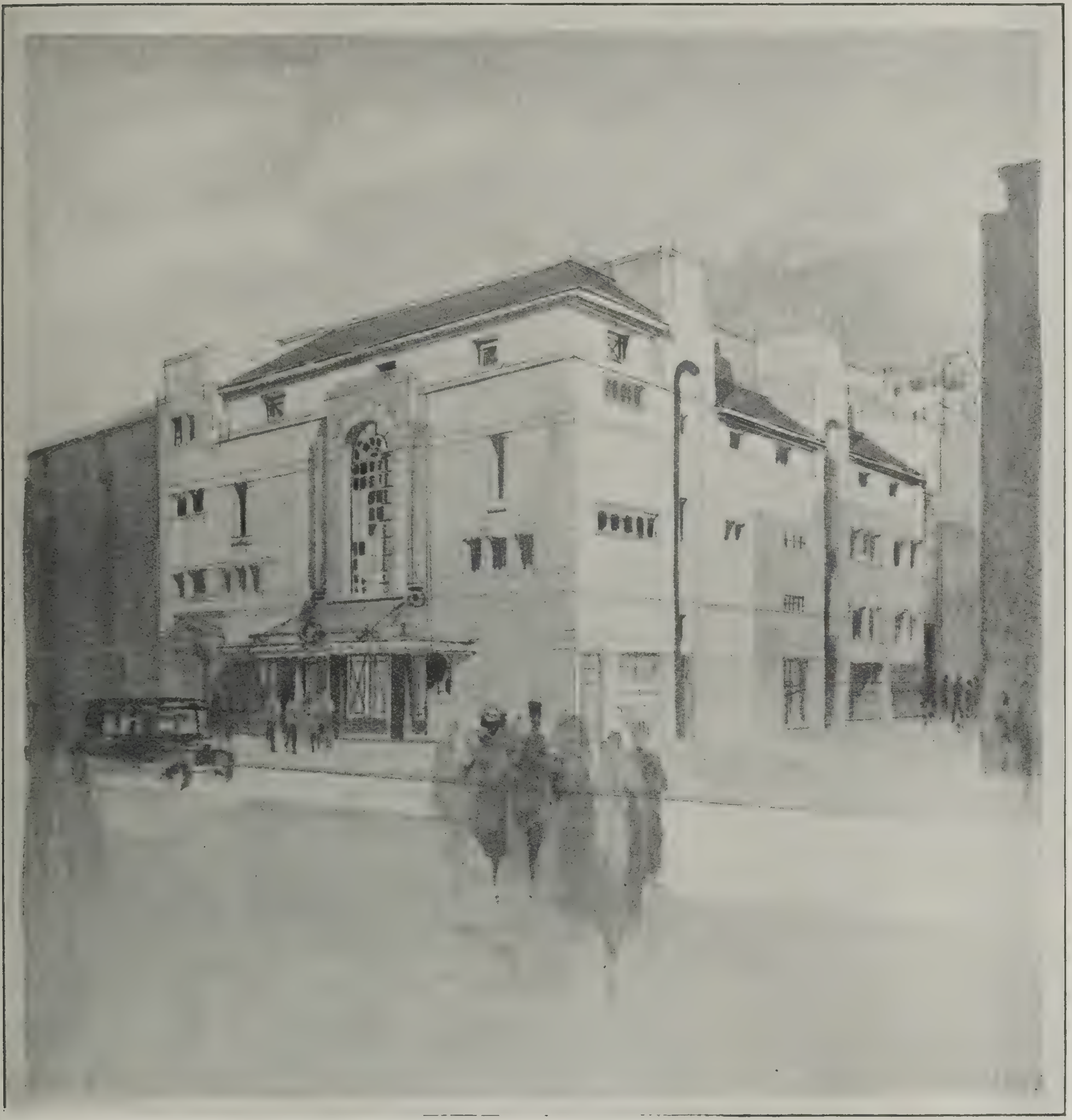
* * * * * *

The stage, 128 ft. long, 56 ft. deep, is furnished with every conceivable safety precaution, fireproof curtain, automatically working danger signals, isolated incombustible staircases, etc. The question of fire prevention has been effectively studied, and excellent terms have been accorded by an association of insurance companies who, by virtue of the building being in reinforced concrete and of the installation of Grinnell sprinklers, have reduced the policies by a half. In two of the pylons, above mentioned, staircases have been worked running from the lowest basement to the top of the roof. In these, apertures have been formed in such a way as to enable firemen to play water either on the stage or on the auditorium.

(*To be continued.*)

The Proposed New Crown Theatre, Drury Lane, London

E. Schaufelberg, Architect



This theatre is shortly to be erected on a site in Drury Lane. Mr. Laurence Cowen is associated with the enterprise.

Woodwork: Its Application to Modern Buildings

MR. T. P. BENNETT, F.R.I.B.A., in the course of a paper read before the Incorporated Institute of British Decorators, on "Woodwork and its Application to Modern Buildings," said :—

Externally the half-timber building has a tremendous fascination, principally, no doubt, for the reason that this combination of materials is so full of life and interest because of the contrast in colour values and its truthful construction. Suitably applied half-timber work is still a possibility in country districts. It is however subject to two restrictions: (1) if used as solid timber, backed with the necessary thickness of brickwork to make it fire-resisting, it is expensive; and, alternatively (2), if used as surface decoration it is open to the criticism of not fulfilling its true function in the building.

However, one occasionally finds a client who is really interested in the appearance of the building and in half-timber construction, and its use then becomes a possibility. In other cases we may be allowed to call half-timber work a method of surface decoration, much as the Romans decorated their buildings with marble sheeting and constructed them of concrete. The great point of the matter is that half-timber work can only be successful if it is developed from the study of old examples, examples in which design actually grew from the necessities of construction.

The half-timber work of the jerry-builder is anathema, and the reason for the strong objection of the man of taste to such work is its over-elaboration and senseless application. Its correct use is another instance of power and rectitude arising from knowledge. Even the most elaborate examples of the fifteenth and sixteenth centuries create a sense of simplicity by their composition and massing.

To my mind, Bexton Manor, with its straight eaves and simple posts, is a delightful example of work of this style.

The variety and interest of half-timber work is in further evidence at the Lion and Swan Inn at Congleton, where the architect appears to have indulged his fancy in many ways. There is more than a suggestion of restoration in the appearance of this example.

Singleton Manor in Kent indicates the application of half-timber work as it is frequently found in this county and the adjacent county of Surrey, namely, contrasted with simple wall surfaces and big masses of roof.

Half-timber work is however only one phase of woodwork, and there are many other instances of extremely happy combinations in English domestic architecture.

How delightful are the posts and beams, the weather-boards and brackets of the Butter Walk at Dartmouth, or the simplicity and value of the window frames and the over-hanging first floor in a cottage at Orpington, the detail showing a solid frame, solidly constructed panelled doorway, and a certain amount of carving which is quite interesting.

In the classic building wood is still in many cases in evidence. Groombridge Place, Kent, would lose a great deal of its interest if its porch were removed and its sash-bars taken out.

To show how woodwork, if unsympathetically handled, may be unnoticed, or if seen may be uninteresting or detrimental, we have the Pallazo Bevilacqua at Verona. The Italians, however, are capable of obtaining great effect by the sparing application of wood, which we see in the Cloisters of San Lorenzo at Florence.

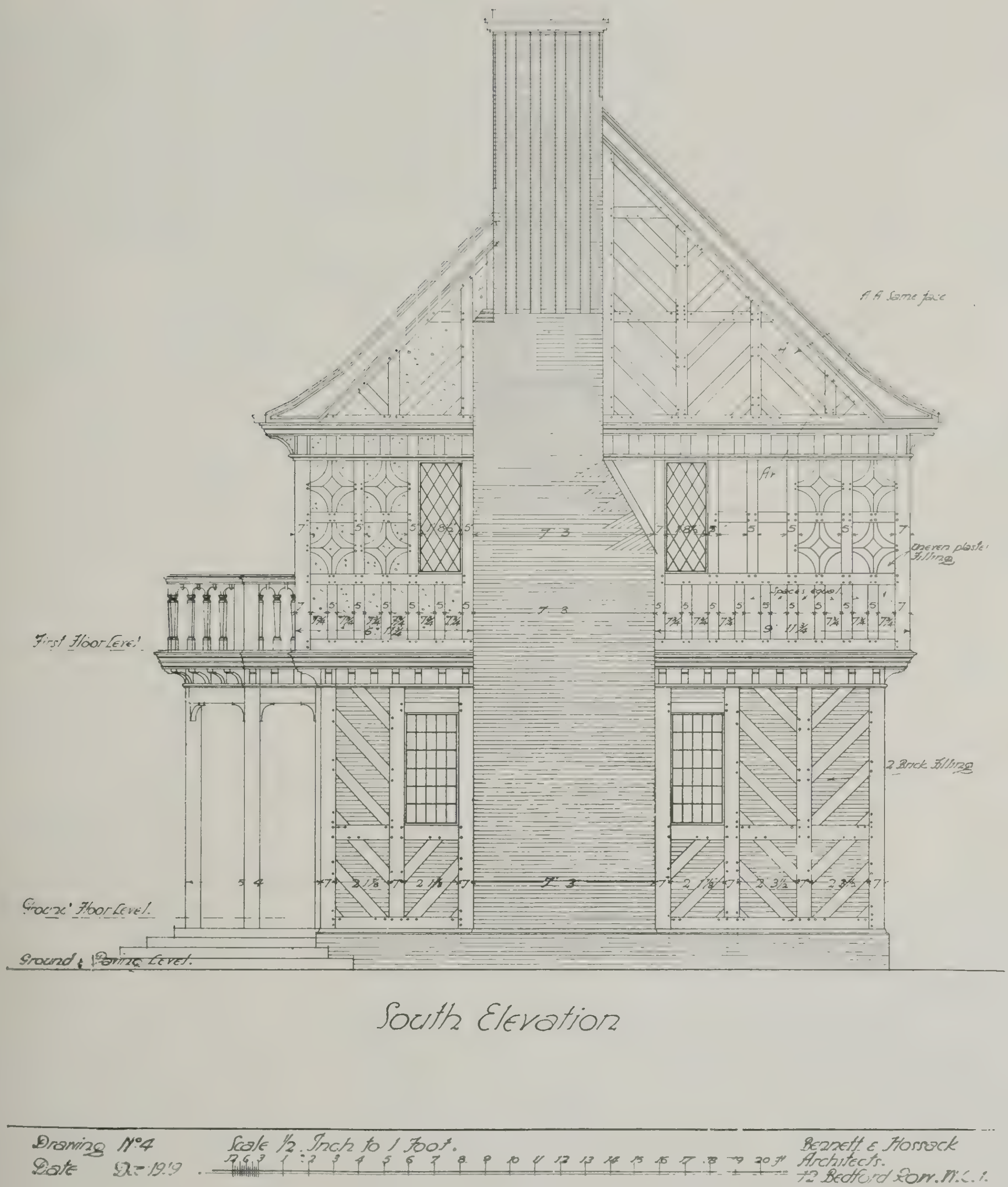
Wren was fully alive to the value of material, and in such a building as the Orangery in Kensington Gardens the excellent effect produced is due quite as much, if not more, to the texture of the sash-bar, frame and its brick surround as it is to the fine composition and proportion.

Coming to individual features the doorway offers the greatest field, and is susceptible to the greatest variety. The Georgian architects above all others realized the value of wood in this connection. The scope in this direction is unlimited, the precedent inexhaustible. We have the hood with all its numberless variatio and possibilities. There is the beautif canopy from 17 De la Haye Street, Wes minster, now in the Victoria and Albe Museum, and another I am able to illu trate from Laurence Pountney Hill. detail equally interesting from Burwa in Sussex, with which you are probab familiar. The canopy represents o phase only of the doorway. There a many others. South Kensington co tains a pilaster and pediment treatme from Abingdon Street, and there are course many similar examples in Bedfo Row and Bloomsbury.

The architrave in combination wi brackets is seen to advantage in the doo way from Rye House, and as the centuri advance we get what one might descri as an Adamesque treatment such as th shown upon the screen of which I cann trace the origin.

It is interesting here to study the co trast produced between wood and plast by such a subject as the entrance to t Chapel at Morden College, because th and other similar treatments often bas upon Italian precedent have been used American domestic architecture in rece years with such conspicuous success.

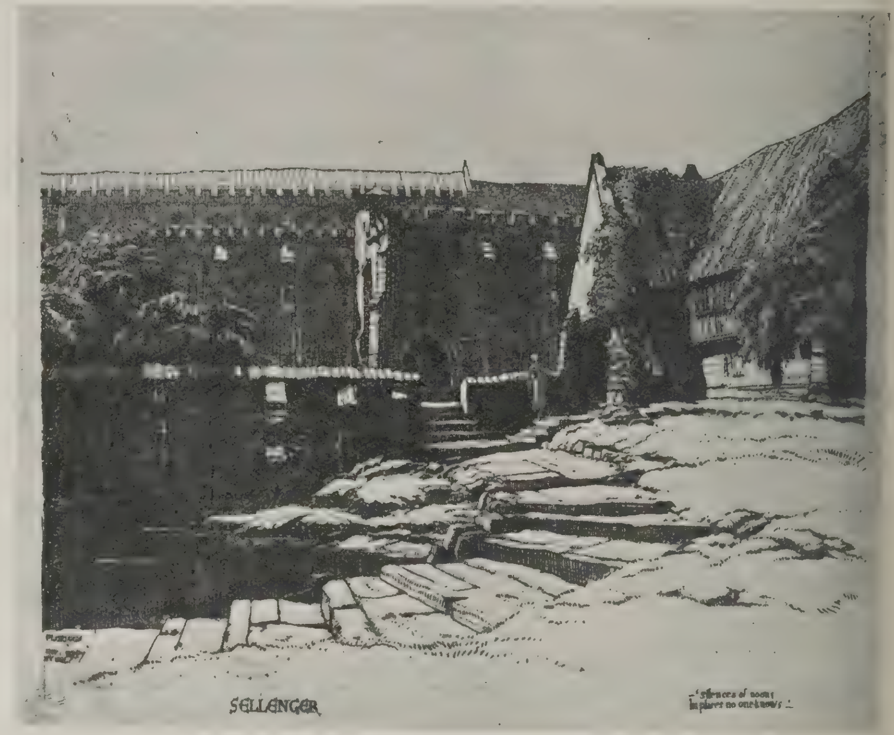
COMMONWOOD HOUSE, CHIPPERFIELD.



ADDITIONS TO COMMONWOOD HOUSE, CHIPPERFIELD.
BENNETT AND HOSSACK, ARCHITECTS.

(See article on opposite page.)

The Etchings of F. L. Griggs, A.R.A., R.E.


SELLENGER
–'silences of noon; in places no one knows'–

SELLENGER. FROM AN ETCHING BY F. L. GRIGGS, A.R.A., R.E.

FOR some reason, difficult to fathom, the Press has been, on a whole, rather perfunctory in its notices of the etchings of F. L. Griggs, A.R.A., now in their last week at the XXI Gallery, Adelphi. Is it a genuine indifference, or has the dynamic attraction of the younger movement in art spoilt the taste of our critics for the less tortuous or sensational? Whichever the explanation, it is seemly that something more than a few fugitive lines of praise should, at this juncture, be recorded.

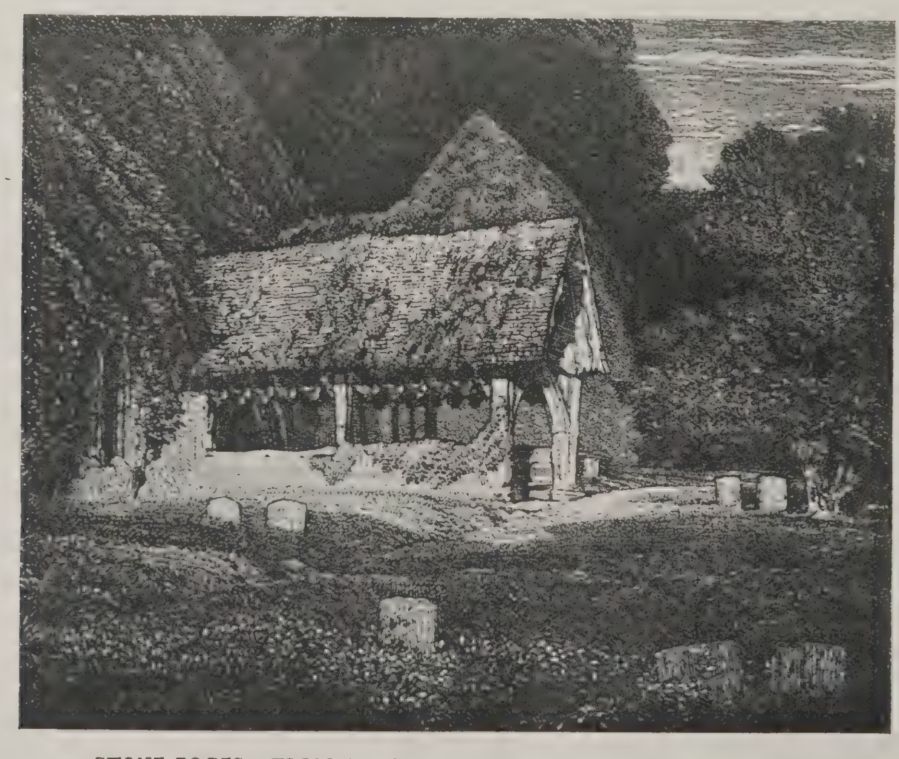
Looked upon as a whole, they are a significant stage in the development of those etchings that concern themselves strictly with architectural subjects. And they are so for two reasons; first of all, on account of their resourceful technique, but chiefly because of the peculiar and rare qualities which they convey, and of which they are the outcome; for the history of these etchings is a *te deum laudamus* to that rural, polished, and robust England which is in no guise more felicitously expressed than in those grand and solid vestiges, the mediæval structures. Especially those simple but noble ones set amid superb landscapes which, together, have touched our sensitiveness of response ever since Walter Scott sang romantic pæans on their behalf.

Mr. Griggs has felt the lovely charm of these vestiges and their settings so deeply that his rich observation has wrought with no sense of effort or artifice, and wrought through an especially severe and difficult medium, but then it is evident that for the ordeals of stubborn struggles with so intractable a material, the artist has all the necessary fortitudes. It may be partly due to the fact that he only took up etching when he had mastered not only the difficulties of drawing in pencil and pen, but also the numerous allurements bound up with its practice. Therefore, not in his etchings shall we discern those natural juvenile ailments of forced composition or of mannerisms in presentation to which the frisky and brilliant talent of ardent youth is prone. No! his heart, schooled to the last reserve of expression, guides the hand surely, and if his etchings are done, at times, with an almost perilous completeness, they throughout impress our understanding with a ripe mastery of technique serving the securest of all imaginations.

Mr. Griggs's love for the Gothic architecture, which once gave to England so fair an aspect, lies behind all the etchings of architectural subjects which, so far, represent his etched work, whether of imaginary scenes or of actual places. The link between the two is architectural and historical truth, at one and the same time a source of strength and of weakness. A weakness in the sense that it betrays a certain limitation of creativeness. True enough he does create imaginary scenes, as in "The Pool" (30) or "The Ford" (31), or "Totterne Inn" (39), but these have been formulated within the more strict channels of idealized realism, so to speak. Of course, a man who should attempt to define this artist by his limitations might find many of them, a method by which only the very greatest, like Rembrandt, pass unscathed.

In the case of Mr. Griggs one perceives that his passions are rather pure and steady than violent; he is seldom insurgent and seldom purely lyrical. Never amusing, though he sometimes condenses ironically—by omission. He has no rude or exuberant enjoyment to communicate, nor any excessively intense moment of ecstasy, but, on the other hand, he does possess an austere and deep faith and love in the England of yore, and through a sombre sumptuousness does he express both. In regard to either actual places or imaginary scenes, the style chosen is a shapely enough vehicle. The reproductions given here show that clearly.

That of St. Wendred's Church gives practically nothing but a mere structure, but so relentless and withal so considered is the accumulation of its component parts that a feeling of clear-cut richness pervades the whole, and so delights us. But yet it is simplicity itself. In that of of Sellenger the style is every whit as shapely, but deeper are the emotions which it strives to express. The marvellous integrity of the technique is here suffused with an added boldness of presentation. How audacious and melancholy—how serene; how laden with strong



STOKE POGES. FROM AN ETCHING BY F. L. GRIGGS, A.R.A., R.E.

veliness! And how convincing it is to e side by side four different states of is same plate; this one with the light enly distributed; that other with its rious planes more wilfully receded; a ird with a freer foreground.

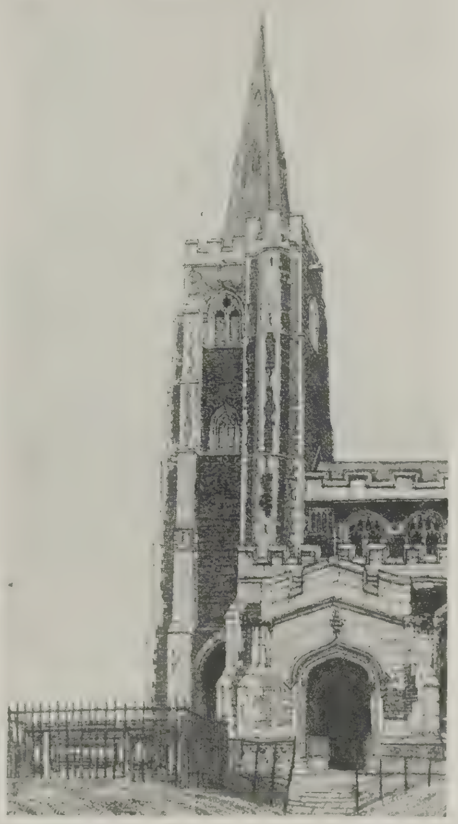
Whilst on the subject of technique it is teresting to observe that in this series Sellenger the recital of facts is an almost mplete reversal of those obtaining in her series, notably that of Stoke Poges e illustration), of which no fewer than six ates are shown. In the Sellenger series r. Griggs has worked from an original ching rich in contrasts of chiaroscuro to ater one more subdued and, to my mind, s effective. In that of "Maur's Farm," rhaps the ablest, the process is, as I ve said, reversed, and every change of tail meticulously checked. In No. 2 ge, the entire etching is kept light; straggling tree, in the left corner, over ne high-buttressed wall, grows bigger d bigger in Nos. 3 and 4, whilst the ching yields greater contrast in light d shade; the sky, at first cloudless, is w furrowed with streaks of cumuli, til in No. 5 the heightened lights and rker shadows invading all objects are de magnificent by the closing-in of the y which, at last, binds the whole thing th the pattern of its streaks. "All the of the summer day became silent after ndown; the earth was dark and very ll as with a great thought; the sky was a pale window through which men and gels looked at one another without a rd." . . . And this, Mr. Griggs has erringly conveyed. G. HOLT.

Contemporary Art

Fine Art Society.

MR. LAMORNA BIRCH, whose exhibition of oils and water-colours has just opened at the ve Society, New Bond Street, is an ellent example of the *born* painter. may have—indeed, he has—limita-s, of course, but taking it as a whole, output is very genuinely artistic. reover, this output is brought out a complete mastery over the medium l paint, as such, cannot be better lied to canvas. He knows all the ks of the trade, and it is felt that he nt it as he went on. Briefly, he lies his paint as Nicholson or Sir lliam Orpen apply theirs, unhesitat-ly, and with a gushing brio nice to ice. Mr. Birch is not, so one pre-es, given over to bothering about t other artists do. The "Côterie" ing is alien to him. He has too much lo, and the time thus saved is spent doors amid delightful scenery. Scot-l and especially Cornwall attract him t, and the vivid colours, of depth, med in by strong patterns of rocks, s, and vigorous horizons, are to him an ambrosial drink of infinite joy. the least of the charm of his work is spontaneous and sunny ability of ging to his public the very shocks himself felt at the time. Depth of er, glistening sunlight, fine, lovely s, immense skies, either rebellious or tly heavy with the tranquillity of k—these are his subjects and the very erial of his well-deserved triumphs.

ompared to him, Mr. C. B. Prescott mes a far more modest countenance. water-colours of Southern Italy and y, shown at the same galleries, are the fruits of a mind less gifted but not less enthusiastic. Let it be admitted at once: Mr. Prescott's water-colours are inclined to be over-laboured, and the thousand and one minutiæ which a painter should instinctively eliminate are, with him, included and made a fuss of, to the detriment of unity. A laboured water-colour of Italian gardens is bound to look finicky and a little meretricious, and Mr. Prescott would do well to be less conscious of his foreground and more concerned with an adequate composition, with light and the magnificent incidentals teeming in all Italian gardens. The "Temple of Concord at Girgenti" (4) is overvaried; greater simplicity would improve it. One of the best water-colours shows some "Almond Blossom in Girgenti" (23); here the artist has well caught the delicate colour of those delightful trees. "Wall Flowers" (26) is bolder than most, and it is in that direction that Mr. Prescott should turn. If proof be needed that the atmospheric effects and the intensity of colours to be found in shadows in that lovely land are studied by Mr. Prescott, it is supplied in "Fountain in Taormina" (40), where all the values are faithfully and pleasantly given. Its one weakness is the too violent pitch in which are plunged the shadows of his foreground.



ST. WENDRED'S CHURCH. FROM AN ETCHING BY F. L GRIGGS, A.R.A., R.E.

Grosvenor Galleries.

The winter exhibition at these spacious and well-lit galleries is now opened, and a fair galaxy of talents gives of its best and most characteristic. As usual, the standard is pretty high, only a mere handful of really poor paintings are to be observed straggling in corners. The very first exhibit promises well. "Paul" (1), by George Clausen, R.A., is, indeed, delightful. It shows the quizzical and smiling face of a fuzzy and fair-headed boy. It is both emollient and direct. R. Anning Bell, R.A., takes us back to the romance of the pre-Raphaelites. How odd to see his "Palace of the Sleeping Beauty" (4), so freshly conceived and painted! If, at times, one sees a certain tiredness in some of the portraits, that fault is not to be laid at the door of Mr. William Rothenstein, whose thoughtful and well-arranged "Young Bengalee in Meditation" (18) will appeal to many. The place of honour is taken by a portrait of H.R.H. Princess Mary Viscountess Lascelles, by Oswald Birley. It is competently done, but there is nothing transcendental about it by any means. Just competent. Far more successful and interesting is the portrait of Clough Williams-Ellis, M.C., architect (124), by the same artist, where the masculinity of the sitter is fittingly expressed by a spirited and sympathetic handling. As to Mr. Ambrose McEvoy, he seems to get more and more ethereal in his portraits; soon the sitter will be but a lambent shadow, an aura of splendid evanescence.

It is amazing the attraction which Dieppe Harbour has on painters. Since Cotman's days, at least twenty well-known interpretations of it have been given, and Mr. Charles Cundall's is as meritorious as its predecessors. Here is a smallish oil showing almost as much knowledge of atmosphere as Mr. Sickert's, only in a more solid form. Significant design (helped by the bird's-eye view), discreet and subtle colouring, a nicely effused technique—it's all there, and so is the result of permanency in values truly caught.

Sir John Lavery has several portraits; if not insufferably beautiful, they are at least very good portraits, but the artist comes down with his "Passing of Michael Collins: Pro-Cathedral, Dublin" (31), which betrays a hasty job and undoubted staleness. An excellent *peinture de genre* is Sir William Orpen's "Barrel Organ" (38), done in the manner of the French or our own eighteenth-century painters. Neither mawkish nor reheated, it bears testimony to the resiliency of its author's voluble temperament and love of versatility. The modern touch is provided by an excellent "Mostar, Herzegovina" (66), by Mr. Stanley Spencer, whose sense of composition is as bold as it is happy. The realistic school *a outrance* has two able exponents in Mr. Algernon Newton, whose "Regent's Canal" (103) is a faithful and reticent piece of work, and in Mr. Cecil Hay, whose "Green Pot" (78) exhibits a deadly accuracy and a sombre, impeccable presentation which is most impressive at first glance, but least convincing to the wayward mind that likes its food not quite so chewed beforehand. G. HOLT.

Art Exhibition in London.

An exhibition at Devonshire House of work by the art students of London, in aid of the Hospitals of London Combined Appeal, was opened yesterday at 3.30 p.m. by the president of the Royal Academy (Sir Aston Webb). It comprises oils, water-colours, black and white, decorative work, architectural drawings, craft and sculpture. It will be open to the public from ten o'clock to-day, December 13. The ordinary charge for admission to view Devonshire House will also admit to the exhibition. Sixty per cent. of the sale price of pictures will be allocated to the Combined Appeal.

Construction. 28.—New Offices for the Liverpool Victoria Friendly Society

THE COMPLETED RETAINING WALL ALONG BLOOMSBURY PLACE.

THE under-pavement vaults along Bloomsbury Square and the retaining wall along Bloomsbury Place—the construction of which was described in our issue for October 4—have now been completed, and the isolation of the site from water, also described in that issue, has been satisfactorily carried out. So far the super-cement ring surrounding the centre portion to be built under the present scheme appears to have successfully kept out the underground water, and it is hoped that no further difficulties will be encountered in this direction.

The accompanying illustrations showing the completed vaults along Southampton Row, the coal vaults in Bloomsbury Square, and also part of the retaining wall along Bloomsbury Place, give a good impression of the finished work. It will be noticed that no shoring up is being provided, even of a temporary nature, as the design of the vaults was carried out in such a way as to make them act as retaining walls as well. That the design has been successful in this respect is proved by the fact that up to the present no trace of any crack has been observed in the roadway on the three sides supported, although on the Southampton Row side especially, very heavy traffic is passing continuously. The absence of vibration within the vaults themselves is also quite noticeable.

The whole of this northern portion of the site has now been excavated down to the sub-basement level, and the foundations for the centre grillages are being proceeded with.

Under-pavement vaults will eventually extend along the whole of the Southampton Row front of the building, and partly along Vernon Place, and the necessary excavations for this work are nearing completion.

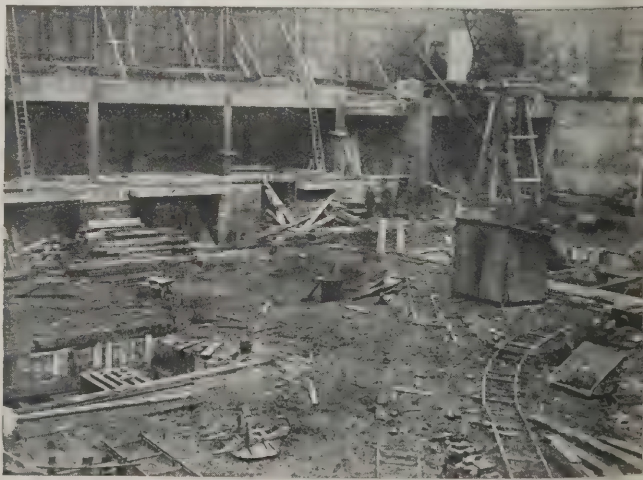
On the opposite page is a reproduction of a working drawing of the reinforced concrete retaining wall along Bloomsbury Place.

As in the case of the vaults, the wall was designed to transmit the whole of the thrust to the blue clay of the foundations, and is, therefore, rigidly attached to the main raft.

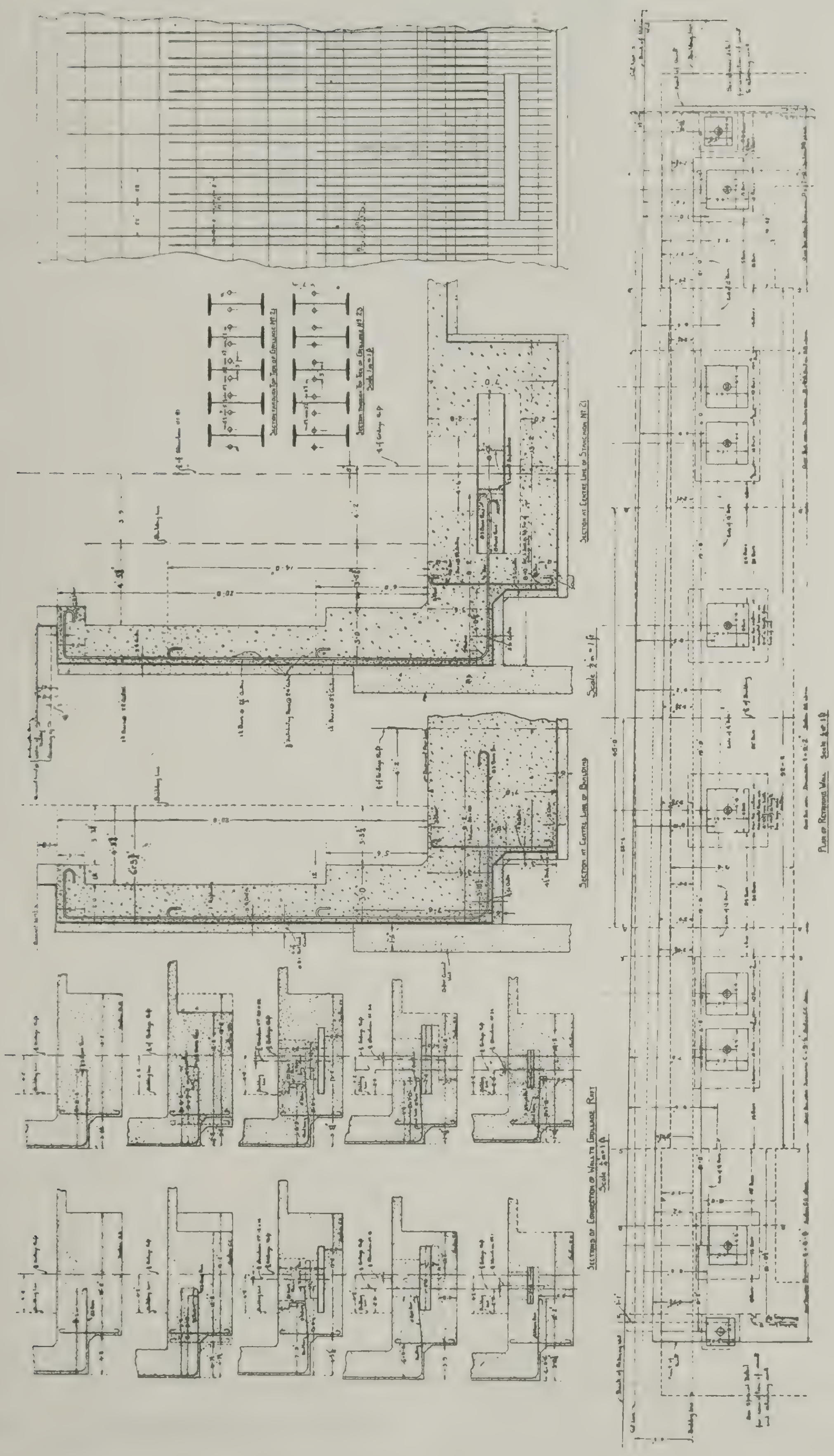
Two systems of bars are provided for this purpose: the main system, consisting of the horizontal $1\frac{1}{4}$ in. bars, which are carried through from the wall and take the bending moment at the vertical face of the main raft, and an auxiliary system of vertical bars, $\frac{3}{4}$ in. dia., which provides for the bending moment across a horizontal plane just under the part projecting from the raft. During construction, c
creting was carried up to practically t
level, and the vertical system acts as
tie between the upper and lower porti
of the main foundation block.

Originally, the back of the wall
designed with the usual batter, but it
afterwards decided, in order to facilit
construction, and from various ot
considerations, to alter this to a verti
surface; and the rapidity with which t

UNDER-PAVEMENT VAULTS ALONG SOUTHAMPTON ROW.



COAL VAULTS ALONG BLOOMSBURY SQUARE.

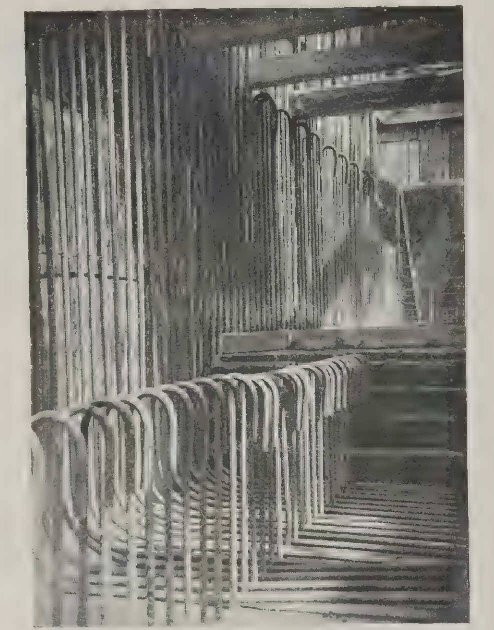

Section at Centre Line of Stanchion No 21
Section at Centre Line of Building
45-0
Plan of Retaining Wall
Sections of Connection of Walls to Grillage Raft

THE LIVERPOOL FRIENDLY SOCIETY BUILDING, SOUTHAMPTON ROW, LONDON. DETAILS OF RETAINING WALL IN BLOOMSBURY PLACE section of the wall was built fully justified this decision.

The illustration (on this page) of some of the reinforcement of this wall, shows clearly the two systems of bars referred to above, as well as the first reduction of the steel in the height of the wall; and the illustration on page 844 shows the finished retaining wall.

The present scheme for the building provides considerable shop accommodation along part of the Southampton Row front, at the Vernon Place end. By a rearrangement of the lower floor levels, the ground floor of these shops will be at pavement level, and will open on an arcade extending along their whole front. A mezzanine floor between the street level and the general first floor level of the building will considerably increase the accommodation available.

The next article will deal with the design of the first section of the underpinning wall for the existing buildings; and some of the main calculations and diagrams will be included.



THE LIVERPOOL VICTORIA FRIENDLY SOCIETY BUILDING: Reinforcement of the Retaining Wall along Bloomsbury Place.

R.I.B.A.

New Members.

At the last business meeting of the R.I.B.A. the following were elected members :—

Fellows.

Ansell, W. H., London.
Bothwell, E. F., Shanghai.
Callow, C. F., Hastings.
Carnell, J. L., King's Lynn.
Collins, H. R., Chester.
Ditchburn, D. H., Bombay.
Gotch, L. M., Kettering.
Marwick, T. P., Edinburgh.
Middleton, O., St. Albans.
Riley, W. H., Leicester.
Ryde, F. C., Weybridge.
Short, E. W. G., Salisbury.
Soutar, C. G., Dundee.
Stretton, C., Leicester.
Tanner, E. J., London.

Associates.

Alexander, W., Quetta.
Allen, C. W., Nottingham.
Angus, A. E., Windsor (Ont.).
Austin, L. M., Hammersmith.
Backway, G. H., Wandsworth.
Baillie, W., Glasgow.
Ball, W. F., Gloucester.
Ball, W. A. C., Croydon.
Bankart, H. C., Hampstead.
Barnard, C. D., Leyton.
Bathurst, L. J., Wood Green.
Beaufoy, S. L. G., Holloway.
Beeston, C. N., London.
Beeston, W., Liverpool.
Binge, J. W., New Malden.
Bird, E. L., Chalfont St. Peter.
Blakeley, T., Dewsbury.
Booker, A. V., Forest Hill.
Box, H. E., Maidstone.
Bramwell, J., Liverpool.
Briars, R., Luton.
Broadbent, J. S., Bow.
Brothers, C. S., Liverpool.
Brown, A. J., Welwyn.
Brown, W., Horley.
Butler, B., Dudley.
Buysman, C. J. A. K., Dulwich.
Caley, W. H., Tunbridge Wells.
Carter, G. B., Eltham.
Cartwright, W., Loughborough.
Chisholm, A. M., Birkenhead.
Clack, J., Westminster.
Clark, S., London.
Cornes, E. H., Chester.
Crickmay, G. H., London.
Crowther, J. H., Dewsbury.
Dent, A. R., High Barnet.
Eastwood, F. G., Manchester.
Eggins, F. W., Paignton.
Ellis, J., Cublington.
Fare, A. C., Bath.
Farrier, A. V., Wimbledon.
Flitcroft, A. C., Bolton.
Flutter, A. T., Wandsworth.
Francis, C. W., Hampstead.
Fraser, B., Wallasey.
Fryer, E., Liverpool.
Gadd, G. C., Bromsgrove.
George, C. E., London.
Gilder, F. N., London.
Glass, J. S., Goodmayes.
Gower, L. R., Briton Ferry.
Gray, J., Edinburgh.
Gunston, E. L., Reading.
Hall, H. J., Chelsea.
Hall, M. A., Lincoln.
Hampton, J. F., Paddock Wood.
Hickey, P., Grays.
Hofler, M. R., London.
Holden, W. F. C., Beaconsfield.
Hopwood, J., Harlesden.
Howitt, L. C., Liverpool.
Hubbard, G. E., Newnham-on-Severn.
Hughes, E. K. D., London.
Illingworth, A. J. A., Bombay.
Jarvis, H. E., Banbury.
Jenson, A. G., Edgbaston.
John, L., Cowbridge.
Johnson, W. A., Morton.
Jones, T. E., Dinorwic.
Kemp, L. H., Kennington.
Kendall, C., Ossett.
Kennedy, C. W., East Sheen.
Killender, H. C., Liverpool.
King, G. E., Nottingham.
Kinna, K., Liverpool.
Lambert, F. H., Highbury.
Leverkus, G. W. M., Harrow.
Lidbury, G. V., Balham.
Livett, R. M. H., London.
Lonsdale, H. G., Prestwich.
Lumsden, D. A., Birmingham.
McDonald, J. R. A., Jarrow.
McNaught, R. A., Dumbarton.
McWilliam, A., Edinburgh.
Mansergh, B. G. L., Kensington.
Marr, J. G., Aberdeen.
Meager, K., London.
Milburn, C. W., Darlington.
Milner, J. S., London.
Minty, W. S., London.
Moody, H. L., Ryde.
Moore, F. A., Bristol.
Newsum, A. T., Long Eaton.
Noble, C., Withington.
Nutt, E. J., Nottingham.
O'Connor, E. D., Leicester.
Page, E. C. R., Newport (Mon.).
Palmer, K., Gatley.
Parker, J. K., London.
Piggott, J. R., Stoke-on-Trent.
Pike, C. W., Dorchester.
Pritchard, H. W., Liverpool.
Quarmby, G. G., Burnley.
Rae, D. C., Aberdeen.
Rankine, A., Hull.
Rees, J. F., Newport (Mon.).
Reid, A. S., Aberdeen.
Richards, F. A., Westminster.
Riddell, W. B., Hamilton (Ont.).
Riley, H. G., Foxton.
Rogers, W. J., Newport (Mon.).
Ross, D. J. A., Inverness.
Ryle, W., London.
Sawyer, F. J., Addlestone.
Scott, H. A., London.
Shepherd, J. C., Liverpool.
Skipper, E. H., Norwich.
Skipwith, L. E., London.
Slaughter, L. S., Hampstead.
Starling, W. L., Chorley Wood.
Stillman, C. G., Winchester.
Stribling, H. J., Slough.
Sugden, H. D., Hampstead.
Suthers, S. H., Petersfield.
Tanner, C. P., Newcastle.
Taylor, W. L., Kintore.
Templar, W. R., Seven Kings.
Toms, B. H., London.
Towndrow, F. E., London.
Troup, R. J., London.
Vinycomb, W. L., Forest Hall.
Whittaker, G., Blackburn.
Wilkinson, H. C., Nelson.
Willmott, S. J., London.
Wilson, J. W. G., Kensington.
Winslade, M. L., Lee.
Wynne-Williams, W. P., Dulwich.
Yates, C. W., Bristol.
Young, J. R., Harrow.
Yoxall, T., Burslem.

Hon. Associates.

Hudson, E., Westminster.
Keyser, C. E., M.A., F.S.A., F.S.A.Scot., F.R.Hist.Soc., F.R.Soc. of Litt., J.P., D.L. (President of the British Archæological Association), Reading.

Hon. Corresponding Members.

Arnaud, Edouard (Director of the Teaching of Construction, Ecole des Beaux Arts, Paris).
Barber, Donn, New York.
Emerson, Professor W. (Director of the Department of Architecture, Massachusetts Institute of Technology, Boston, Mass.).
Goodhue, Bertram G., New York.
Hastings, Thomas (Royal Gold Medallist, 1922, New York).
Hébrard, Ernest (Grand Prix de Rome, 1904, Paris).
Kogure, Dr. A. (Professor of Architecture at the Tokio University).
Platt, Charles A., New York.
Stevens, Graham (Director of the American School at Rome).

Council Meeting.

At the last Council meeting of the R.I.B.A. the following business was transacted :—

Architects' Fees for Housing.—It was decided to recommend the general body to amend the scale of charges by omitting Clause 9 and adding a footnote calling attention to the General Housing Memoranda of the Ministry of Health now governing the fees payable to architects.

Architects and Speculative Housing Work.—The Practice Standing Committee have arranged to confer with representatives of the following bodies upon the question of deciding upon a scale of fees for architects: the National Federation of Building Trades Employers, the National Federation of House Builders, the London House Builders' Association.

The R.I.B.A. Certificate Book.—
the recommendation of the Prac
Standing Committee it was decided
restrict the sale of the R.I.B.A. Certifi
Book to members and Licentiates of
Royal Institute.

Architects and Limited Liability C
panies.—The Council are of opinion tha
is undesirable for members of the Ro
Institute to form themselves into lim
liability companies for the purpose
carrying on the profession of an archit

Annual Dinner.—It was decided
the R.I.B.A. annual dinner should be
on February 26, 1923, in connection
the celebration of the bi-centenary of
Christopher Wren.

Death of Sir Ernest Geor

Full of years and of honours, Sir Er
George, R.A., passed away last Fri
at the ripe age of eighty-three. By
the greater part of his work consiste
country mansions, most of them
from the foundations, but some of t
older houses remodelled. The list
even the chief of his country house
a long one, and the places in which
were built include a large number of
counties of southern and western Engl

In London, he built not only si
houses, but whole streets, whilst the
has his Royal Exchange Buildings, Mar
bone his Royal Academy of Music,
Golders Green his crematorium.

Born in London on June 13,
George received his education at Brigh
and Reading, after which he was arti
to S. Hewitt, and entered the R
Academy Schools. There he took the
medal for architecture in 1859. He be
practice two years later in partner
with Thomas Vaughan—also a p
winner, but of the Royal Institute
British Architects. On Vaughan's de
in 1871, he was joined by Harold
and on the latter's retirement, in
by A. B. Yates. The support of a par
left him more free for the purely art
aspect of his calling.

In 1896 he was the recipient of the
medal for architecture which the Sover
annually bestows, on the advice of
Royal Institute of British Archit
But it was not till 1910 that he bec
an Associate of the Royal Academy,
having been president of the R
Institute of British Architects in 19
In 1911 he was knighted, and in 191
his seventy-eighth year, he was elect
full member of the Royal Academy.

The public will remember his ass
tion with the new Southwark Brid
opened in June last year—the architect
treatment of which he was responsibl

Publications Receive

"Patent, Smokeless, and Semi-Sm
less Fuels." By J. Arthur Gr
A.M.Inst.P.T., and F. Mollwo Pe
C.B.E., Ph.D., F.I.C., etc. (Pit
Common Commodities and Indus
Series.) Price 3s. net. Sir Isaac Pi
and Sons, Ltd., Parker Street, Kings
London, W.C.2.

"The A.B.C. of English Salt-
Stoneware from Dwight to Doul
By T. F. Blacker. Price 15s. net. St
Paul & Co., 31 Essex Street, W.C.

Annual Report of the Smiths
Institute, 1920. Washington Govern
Printing Office.

Correspondence

The Organization of Acoustical Research

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read with interest your ader on the Organization of Acoustical esearch, and as I am particularly terested in the subject I regret to note at the Institute of Structural Engineers as not amongst the list of societies ked to co-operate.

Should developments occur, and I ncerely hope they will after your most luable lead, I hope that the above- entioned society will be invited to tend.

A. G. HUNTLEY, A.M.I.Struct.E.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The editorial on the organiza- on of acoustical research in your issue r November 29, more particularly e final conclusion, is most interest- g.

In July last the Council of the R.I.B.A. lled the attention of the Science Stand- g Committee to this matter and re iested that it may be placed on the genda for the first meeting after the cess.

The Science Standing Committee have ked representatives of other societies assist them, as it is evident that fur- er research work must be undertaken, d we hope this will be carried out rough the Department of Scientific d Industrial Research.

Apart from the Council of the R.I.B.A., e President, Mr. Paul Waterhouse, .A., has taken a most active interest the matter as shown by his presidential ldress, and the profession can be assured at the Council of the R.I.B.A. are fully ive to the importance of this subject, d have already commenced to draft research programme.

J. ERNEST FRANCK.

Joint Hon. Secretary, Science Standing Committee.

The Building Guild

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Your editorial comments on the fficulties of the Building Guild appear me to be a little cryptic.

I would venture to suggest that the perience of the Guild has not been the scovery of virtues in the capitalist stem, but a discovery of the difficulties hich must face any organization to-day, unded on the principles of the Guild. o put quality in place of quantity, and e service of the community in place of ofits, is not exactly an ideal which com- ands commercial success. Neverthe- ss, the continuance of the Guild is to desired, and to be encouraged by chitects, not, as you suggest, with the ject of correcting "economic fallacies respect of capital and labour," but that may continue as it has begun, to build ll, and to make the time-honoured rase of the specification a reality— at "all materials and workmanship shall be the best of their respective kinds." The Building Guild is out to build well it has built well—and incidentally it has revived some very old virtues which long since have become somewhat moth-eaten. The most stalwart defender of the capitalist system does not sing anthems in praise of it in his early morning bath, does not commemorate the soundness of its economics in verse or the beauty of its towns in prose.

It is, indeed, publicly and secretly a "much despised" system.

G. LE MORRIS.

[Quality first, certainly, and principle before profit all the time. Mr. Morris will admit that we said nothing to the contrary; nor did we say that the Guild system should be encouraged by architects with the specific object of correcting economic fallacies in respect of capital and labour. Such fallacies exist, however, and if, incidentally, the Guild system corrects them it will make a considerable addition to the virtues that our correspondent claims for it.—EDS.]

Educating the Public—New Style

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—It seems odd that a professional journal should applaud the "publicity agent concealing the powder of advertisement in the jam of cinema 'interest' films," as you do in your issue of November 29.

Long years of assault by commercial interests upon the self-respect and decorum which belongs to human nature have established advertisement as a thing tolerated because it cannot be got rid of, and what we now see is the apotheosis of the common braggart. The approaching reign of the publicity agent, for whose practices you express such enthusiasm, will mark the apotheosis of untruthfulness.

The daily papers are loaded with puffs and advertisements masquerading as news items.

This is done because someone has paid for it; it is effective only because the public believes in the *bona fide* good faith of the paper, and the man who thus betrays the public's confidence in the integrity of its newspapers is this fellow you applaud because, having noticed that the public believes in the good faith of cinema proprietors, he is laying himself out to betray that confidence too. I do not understand the grounds for your enthusiasm. Is it that you wish ill of the cinema? Or is it that the advertisement trying to pass itself off as an honest attempt to entertain gives you pleasure? If so, your experience is different from mine, and your estimation of your fellow victims of the publicity agent is different also. Where you expect applause I foretell a riot, and it is difficult to understand what good reason there is for you to invite your readers to rejoice in such devices.

H. B. CRESWELL.

[In fairness to the "publicity agent" we must point out that the exhibition of trade films, of which a notice was given in our issue of November 29, was no attempt to deceive or to get the public in to see trade films under the guise of an ordinary performance. It was plainly and straightforwardly advertised as "an exhibition of trade films," and what we meant when we spoke of "concealing the powder of advertisement in the jam of cinema 'interest' films," was merely to say that the advertiser was attempting to make his advertisements more attractive. In other words, the artist is now being allowed to enter—yes, even the office of the publicity agent.—EDS.]

The Exhibition of Contemporary British Architecture

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With a great flourish of trumpets an announcement has been made of an Exhibition of Contemporary British Architecture at the R.I.B.A. I have seen in the technical journals a list of the celebrities who were present at a private view. This is most interesting reading, and doubtless worthy members of our Council were present in force to bask in the sunshine.

Remembering how one was circularized by the present Council, when seeking election, and the "great stand" they made for the younger members, I was astonished to find on visiting the Institute about 6 o'clock on Wednesday evening, with a view to seeing the Exhibition, that the door was closed, I being informed by the commissionaire (still on duty) that the Exhibition closed at 5 o'clock.

Do the Council realize that younger members of the profession have to work during the day? Possibly the Exhibition is not for members of the profession, but, if not, why on earth is it advertised in the technical journals?

At the present time the Council are asking architects to bring before the members of their staff the advantages of working for the Institute examinations, and becoming members.

How "cheap" a chief would look, after having interested his staff, at the following:—

ASSISTANT: "Oh, sir, I went to the Institute last night to see the Exhibition."

CHIEF: "Yes—what did you think of it?"

ASSISTANT: "Well, sir, the Exhibition was closed. I understand that it closes daily at 5 o'clock."

CHIEF: "Oh, I am sorry to hear that, but never mind, Professor ——— is reading a paper next Wednesday evening on 'The Destruction of Timber by White Ants,' which I am sure will be most interesting and better than an exhibition of Contemporary British Architecture."

I am sure that others must feel strongly on this matter. Full reports are published in the technical papers of all papers read at meetings, but an exhibition of drawings can only be seen by a visit, and assistants should not be barred from this pleasure.

DISGUSTED ASSOCIATE.

Some Principles of Architectural Planning

By ARTHUR J. DAVIS, F.R.I.B.A.

IN delivering a lecture on "Some Principles of Architectural Planning," at University College, London, Mr. Arthur J. Davis, F.R.I.B.A., said : In this country planning as an art has been very little appreciated, either by the enlightened public or even by architects themselves, and for ten intelligent persons who understand good detail and fine proportion in an elevation there is hardly one who will realize the value of a well-conceived plan. We cannot be surprised at this when we see that our Royal Academy banishes from the walls of its yearly exhibition all plans and confines itself to the hanging of pretty pictures.

In planning it is variety and the unexpected which appeal, but these qualities must be bound together by an orderly arrangement on sound logical principles.

The requirements of large cities vary from year to year. The enormous and ever-increasing size of our modern towns, the daily ebb and flow of the countless multitudes which inhabit them, the introduction of mechanical transport, and the consequent difficulty of regulating the traffic in the busy hours of the day, have given rise to problems which are almost impossible of solution. Unfortunately we seem to be unable to profit by the experience of our past failures, and it is deplorable to have to record that cities which have expanded to twice their original size in a relatively short period are often controlled by municipalities whose breadth of vision is limited to their tenure of office.

In London it is regrettable to see so many missed opportunities to overcome the awkward conditions with which we now find it so difficult to cope. Do we not hear with unavailing regret that the short-sighted policy (the result of the vested interests of the day) caused the abandonment of Sir Christopher Wren's nobly conceived plan for reconstructing the City after the great fire? With this glaring example of lack of foresight, from which we are still suffering to-day, it might have been hoped that we had learned our lesson, and would not again repeat the errors of the past, and yet the confusion continues.

To give you one example of this lack of vision, do we not see that when our latest building, the London County Hall, is completed, the great opportunity of constructing on the south side of the Thames an embankment similar to that opposite has been missed and only a narrow footway for pedestrians provided?

Without unduly labouring the point I will refer to the recent illustrations in the Press showing the proposed reconstruction of the Bank of England and some of the neighbouring properties. In view of the alarming congestion which occurs daily in one of the most crowded centres in the world, it would seem obvious that the foremost consideration would be to take advantage of replanning schemes in order to widen the thoroughfares which converge to that spot. Yet we see that the controversy only touches on the best way of erecting a new bank with the retention of Sir John Soane's original elevations.

The totally revised planning of the whole neighbourhood has never apparently even been contemplated. The Bank of England being a low building, as are many of its neighbours, it follows that if these are replaced by higher structures housing a far greater population than at present, the already too congested streets will soon become absolutely impassable. Surely the first duty of the controlling authorities should be to say to the owners of these properties : "You shall not be allowed to increase the height of any of your buildings unless you give up to the public a proportionate area on plan."

Dealing with planning generally Mr. Davis said : In my opinion, all the public buildings of a city should be erected in prominent positions, and should be so designed as to clearly denote their purpose to the passer-by, whereas a private dwelling should be more remote in its situation and make no attempt to attract undue attention. This principle applies as much to the sites to be chosen as to their individual treatment.

A stranger walking through a city should be attracted by the harmonious grouping and setting of its public monuments. He should be able to discern at the glance which is the cathedral, the town hall, the museum, or the opera house. Each of these edifices should bear its special character, and leave the observer in no doubt as to its destination. On entering he should find the special department he proposes to visit without the slightest hesitation. Simplicity and directness of approach are essential, and these combined with a certain grandeur and architectural magnificence are the chief characteristics which should adorn every successful public building. These qualities are entirely independent of style and period.

To all the inhabitants of the city the part ownership of these fine monuments should be a source of pride and gratification. In their treatment there is no necessity for modesty or concealment, and both outwardly and internally they should bear the mark of the wealth and taste of the cities which they embellish.

The characteristics of the domestic dwelling are diametrically opposed to this point of view. The home of a private individual should be kept screened from the curiosity of the passer-by. The moment the owner passes the boundaries of his property he would naturally desire to avoid the obtrusion of inquiring neighbours and the inquisitive gaze of strangers. Thus we see in every country that in all fine periods of architecture the typical private house is surrounded by fences and protective walls. The important rooms overlook enclosed gardens or are planned around an atrium or inner court. Invariably the desire seems to be to avoid attracting undue attention. A fine doorway porch or entrance gate alone would suggest to the wayfarer the importance of the dwelling. We see this idea applied equally to the early Greek and Roman town houses as to the Moorish Kasbah or the Florentine palace of the Renaissance. Whether these living apartments surround an atrium, a patio, or a *cour d'honneur*, the principle is the same.

It is frequently asked : "Why are buildings so often laid out in formal and axial compositions regardless of their practical requirements?" There is no doubt that, having taken into consideration the situation, levels and approaches whenever a symmetrical treatment is possible a more regular and dignified result is obtained. I think that the human mind, from natural reasons, instinctively turns to an orderly and balanced composition.

The criterion of a good plan is the ease with which it can be deciphered without the necessity of its various parts being labelled or marked by titles or sub-titles It should clearly show the type of construction the author has chosen to adopt New portions should be distinguishable from the old, and each individual floor should bear its special characteristic.

The good architect will always design in three dimensions. When working out his plans he will consider the elevations and sections which complete them, and at the same time study the constructional and engineering questions which are inseparable from their conception. He will endeavour to design in space, and I assure you that the power of composing in this manner is much more difficult than it would at first appear.

Simplicity and directness are essentials of good planning. A sense of proportion, accompanied by some skill in the handling of the curved and straight lines, the contrast between thick walls and light partitions, the correct delineation of courts and areas, the indication of vaults, columns, and staircases, produce a result which has a charm and harmony of its own.

Architecture to be effective should be treated broadly and simply. The onlooker, whether in a city, a garden, or a building, should never be allowed to feel confused or bored.

Architecturally for every site, whatever may be the area and surrounding conditions, there is but one ideal planning solution; there may be sometimes an alternative, but there are seldom three equally good schemes to a given site. A thorough comprehension of the programme is half the battle. The most difficult thing in the process of planning is to become thoroughly acquainted with all the aspects of the problem with which we are confronted. Logic and sincerity are the two all-important qualities we must apply if we wish our plans to reflect our individual interpretation of what is fundamentally true in the aims and requirements of our age.

Prize Distribution at the R.A. Schools

HE annual distribution of prizes of the Royal Academy Schools took place on Saturday evening last. Aston Webb, P.R.A., presented the es in the presence of a distinhed gathering of members of the al Academy.

Aston Webb said that the outstandfeature of this year's award of prizes that the ladies had nearly swept the d. He congratulated them on this but warned the students that this of thing must not be carried too far. sense the Academy itself had set an example in electing a lady to its s, but they—the Academy—had no ntion of allowing the ladies to carry efore them. He said that those walls ed that they had done much work the last distribution of prizes, espe- when one realized that it was a tion only of what they had done, and some of the students had been end on decorative work for the London ty Council. He thought that it was general opinion of those who had nined the work that the studies from life were many of them good, but he d warn them against drawing frag-

The studies of drapery were also good, though these were not, perhaps, quite up to the level of last year. The drawings from the antique showed study and careful drawing. He went on: "The foundation of your art is, of course, drawing; and when you come to paint it is inevitable that while you are overcoming the difficulties of tone and colour, construction and form are to some extent disregarded, but be very careful that this is not due to discouragement or laziness. Keep alert and you will find that a constant care for proportion is an assistant to truth in colour and tone.

"In landscape painting and composition you have still much to learn. Composition is, perhaps, the study which requires the most extensive knowledge and skill, and it is not surprising, therefore, to find that here you have also much to learn in the arriving at the right scale, then proportion, form, and colour in which to depict your subject; but as this is the most difficult of all to learn, so it is also the most important, for without it other qualities, beautiful in themselves, would be entirely thrown away. There is a general opinion, I think, that though the sculpture is small in quantity it is high in quality. This is satisfactory, for sculpture is a monumental and permanent art which cannot be set aside or ignored when once it has been set up in our towns or villages, but remains as an adornment, or the reverse, for generations to come."

Sir Aston Webb referred to the loss of one of their most distinguished members, a distinguished architect, and a great friend—Sir Ernest George.

The architecture makes a good show when it is remembered that it is only an evening school and the students work there after a long day in the office.

The designs for a memorial chapel are good, though the author of one (the prize-winner) appears to have a difficulty in deciding whether he intended to crown his building with a dome or a tower.

There is only one measured drawing of old work which is good, but we should like to see more. There is almost yearly an opinion expressed that painters and sculptors would benefit by a time spent in the architectural school. I think there can be no doubt that this is so, and also that architects should spend some time with the sculptors.

R.I.B.A. Visit to Marble Works

NE might suppose that the architect should be very well acquainted with all the multifarious arts and rials he brings together to form a ing; that, in fact, he should know at deal of their technique, in the of arts and crafts, and a great deal e processes of manufacture in the f materials. And so he should; only, tunately, the architect does not long enough. If he was given, by divine dispensation, three times the al period of man on this earth (and stly deserves it), then he might to that state of encyclopædic know- to which he is ever striving.

ods are among the things of which rchitect would know more, and so is le, for marble is such an essential ing material. Yet there are a hundred ent varieties, each different in colour, re, and adaptability in working.

visit of the R.I.B.A. on Saturday o the marble works of Messrs. Farnd Brindley, Ltd., was particularly sting. There were a fair number of ers present, and the party was cond through the works by Mr. Brindley. was first of all impressed by the lerable size of the works, the large er of men employed, and the extent ariation of the work undertaken by m.

instance, we were shown a com- slab of pure crystal silica made up small pieces of crystal, each piece hing in the nature of a rarity gar- from the corners of the earth.

veneering of a surface in lapis is interesting. Lapis lazuli, it rs, is found in comparatively small which are cut up into thin slices; ices are placed side by side on a e, and then set in a matrix to form ogeneous whole.

The firm are busy on a good deal of the interior and decorative work of Liverpool Cathedral. Most of what we saw were delicately carved details in Hoptonwood stone, with bases and heavier detail in Derbyshire fossil.

It happens, as we learned afterwards, that the stone we thought Hoptonwood is not strictly so. It is the same as Hoptonwood in colour and texture, but apparently there are minor differences in that it does not come from the same quarry. We were shown a bewildering number of different kinds of marble and stones—one had no idea that there were so many in this world—from the different kinds of granite to the semi-precious stones like labradorite, and rare marbles like Spanish red.

The particular possessions of the firm are verte antique, a green marble, of which we saw a good deal in various stages of working, and cipollino. Both these marbles come from Greece, where the firm have done so much in re-discovering the ancient quarries and in working them again. We were shown an altar in alabaster, made to the designs of Mr. Paul Waterhouse, and an interesting font in Spanish red cunningly inlaid with verte antique, by the same designer, and both for a church at St. Andrews, Scotland.

There was a wall memorial framed in St. Ambrogio red verona — a beautiful marble of rich brown-red colour and of fine dappled patterning. There were many kinds of marble besides such materials as porphyry, which, by the way, appears to be native to Egypt; there being no real porphyry in this country.

The machinery in use was, perhaps, the most interesting part of the visit. There was a machine for cutting mouldings in marble by means of a carborundum grinding stone grinding on to the marble slab which moves slowly along on a moving table. These carborundum grindstones work at a very high velocity, and the frictional action on the stone sets up great heat, which is counteracted by a continuous squirt of water on the point of grinding. The carborundum stones are used in many sizes and degrees of fineness, so that all shapes of mouldings may be cut.

The cutting machines in use are weighted frames containing steel blades which work backwards and forwards horizontally on to the marble blocks, while water and sand are sprayed on to cuttings throughout the whole operation. We were told that a block of marble about 2 ft. thick takes many days to cut through. This is the general way of cutting marble. A quicker way for use when a certain piece of marble is required at short notice is by means of a carborundum cutting stone, which looks and acts just like a circular saw only that the slab of marble is fixed on a mechanical slow-moving table.

We also saw the large polishing machine at work. The unpolished marble is placed on a great steel table and a thing like an enormous flat hand with arm attached slides over the surface with an action not unlike that of a person wiping a marble table-top, but magnified considerably. The surface is first polished with sand, then emery powder, and finished with putty powder.

A visit to a museum of specimens and casts of memorials and statuary completed the visit.

Messrs. Farmer and Brindley are to be congratulated on the scope and conduct of their business, and to be thanked for their hospitality so extended to the profession.

F. E. T.

The Week's News

Thirsk New Church House.

£1,360 has been raised towards the building fund of the new church house.

Road Work at Hendon.

At a cost of £30,000 Station Road, Hendon, is to be reconstructed.

Concrete Roads.

Roads of concrete instead of macadam are suggested as a means for reviving the Kentish cement industry.

Housing at Slough.

Slough has 224 Council houses occupied under a scheme for 242. There are still cases of overcrowding in the town.

Chesterfield's Crooked Spire.

The famous crooked spire of Chesterfield parish church threatens to fall unless soon strengthened.

Bideford Bridge.

Bideford Bridge, Devon, built by monks in the fourteenth century, is in danger of collapse.

Housing at Hanwell.

Hanwell Council, who are building about fifty houses, are urging the Ministry to allow them to build 500 more under a subsidized scheme to meet the demand.

More Houses for Hampstead and Hendon.

In preparation for the extension of the Hampstead tube, hundreds of houses are being built at Golders Green, Hendon, and Mill Hill.

New Church for Harrogate.

A new church in the Renaissance style and faced with stone is to be built by the Harrogate First Church of Christ Scientists.

New Bridge for Boothferry.

It is proposed to build a bridge over the river Ouse at Boothferry. The Ministry of Transport are being approached for a grant towards the cost.

More Houses for Selby.

The Selby Urban District Council have accepted tenders for the erection of thirteen additional working-class houses at £363 10s. per house.

N.E.R. Cottage Homes.

Cottages are to be built at Hull, Shildon, Selby, Tyne Dock, Acomb, Knaresborough, Hexham, and Scarborough. The last three have not yet been submitted to tender.

Norton Electric Power Station.

Plans have been passed for a new electric power station to be erected by the Cleveland and South Durham Electric Supply Company, Limited, in a field on the south side of the river Derwent.

Stowe School.

Mr. Clough Williams-Ellis has been appointed architect to the Stowe School Governing Body, which includes Lord Gisborough (chairman), Field-Marshal Sir William Robertson, and Dr. David (late headmaster of Rugby), the Bishop of Ipswich. A committee of ladies that includes Mrs. C. S. Peel, the domestic economy expert, is co-operating with the architect in the equipment of the kitchen and offices.

£5,000 Gift for Housing Scheme.

At a meeting of the Liverpool City Council it was announced that an anonymous gift of £5,000 to be used in furthering the work of the Housing Committee had been received.

More Houses for Wortley.

The Wortley (Yorks) Rural District Council are to build thirty additional houses of the class A non-parlour type. Tenders that have been accepted show an average cost of house to be £330.

Broadstairs Pavilion.

In mentioning the proposed pavilion and dance hall at Broadstairs it was stated that the plans had been drawn by Mr. George Graham Tucker, whereas the architects for this building are Mr. Cecil Massey and Mr. Tucker.

Thames Embankment Extension.

The Improvements Committee of the L.C.C. recommend that the embankment which extends from Victoria Tower Gardens to Lambeth Bridge should be joined to the existing embankment in Grosvenor Road at an estimated cost of £160,000.

Widening the Strand.

An important Strand improvement scheme to be carried out by the L.C.C. has been approved by the Westminster City Council. It is intended to widen the stretch between Adam Street and Durham House Street, in connection with the new building which is being erected on the old Tivoli site.

£50,000 Wanted for St. Paul's.

Canon Alexander, treasurer of St. Paul's, announces that the St. Paul's restoration fund has not yet been completed. Rather more than £100,000 has been received since the work began in 1912; but less than half the present appeal for £100,000 has been subscribed.

Giant Dock "Dolphins."

Four gigantic "tables" of reinforced concrete, each with ninety-four legs, are to be constructed in Southampton Harbour for the mooring of the world's largest floating dock, now being built on Tyneside, for the London and South-Western Railway Company, at a cost of about £1,000,000.

£1,000,000 Masonic Temple.

A million pound Masonic peace memorial temple is to be founded on the site in Great Queen Street, which has been the home of the craft for more than a century and a half.

Architects' Fees for State-aided Housing Schemes.

The Ministry of Health and the tribunal appointed by the R.I.B.A. are anxious to obtain a settlement of all claims for architects' fees in connection with State-aided Housing Schemes without further delay. Architects who still desire the assistance of the tribunal are therefore requested to apply to the secretary of the R.I.B.A. on or before December 31, 1922. The tribunal cannot undertake to deal with cases submitted to them after this date.

A Brick from Nineveh.

A Babylonian brick from the ruins of Nineveh, bearing the stamp of Nebuchadnezzar, date 605 B.C., is one of the items to be included in the sale by Mes
Knight, Frank, and Rutley at "
Nash," near Worcester, which commen
yesterday. Before the war the Gern
excavations on the site of Baby
city itself led to the discovery t
every brick examined bore the name
the monarch in whose reign it had b
made.

The Architectural Association's Conversazione.

The annual conversazione of the Ar
tectural Association was held at t
headquarters in Bedford Square
Tuesday evening last week, the gu
being received by the president,
Stanley Hamp, F.R.I.B.A., and M
Hamp. An exhibition of the late C
Brewer's drawings, together with exh
tions of photographs and sketches m
by A.A. members on their recent exc
sion to Holland, and students' work, w
among the attractions of the even
A good musical programme was gi
by the Keith Prowse orchestra, and
dance, arranged by the Lyric Club,
held after supper.

Waygood-Otis Club

Nineteenth Annual Dinn

At the London Tavern, Fenchu
Street, the nineteenth annual dinner
the Waygood-Otis Club took pl
recently under the chairmanship
the president, Mr. H. C. Walker, man
ing director of the Waygood-Otis Co
pany. Among other directors pres
were Messrs. H. Harmsworth, C. H.
Day, R. H. Thorpe, and C. Clarke, w
the guests included Messrs. J. D. Gilb
M.P., Mortimer Lancaster, H. J. Mitch
and H. Cattanio.

At the conclusion of the repast
chairman proposed the toast of "
King," and then proceeded to give t
of the "Waygood-Otis Club and Officia
In the course of his remarks Mr. Wal
mentioned the gratifying fact that
club now consisted of 700 members,
referred to the devoted work of its
cials, who had, one and all, contribu
to its success by their self-sacrific
labours. It was, he went on to obse
the function of the sporting and so
fixtures of the club to bring all who
longed to it into closer comradeship
fellow workers for a common end.

The chairman, having presented
prizes won by members of the Cric
and Cycling sections, Messrs. J. E. Pl
ridge and W. E. Hopkins, responded
the toast, and reviewed in detail the cl
activities during the year.

Mr. C. Clarke (director) in the cou
of his reply to Mr. A. Nunn, who offe
the toast of "Waygood-Otis, Lt
alluded to the interest the company
always taken in the personal welfare
the employees, and expressed the v
that the spirit of loyalty to one's sid
so necessary in sporting contests—had
counterpart in the attitude of the
ployees to the firm. In each there
the same impulse on the individual's p
to strain every nerve to win success
his side, and this was team work at
very best.

The speeches were interspersed w
musical items and recitations, wh
received a full measure of apprecia
from those present.

The Annual Prize Distribution at Cardiff

THE annual prize distribution and exhibition of designs and measured drawings has been held in the Assem- Hall of the Technical College, Cardiff. out 100 Fellows, Associates, and Stu- its of the South Wales Institute of chitects, Central (Cardiff) Branch, and ir friends, were present. The chair was en by Mr. E. C. M. Willmott, R.I.B.A., chairman of the Cardiff anch, who was the first lecturer on chitectural Design in the Technical lege.

Principal Charles Coles spoke of the ly days of the Technical College, and ntioned that among its old students e the President of the South Wales titute, Mr. Percy Thomas, O.B.E., R.I.B.A., and his partner, Mr. Ivor ies, A.R.I.B.A., who designed the sent Technical College as a result of an n competition, and Mr. Turner, who lt the college.

Ir. Percy Thomas, who spoke with husiasm of the work of the Cardiff ool of Architecture, with which he ps in close touch, awarded the prizes the successful students, the prize- ners being as follows :—

telier.—First prize, Colin Jones; ond prize (equal), C. F. Bates, L. S. tchard.

Day School: Design.—First Prize, Monroe; second prize, B. Thomas.

Measured Drawings.—First Prize, L. Monroe; second prize, J. B. Wride.

Mr. W. S. Purchon, the Head of the Department of Architecture in the Technical College, explained that while the meeting was one of the South Wales Institute, the school and the Institute were so closely allied, and the students of the school having won all the prizes offered, it was difficult to differentiate it from a prize distribution for the school. He then gave a brief address on the work of the School of Architecture, pointing out that much of the credit for the work of the school was due to the ability and energy of his assistant, Mr. Winder, M.A., A.R.I.B.A., and that a modern school of architecture was far from being a one-man affair, the Cardiff School owing much to members of the staffs of the School of Art, and of the Engineering, Mathematics, and Chemistry Departments. The speaker announced that during the session the recognition of the school by the R.I.B.A. had been confirmed after an inspection by visitors from the Board of Architectural Education.

The R.I.B.A. Jarvis travelling student, Mr. Eric Page, who in the previous summer had done such excellent work with Mr. Biss in Italy, had spent part of the summer of 1922 with Mr. V. L. Nash, studying in the neighbourhood of Paris.

All the full-time ex-Service students who had recently left the school after their two and a half years' period of study had obtained suitable appointments. Several of the students had obtained the Associateship of the R.I.B.A.

Messrs. Colin Jones and C. F. Bates—members of the atelier—won the Newport (Mon.) War Memorial Competition.

In concluding his address Mr. Purchon pointed out that architectural education for the public was an important part of the work of a school of architecture, and expressed the willingness of the Cardiff School of Architecture to co-operate with the local secondary and high schools in an attempt to stimulate the interest taken by young students in this great art. He also drew attention to the important work done by modern schools of architecture in assisting architecture to settle down after the divided councils of the last century, and the value of these schools in forming real schools of architectural thought in which groups of enthusiasts were working together towards definite ideals.

A vote of thanks to Mr. Percy Thomas and to Mr. Purchon was proposed by Principal Coles and seconded by Mr. Turner, after which the meeting adjourned for refreshments and the inspection of the work of the students.

Parliamentary Notes

BY OUR SPECIAL REPRESENTATIVE.

The Cost of Housing.

ir Montague Barlow, the Minister of our, informed Mr. T. Thomson that whole question of housing policy was iving the careful attention of the ister of Health.

nswering a question from Mr. Thom- Sir M. Barlow said that according to eturn which had recently been fur- ied by local authorities who were ying out housing schemes, the average n expenditure on houses for which tracts had been made would work out approximately £1,090 a house. The l settlement of costs which had been le to date related only to small emes, covering only 11,000 houses. The rage cost of building in those cases, usive of land development, profes- al fees and expenses, worked out at 3 a house.

Slum Clearance.

ajor Boyd-Carpenter, Parliamentary retary to the Ministry of Labour, rmed Sir A. Holbrook that it was nated that the commitments under late Government's assisted housing emes, including slum clearances, would ount to £9,900,000 per annum, of ch £9,100,000 per annum would be ne by the Exchequer.

The Lake in St. James's Park.

r J. Baird, First Commissioner of ks, informed Sir H. Brittain that only remaining building in St. James's k had been handed over to the Dis- l Board, who were now obtaining ers for its demolition. The question of the refilling of the lake was under serious consideration, and he hoped that it would be filled by the early summer.

Housing Progress.

An important statement with regard to the Government's housing policy was made by Mr. Inskip, the Solicitor-General. After reviewing the late Government's scheme, the right hon. gentleman said that its result had been to provide, at enormous cost, just over 215,000 houses, which, with another 3,000 dwellings that had been provided by the conversion of huts and hostels, would make something like 220,000 dwellings. At present, 188,000 houses had actually been completed, or had been completed on November 1. Of the 176,000 houses to which the local authority and public utility schemes were limited, 11,000 had not yet been begun, and work was proceeding on 118,000, so that there were something over 30,000 houses on which work still remained to be done. As to the future, the Government could not adopt the Labour party's plan of the erection of national factories for the manufacture of material. The only statement which the Government could make at present was that houses could, in their opinion, be more advantageously provided by those whose business it was to build houses than by the State. The Government was most anxious that private enterprise, which, when all was said and done, had provided large numbers of houses in the past, should be encouraged to develop its great resources. The Government would consider whether any action on their part, including possibly the extension of existing provisions under which private builders could borrow money at reasonable rates, would assist in that direction.

There were already signs of a revival in private enterprise in building. Local authorities were showing a readiness to undertake building without State aid. Thirty-five local authorities had already undertaken to build houses without State assistance, and another sixty were considering proceeding on those lines. But the continuation of the present system, under which the liability of the local authorities was fixed at a penny rate while the Government contribution was unlimited, could not be contemplated. It had already involved the State in a charge of £9,000,000 a year, extending over a period of sixty years. Whether any scheme under which the Government was to provide financial assistance would offer better hope still remained for consideration. Present-day tenders had begun to approach an economic level.

With regard to slum areas, the desire of the present Government was to carry out and extend the policy of the late Minister of Health, which was to assist local authorities in providing the clearing houses into which to put the population. The Government had undertaken to provide a sum which at present was not to exceed £200,000 yearly towards the deficiencies of local authorities in slum areas. He hoped that, with the co-operation of all parties, life in our great cities might, in a short space of time, be lived under happier conditions.

At question time Major Boyd-Carpenter,

Parliamentary Secretary to the Ministry of Labour, informed Mr. Collison that local authorities had in several cases taken over land acquired under the Assisted Housing Scheme for building purposes at the present market value, and such land had also been disposed of on similar terms to private persons undertaking building.

Replying to Sir Walter de Frece, Major Boyd-Carpenter said that since August applications for housing subsidies had been received from some 170 local authorities. These applications had been reviewed in relation to the urgency of the need, special consideration being given to the populous urban centres where skilled labour was available, and to the number of houses already authorized or in hand; and in fifty-two cases local authorities had been authorized to proceed with further houses within the limits laid down for the assisted scheme. Some twenty other authorities had decided to build without subsidy.

In answer to Mr. D. Somerville, Major Boyd-Carpenter said that of the 176,000 houses to which the original housing scheme was limited, 175,400 had been definitely allocated, and 546 provisionally allocated. In addition, 39,145 houses had been provided with the aid of the private builders' subsidy. On November 1 last, 145,771 houses had been completed, and he was not aware at present of any general avoidable delay in the completion of houses for which contracts had been let. The lowest price for a house complete with drains, paths, fences, and g and hot water installations was £297 1 He had no reason to believe that the co of building would not continue to fall.

Major Boyd-Carpenter informed M T. Thomson that 145,771 houses had be completed by local authorities and pub utility societies on November 1, a 39,145 houses had been completed at th date by private builders under t Housing (Additional Powers) Act, 191 making a total of 184,916 houses co pleted. In addition, 3,056 dwellings h been provided by the conversion of hu and hostels. Some 30,229 houses mained to be completed and of the 18,847 were in course of construction November 1 by local authorities and pu lic utility societies.

Regional Planning

A MOST interesting lecture has been given by Professor P. Abercrombie to the Liverpool Architectural Society on the subject of regional planning. The term, he said, was intended to signify something more than the need that had always been felt, and had always been largely exercised in the past, for a single town to obtain control of developments which, though outside its jurisdiction, were manifestly merely offshoots of its own growth. The scheme was concerned with the development of a wide area in which there might be, and probably were, one or more dominating centres; at the same time the interests of the lesser authorities were concerned. Thus in Massachusetts there was the city of Boston, though no one would suggest that the rest of the State was a suburban development of Boston. In one respect the Boston and regional scheme did not carry out the exact programme which was meant to-day by regional development, for it would appear to have proceeded by means of individual aspects rather than by a treatment of the whole. That was, perhaps, inevitable in pioneer work, but what was of absorbing interest to us in this country was that in that district they had succeeded in carrying out one of those aspects, namely, the famous park system. It was natural in America, where so much attention was given to recreation, that that should be the first aspect to be dealt with, but apart from that one felt that in many ways recreation and open spaces were ideal subjects for proving the need of regional action. They had to take what was left unspoiled of Nature's gifts in the matter of open spaces.

And these do not always exactly coincide with the artificial boundaries or human developments which have led to the need for parks. It is quite possible, of course, and it is frequently done, for a local authority to purchase parks outside its area, but when this is done there is a certain feeling that the open space is going to be used by people who have not paid for it, and the only satisfactory solution is joint action and joint financial responsibility. Here, then, is the keynote of regional planning, and the whole business sooner or later will resolve itself into a question as to who is to pay for the objects aimed at, and as the park system of Boston gives us a system of assessment and joint usage and completely successful operation, I suggest that all those who are interested in carrying regional suggestions into execution should make a thorough study of this pioneer scheme by which parks to the extent of 15,000 acres, with 25 miles of parkway, are maintained by some thirty-eight local authorities.

Of a later date than their park system was the homestead commission, started in 1913, originally for housing purposes, but, as has happened with housing organizations elsewhere, it was soon found that town planning is necessary to precede housing, and accordingly the homestead commission has been merged into a co-ordinating body which is charged with the setting up of local planning boards throughout the metropolitan district, and apparently by means of actual conferences this central board intends to co-ordinate the work of the separate local boards. It will be interesting to watch the result of these annual conferences, and to see whether a regional plan will be evolved carrying the scope of the regional park system into all aspects of city development. In this country we have certainly been less advanced, and having pushed ahead with fair success the preparation of town-planning schemes there has been the danger, as has been pointed out by one or two thoughtful critics, of our perpetuating on a large scale some of the errors of the estate development of the nineteenth century, in which schemes, which may be good in themselves, have not been sufficiently wide in their outlook to meet neighbouring needs. It was Professor Geddes who by directing attention to careful study of a population map urged that in very large parts of this country it would be disastrous for any town to think it possible to look after its own affairs without considering the needs of its neighbours.

Not only are there these existing groups of towns and urban communities corresponding in each case, except the metropolitan one, with well-worked coalfields, but there are the new rising districts in which it is possible to attempt some avoidance of the drawbacks which are almost ineradicable in the older regions. If we have any faith in the future of our country we must at any rate see that these coming districts have prepared for themselves a definite plan of growth so that the most efficient use may be made of their natural possibiliti With the older districts we have walk more warily, and the first region be considered was perhaps the m difficult physically and administrative With the South Wales coalfield it w thought necessary to set up a commissi and take evidence from all sections of t community as to the necessity for gional action, for this at once brought the fore the boundary question. If t increase in population were to be hous under reasonable conditions it was nec sary to go outside the congested valle into the agricultural plain adjacent— half-hour's journey farther from work and in other local authorities' area The commission's report (mutilat though it was in publication) is, neve theless, the "case for regional planning as Mr. Aldridge's book is for town pla ning. Once for all, backed by all t evidence of mine-owners, workers, lo authorities, and others, is the need f joint action definitely demonstrated. T South Wales report was not really regional survey (though so-called), a much less a regional plan, but a p liminary study and proof of the need o regional planning, and it is well wor reading as a text-book as to what regio planning means and what a regional pl should contain.

Turning to regional survey proper was obvious that a different method approach was necessary in different d tricts—where less development had tak place greater freedom of action and su gestion was possible. Thus at Doncast with large tracts of land debarred fr housing, it was necessary to indica clearly-defined centres in which reside tial development could take place, a should be encouraged in order to provi workpeople for the factories whi would be located on the low-lying groun The collieries, at present situated at average of about three or four mil apart, themselves promoted the growth separate village communities. The resu instead of a single homogeneous town the size of Sheffield or Leeds, should a series of communities complete as their civic functions, but of a size limit in most cases to 20,000 inhabitan separated by farmland or park strips, b all communicating directly with Do caster as their natural metropolis f trade, culture, or recreation.

dnesday, December 20, 1922
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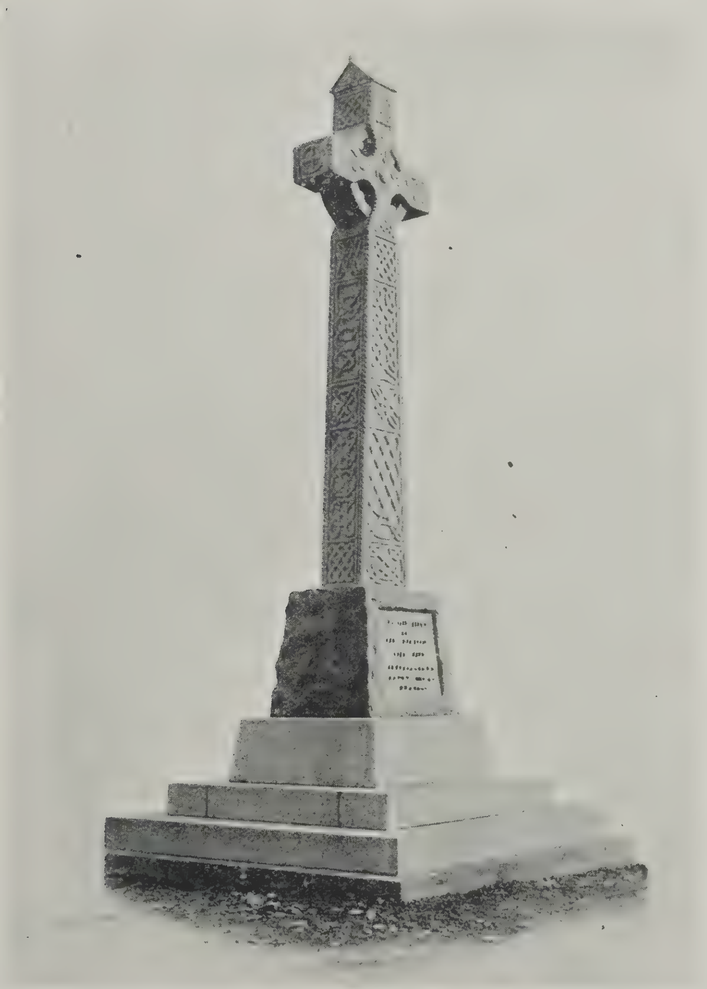
THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

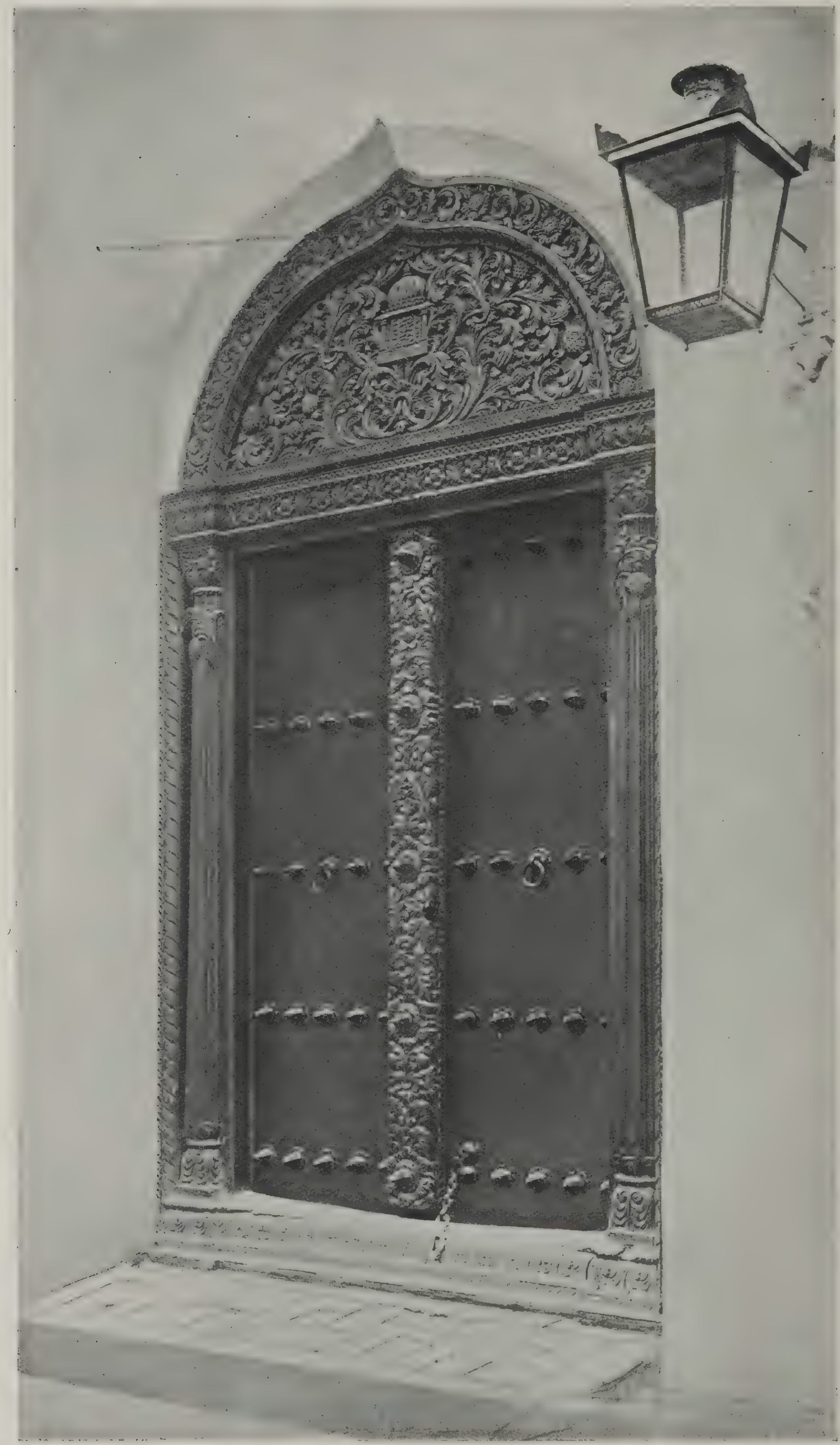


MEMORIAL CROSS AT GORSEINON, NEAR SWANSEA.
GLENDINNING MOXHAM, F.R.I.B.A., ARCHITECT.

27-29 Tothill Street, Westminster, S.W.1.

c

Architectural Details. 40.—A Doorway in Zanzibar



The Moorish character of this doorway is unmistakable. The rich riot of ornamentation which runs up the meeting-style of the doors and fills the tympanum of the ogre arch is typically Eastern. Western influences, however, are to be found in the fluted door-pillars and their foliated capitals.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Vednesday, December 20, 1922 Volume LVI. No. 1459

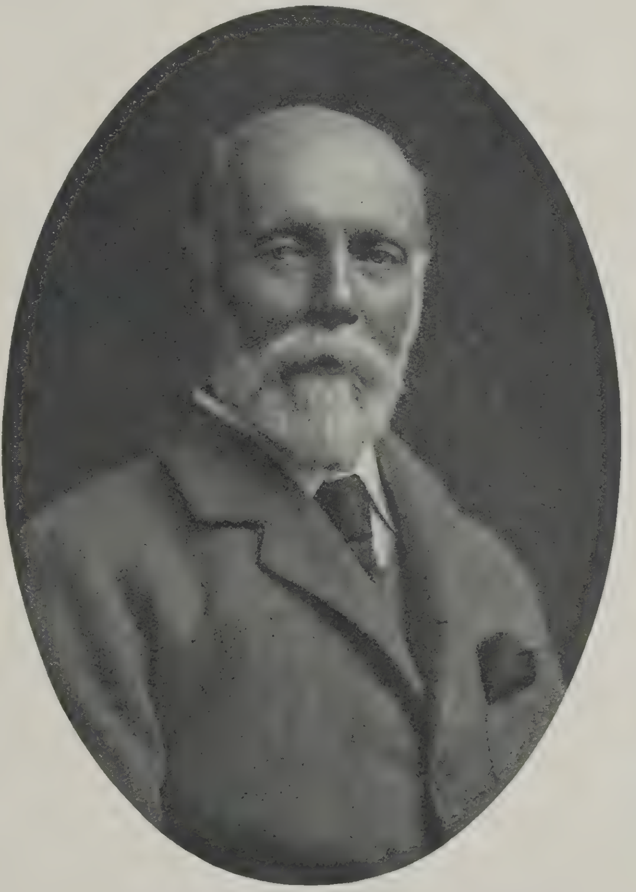
The Late Sir Ernest George: An Appreciation

MORE than thirty years, alas ! have elapsed since the writer of this notice came under the influence of Ernest George. The recollection is still vivid. An experience which brought one r some years into daily contact with a brilliant, kindly, id sympathetic artist must indeed be unforgettable. hat it has proved of lasting and inestimable benefit need ardly be stated.

To have worked in the atmosphere created by such a an was both stimulating id inspiring. Mundane conderations, which so often harss the conceptions, seemed most absent. A consistent ream of important and, in ct, imposing commissions ien flowed through the office, id the serenity which preiled was rarely disturbed by imptuary distractions. In genial and luxuriant an ivironment architecture was eshly realized and thoroughly ijoyed. Ernest George's conptions were delightful. Their mple directness made them isy to construct and kept iem free from the complitions which always are the ncomitant of an involved heme.

His designs were representive of the romantic outlook hich prevailed amongst the ading artists of his time—at is, they were identified ith the reaction which led the abandonment of either stale and threadbare classic of a blatant utilitarianism hich seemed the alternative. hen much of the energy the civilized world was conntrated upon mechanical ursuits, progress, to most inds, seemed wholly dependent upon such development. vidence of this blight still persists; witness the many ude railway embankments, bridges, viaducts, and the conries of dreadful houses which have disfigured our streets id destroyed the environment of so many great towns.

It was of great importance that even a limited number men maintained their sanity and a happier outlook; ithout them all respect for beauty would have been swept ray, and a vile torrent of materialism would have left the orld in a state of drab and banal ugliness.



THE LATE SIR ERNEST GEORGE, R.A., PP.R.I.B.A.

Though influenced by the mediæval revival, few of Ernest George's actual buildings are Gothic in character or design. The freshness of various phases of the earlier Renaissance appealed more strongly to a brilliant brain fertilized and stimulated by travel and the swift impressions thus received. A client's instructions seemed to electrify the wide knowledge he had acquired. The drawings which ensued literally poured from his ardent brain like an incandescent stream, and crystallized in the picturesque and harmonious compositions so familiar to all who are interested in his work. Little correction of his first sketches followed or was necessary. So highly developed a sense of beauty as was his made ugliness of form impossible, and it was this endowment that so distinguished his creations and impressed itself upon all he did.

Ernest George's powers of representation were exactly fitted to his active mind. He drew with astonishing rapidity. With him, pencil, pen, or brush were equally happy media for the expression of his ideas, and everyone at home or abroad who has ever seen him sketch continued to wonder at his facility. In writing and draughtsmanship his ideas were distinctive and individual. But although the aura is too subtle to be estimated in terms of recollection, its enduring effect is seen in much of the best of our contemporary architecture.

Edwin Lutyens, Herbert Baker, Guy Dawber, and the late Dan Gibson are but some of the well-known architects whose work is founded upon the training received and the mental knowledge imbibed whilst in his office. That so modest, so retiring, so sensitive a nature could exert such consummate influence is ample testimony to Ernest George's outstanding abilities, and proves that the standard he set and consistently maintained has been of very potent value to our times, as those who were fortunate enough to have served under him now more fully realize.

H. H. WIGGLESWORTH.

Notes and Comments

Waterways and Warehouses

Colonel Frank Rayner, D.S.O., engineer and general manager of the Trent Navigation Company, did well to call attention, in a paper read at Manchester before the North-Western Section of the Institute of Transport, to the national need to develop the waterway system of England. Hitherto the attempts at such development have been piecemeal and unconcerted—the waterways have not been town-planned, so to speak. For traction, Colonel Rayner suggested trains of non-selfpropelled boats, with tugs driven by internal-combustion engines. A fleet of tugs should run regularly to scheduled times, and should tow at fixed charges. A corollary of this sensible proposition is that depôts with wharfage, warehouse, and other station accommodation shall be provided at suitable points. Not only, therefore, will the systematized waterways afford greatly increased facilities for carrying—at cheaper rates, no doubt, than the railways charge—heavy building materials, for instance; but the design and construction of waterside warehouses and wharves will be considerably modified, and such buildings will, it must be supposed, not only alter in type but increase in numbers. We suggest that Colonel Rayner's admirable paper should be printed, and circulated as widely as possible among the general trading community, on whose interests it would certainly exercise a beneficial influence.

Whitgift Hospital: Testing the Taste of the New Parliament

Once again the R.I.B.A. has demonstrated its concern for the preservation of a venerable building. On clear realization that Croydon Borough Council really meant to petition Parliament for sanction to get rid of the Whitgift Hospital, the R.I.B.A. summoned a conference comprising representatives of the Whitgift Hospital Preservation Committee, the Society for the Protection of Ancient Buildings, the Town-Planning Institute, the London Society, the Town-Planning Committee of the R.I.B.A., the National Trust, the London Survey Committee, the Surrey Archæological Society, and, of course, the Institute itself. The conference considers that the demolition of the hospital is unnecessary for the street-widening which the Croydon Council demand so obstinately. The uncommonly ugly modern buildings on the opposite side of the road could well be spared, and their removal would provide all the space required. The irony of the situation is that these unlovely buildings actually originated the trouble. They are mushroom encroachments and excrescences on the area to which the beautiful old almshouses stand central, and the remedy now sought by the vandals is to remove, not the intruders, but the almshouses! Aided by the influential opinion of the R.I.B.A. conference, Parliament should have no difficulty about making up its mind instantly to throw out with every circumstance of ignominy the Bill which the Croydon Borough Council are so imprudently promoting. Croydon Council in passing, by forty-seven votes against six, on November 27 its degrading resolution to ask Parliament to sanction the removal of the only building in the town that has any claim to veneration, has excited the derision of the entire art-loving community. The Bill on which it is wasting the ratepayers' money will serve as an "acid test" of whether or not the new Parliament is sound on questions of amenity and good sense, and we sincerely hope and trust that his Majesty's Lords and Commons will emerge triumphant from the ordeal by taste. Many voices are heard in the Whitgift Hospital case. Those favouring the retenti of the hospital are for the moment in the ascendant. Alde man Howard Houlder, chairman of the Whitgift Found tion, maintains that the decision of the council to prese a Bill for the removal of the hospital "must by no means accepted as reflecting the views of the town as a whole A poll of the borough will almost certainly be held, ar Alderman Houlder confidently asserts that "there is a ver important mass of opinion which is strongly opposed the street-widening, which, if carried out in accordan with the statutory powers asked for in the resolution of th town council, would involve the demolition of the hospital. Alderman Houlder refers to a matter that certainly, as h says, should not be overlooked. If, he urges, the preserv tion of the venerable building is a matter of national co cern, the nation should certainly share any additional co that may be involved in adopting an alternative schem Mr. G. Lacy Hillier, who obviously speaks with hig authority on road lay-outs, maintains that as the new reli road from Thornton Heath to Purley will, when finishe divert from the Croydon High Street a very large propo tion of the through traffic, "this should alone provide sufficient reason for leaving Archbishop Whitgift's Hospit undisturbed." There are, of course, some who favour M Milnes Emerson's proposal, contributed to our pages a fe weeks ago, to shift the hospital bodily, and a firm of co sulting engineers write to say that they foresee no difficu ties whatever in carrying out this scheme. They estimat that the actual cost of moving the building some 40 ft. in north-easterly direction would not exceed £25,000, and the suppose that the cost of acquiring the property at the re of the hospital would be small compared with the cost acquiring its present site. All the same, we trust that th Croydon Bill will be thrown out. With respect to Alderma Houlder's anticipation of the satisfactory result of a town poll we are less sanguine than we are that the nation will or day awaken to a keener sense of its responsibilities for th preservation of buildings of national importance, and for th formation and maintenance of roads that, being use nationally, should not be allowed to constitute a heavy loc burden.

"The Housing and Town-Planning Record

The publication of a fortnightly record, issued b the National Housing and Town Planning Council, of whic body Mr. R. Aldridge is the well-known secretary, resumed after a suspension of a few months, the preser issue being devoted to a review of the progress made i the housing and town-planning movement during the pa five months. The "Record" also announces that th agenda for a series of conferences of local authorities to b held throughout Great Britain early in the coming year to be prepared.

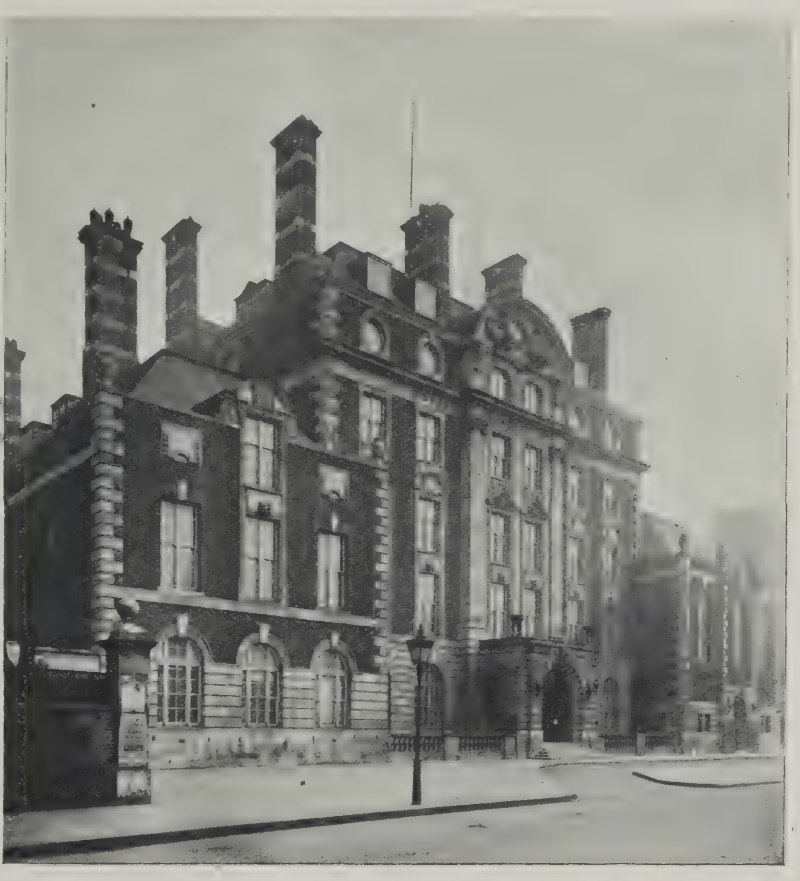
In view of the great public interest evinced in the pr posal that new houses should be exempted from municip rates for a series of years, the discussion of this matter wi be included in the agenda, as will also several of the vexe problems arising in regard to the administration of earli housing Acts concerning the clearance of unhealthy area These will include questions as to the type of house whic should be built, the desirability of re-housing on cleare sites, or the migration of the dispossessed to suburba areas, and the possibility of securing greater attention t the repair of houses not in all respects fit for huma habitation.

Full particulars of these conferences will be found o pages 881 and 882 of this issue.

he Work of the late Sir Ernest George, R.A.

N conversation with Mr. Alfred B. Yeates, who was in partnership with Sir Ernest George from 1893 up to the time of the latter's retirement from practice two years ago, some additional biographical particulars re given to a correspondent of THE JOURNAL, and he Times" gave a fairly representative list of the k carried out by the eased architect, from ich paper we give the owing :—

Rousdon, in Devon- re, built for Sir nry Peek, one of his lier and most success- works; Motcombe, Dorset; a charming all house at Fal- uth, in Cornwall; tsford, in Gloucester- re (in which county Berkeley Castle, re- red by him); Ruckley nge, Salop; Dunley l and Burbridge Park, Surrey; Sedgwick k and West Dean, Sussex; Eynsham l, in Oxfordshire, ere is also Shiplake rt, on the Thames, rlooking Berkshire; es and North Mimms, Hertfordshire; sug- tive of the pleasant ces where is to be nd his charmingly glish and restrained k, in harmony with surroundings. Far- north, his hand and e are to be seen Welbeck Abbey, which he improved and partly uilt after a severe fire, and at Crathorne Manor, in kshire, as well suited to the *genius loci* as his houses her south. A group of finely designed and commodious ses in Harrington Gardens, South Kensington, some nty houses in Collingham Gardens, the "Yellow House," swater, and houses in Berkeley Square and Mount eet exemplify his style, as do also mansions in Berkeley are and Cadogan Square.


THE ROYAL ACADEMY OF MUSIC, LONDON.

There are houses of his, too, in Cadogan Square. In Piccadilly is the shop, No. 36, originally built for Sotheran, the bookseller, while at the corner of Piccadilly and Albemarle Street is the large terra-cotta fronted building, reminiscent of his Continental journeyings, once known as the Albemarle Hotel. The City has his Royal Exchange Buildings, Marylebone his Royal Academy of Music, and Golders Green his Crematorium.

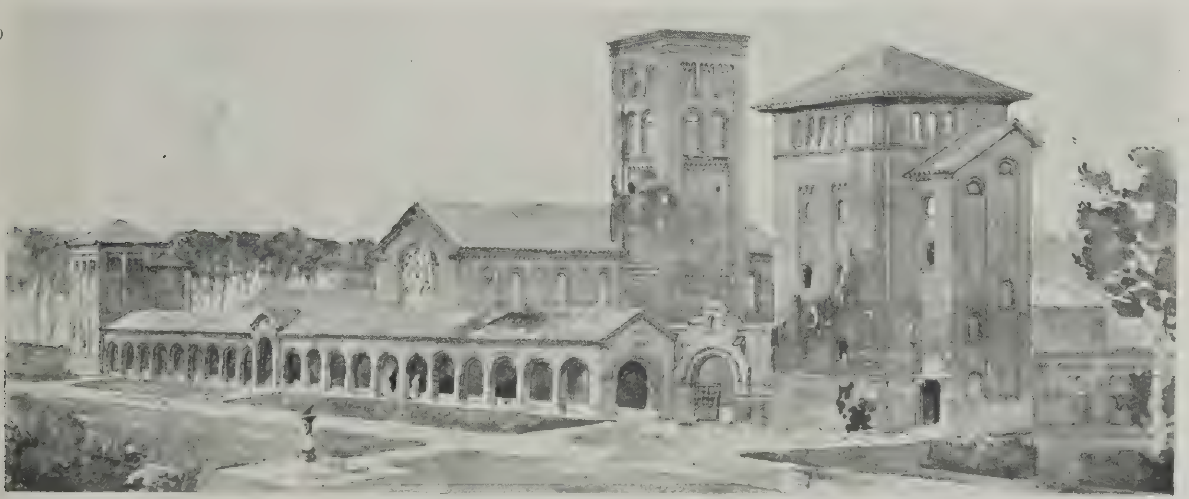
Sir Ernest George did not do much church work. St. Andrew's at Streatham (where his father lived), St. Pancras at Rousdon, Devonshire, with two English churches in the Engadine, are the sum of his efforts in this direction. Farther afield is a villa at Antibes, and the Shirpur Palace in India.

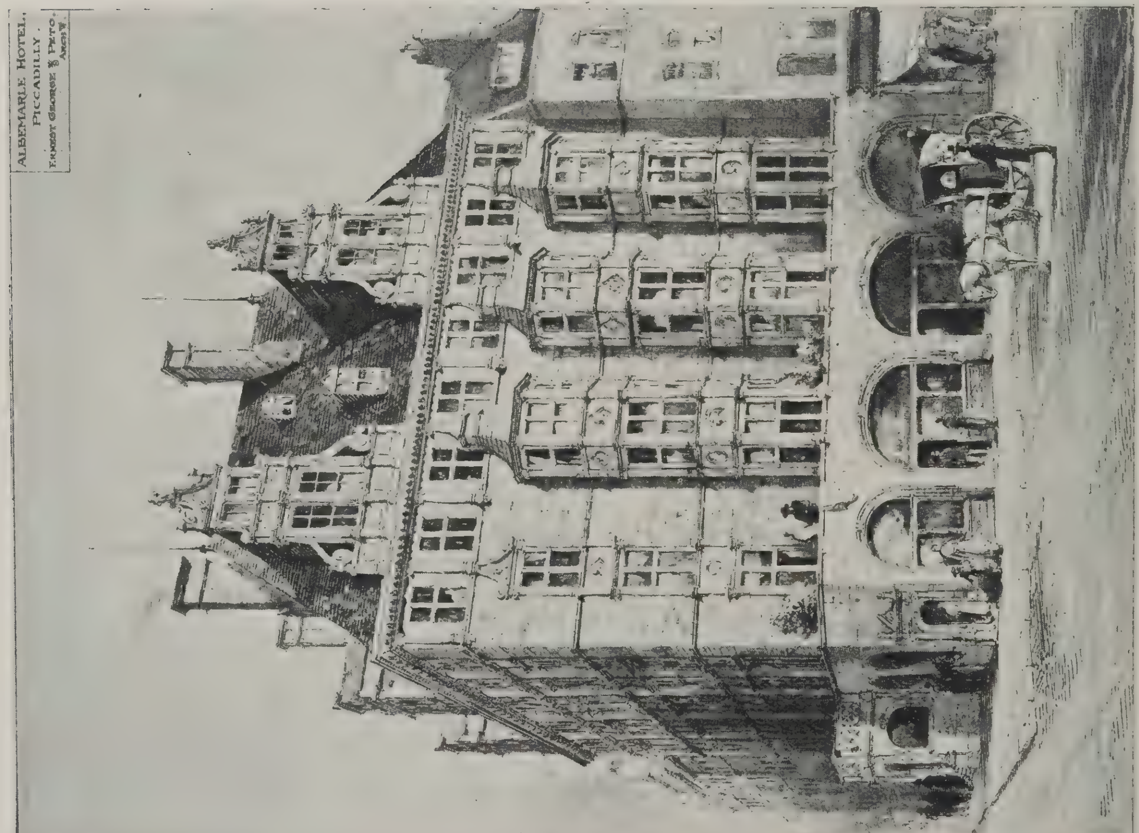
[On this and the following pages we illustrate examples of his work.]

A position in his office was much sought after by young architects and the number of leading men who were either articled to him or passed through his office shows the influence and education his work afforded. Among them were: Sir Edwin Lutyens, R.A.; Herbert Baker, A.R.A.; Arnold Mitchell, John Joass, Professor Adshead, Herbert Read, H. H. Wigglesworth, C. Farey, E. Guy Dawber, H. W. Wills, and the late David Kennedy.

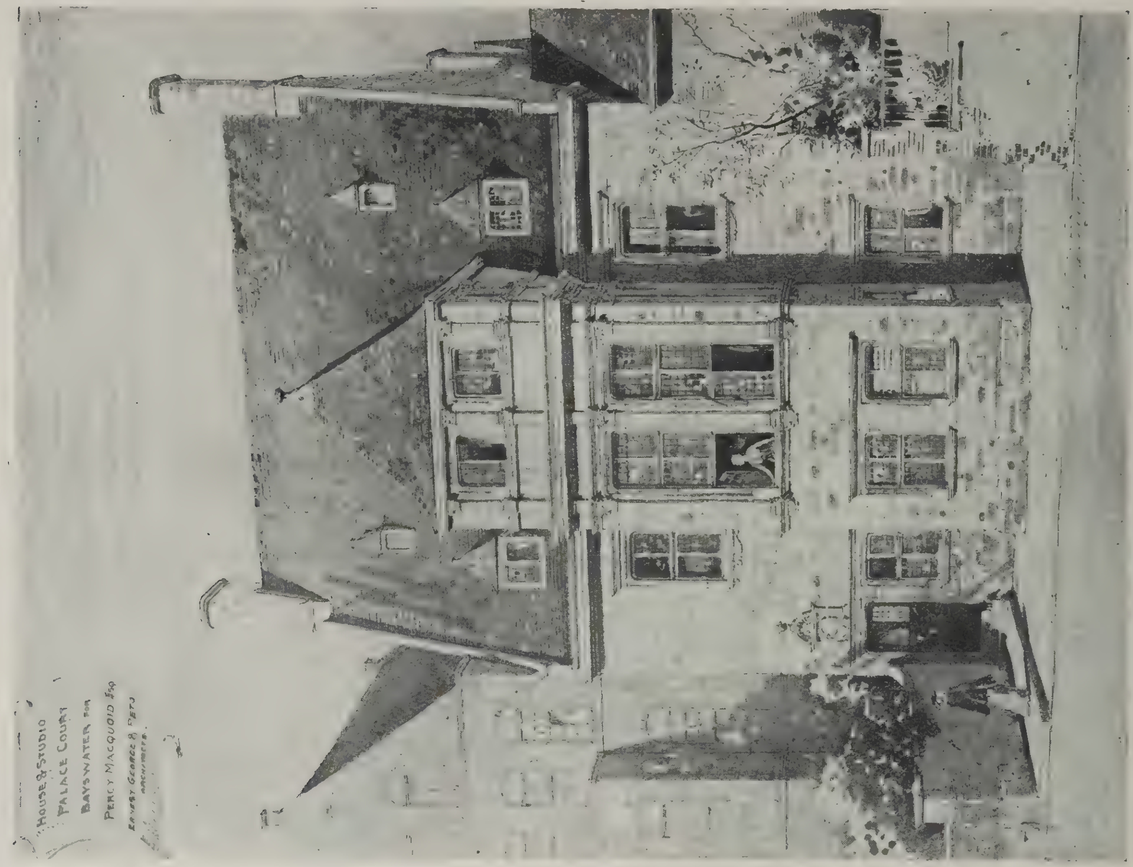
He was an exceptionally rapid worker—visualizing his work and seldom redrawing or altering details. "His disposition," said Mr. Yeates, "was a singularly happy one, and he was worried only when he had no work to do."

Mr. Yeates was able to recall the time when Sir Ernest used to ride on horseback from his house at Streatham to his place of business every morning.


THE CREMATORIUM, GOLDERS GREEN.

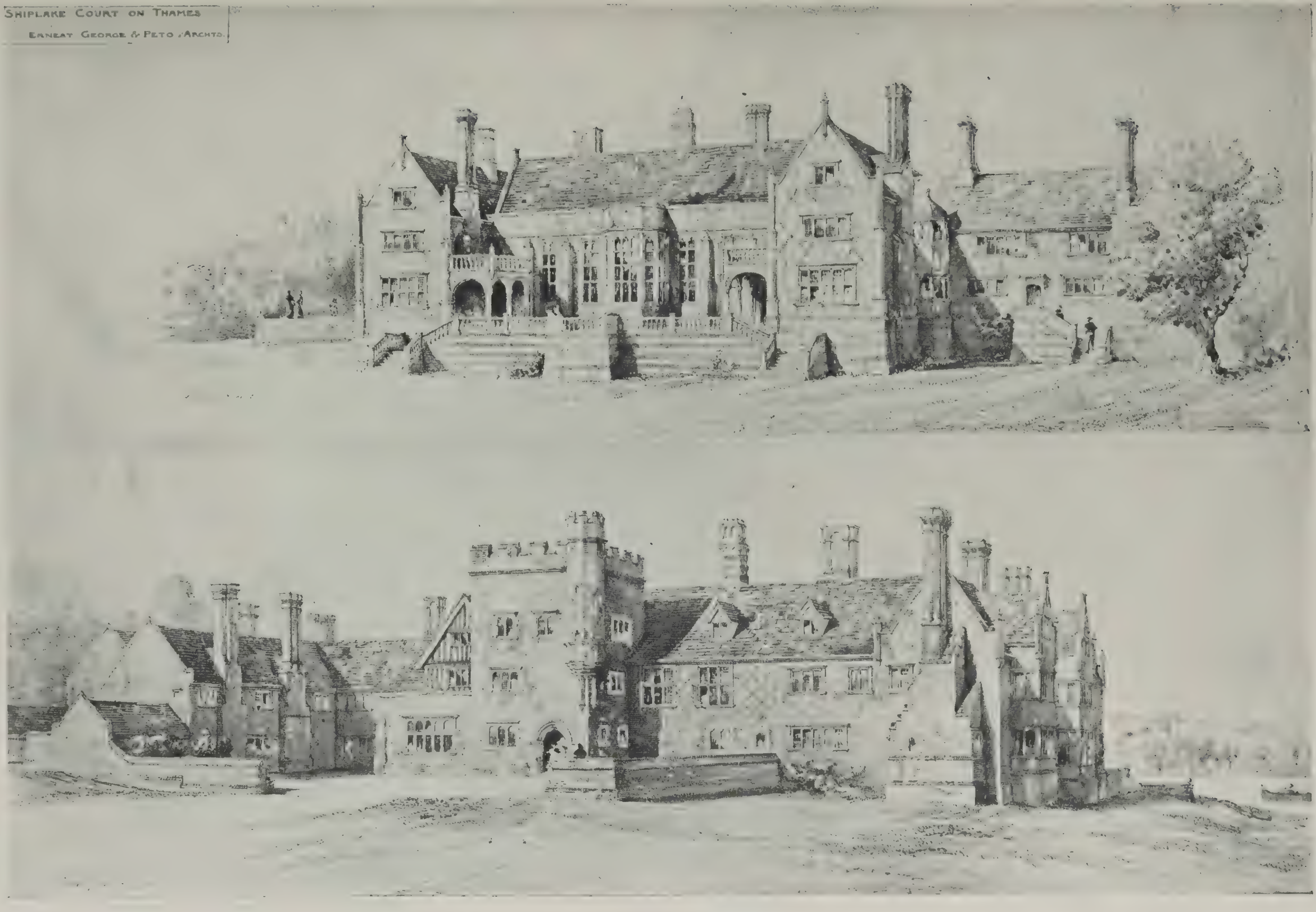


ALBEMARLE HOTEL, PICCADILLY.

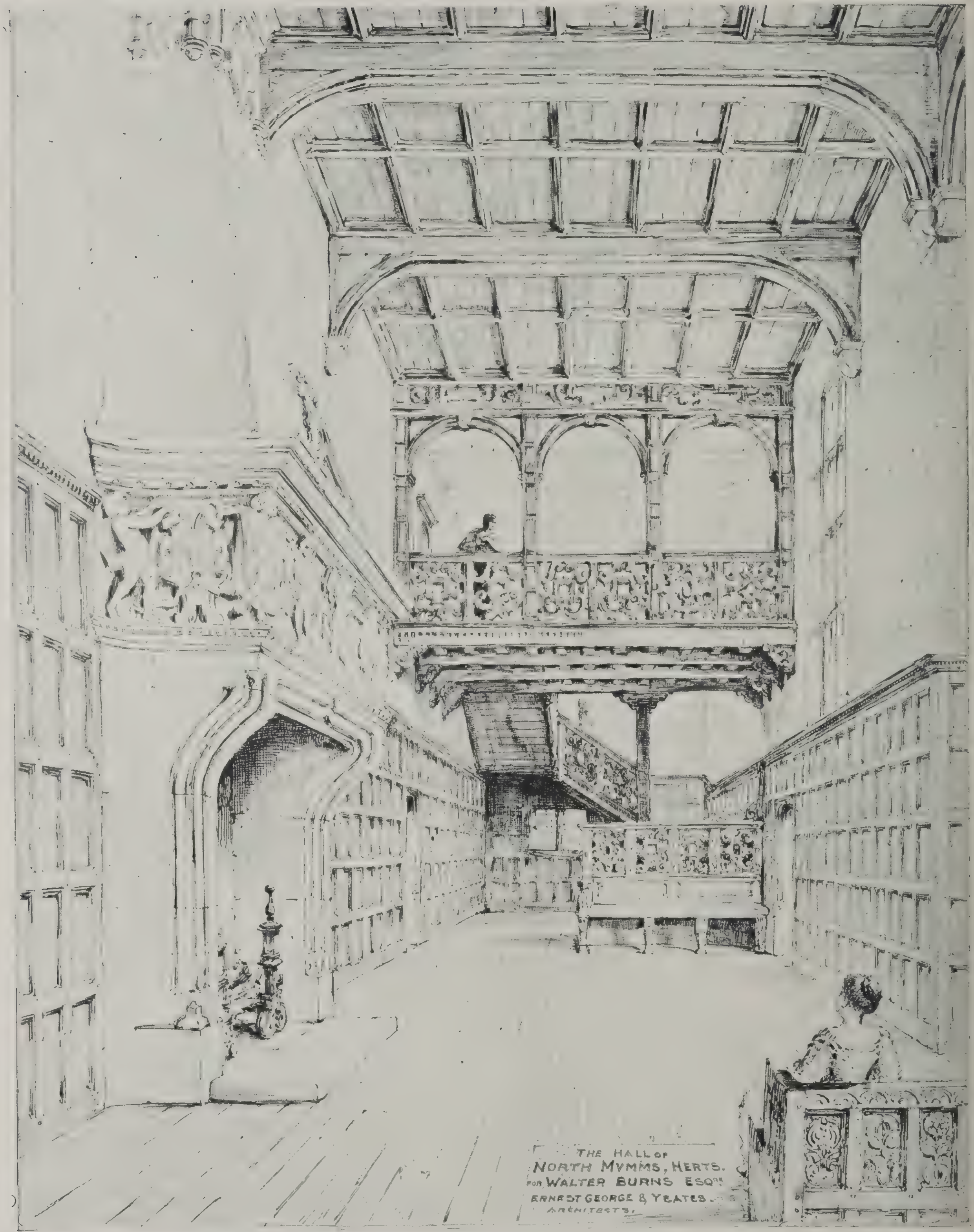


HOUSE AND STUDIO AT PALACE COURT, BAYSWATER

ERNEST GEORGE AND PETO, ARCHITECTS.



SHIPLAKE COURT ON THAMES.
ERNEST GEORGE AND PETO, ARCHITECTS.



THE HALL OF NORTH MYMMS, HERTS.
ERNEST GEORGE AND YEATES, ARCHITECTS.

Le Théâtre des Champs-Élysées

A Democratic Building

By H. BARTLE COX, A.R.I.B.A. (Membre Corr. S.A.D.G.)

(Concluded from last issue.)

HEATING and ventilation have received much attention. Comfort, in fact, has been studied in all its forms, and draughts are eliminated. In a well-heated auditorium a cold blast is often ienced when the curtain rises, but at this theatre there rrangements for a barrier of warm air between the and the hall, which are said to work efficaciously. e exterior air is taken in at the roof of the build- nd brought through filters, the surfaces of which eated by steam. The temperature of the corri- is noticeably higher than that of the audi- n. The heating is effected by five boilers ("Idéal") ɔoo calories. Certain warm-air inlets are placed under alcony loges, and outlets for the vitiated atmosphere rovided for in the base of the cupola. The renewal e air is calculated at 30 cubic metres (1,060 cub. ft.) rson per hour.

* * * * * *

lighting of this theatre is a speciality and extremely ful to the eyes. Not a single lamp is directly visible. ghting is by reflection. The small comedy theatre fly lit by a crown of invisible lamps placed along the f the cupola. The large lyrical theatre receives most light through the big shield already mentioned, from emanates a soft and diffused light, whilst the backs of ges and balconies (often dark and purposely so, for the h theatre, hitherto, has been designed in the nature "salon") are themselves illuminated by lamps con- behind the ribs which support the corbelling of the bove.

The peristyle staircases and galleries are lit through large semi-translucent glass cups suspended from the ceiling. There is an intensity, but no crudity of light. It is well distributed and admirably diffused, adds to the grandeur of effect, avoids fatigue, and forms no small part in the restrained decorative treatment of this scientifically artistic edifice.

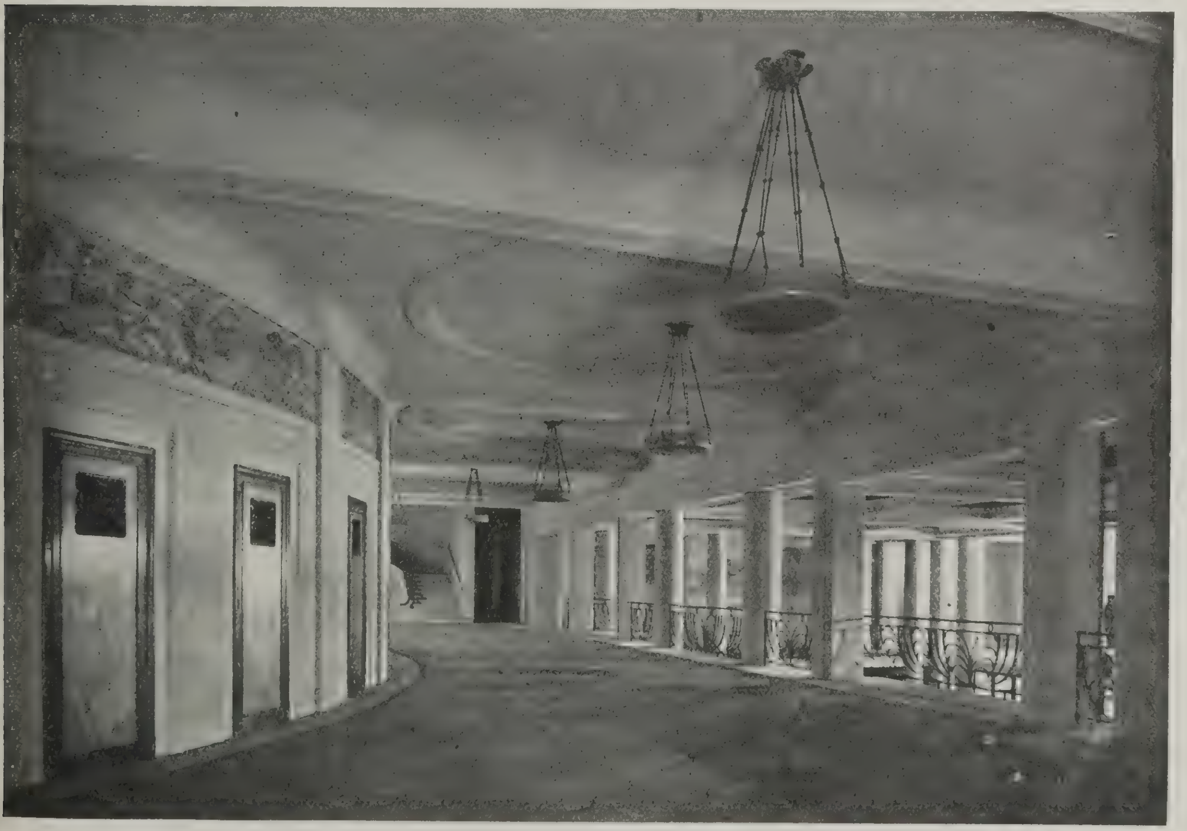
Decoration.

The distribution and installations of the building, in fact, everything touching comfort and the material exigencies of a modern "Salle de Spectacle," are unanimously acclaimed beyond criticism. However much opinions on art differ, these qualities, in themselves, speak highly in favour of its æsthetic value.

The decoration is consistent with the "programme," and no attempt at hiding a new form of construction has been made. For this reason it has been much misunderstood, for people are accustomed to false luxury.

Reinforced concrete lends itself to the realization of any shapes, but some are more expensive than others, and, therefore, less characteristic. The best form of shuttering is rectangular, consequently the straight line is the rational one. It is, perhaps, early to judge of these nascent forms. At present we are in the heroic period. In any case, Messieurs Perret have not played tricks with their material!

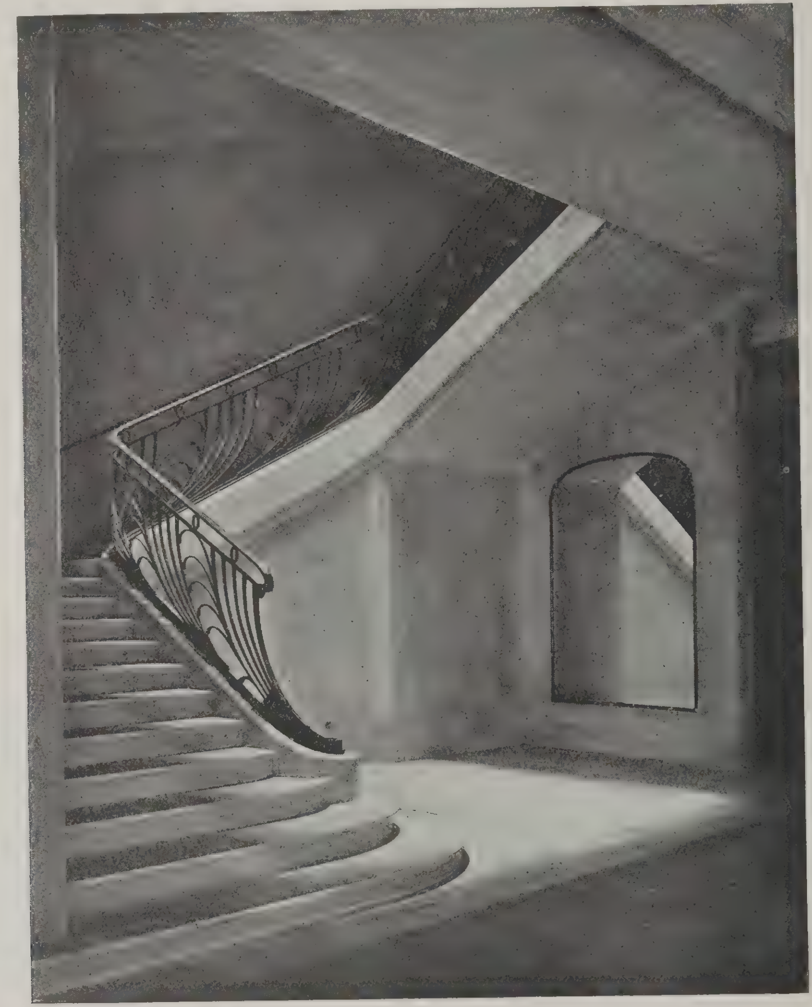
The interior of the building is much as one might expect from the exterior, that is to say, a temple of music with no warm frivolity. Severe cold beauty was new to the



ONE OF THE LOGES. A. AND G. PERRET, ARCHITECTS.

Parisians, and a deluge of invectives counterbalanced by a party Press campaign accompanied its inauguration. It is, however, a building with a strongly marked character representative of the times. Modern taste is getting tired of sham, and there is now a demand not only for economy, but for truth.

The colonnade of the peristyle has been criticized with sarcastic pomposity as belonging to the reinforced concrete order. Some people must always have "Orders," but MM. Perret have done their best to eliminate this prejudice. They have built in a new material upon entirely modern principles and treated them as such. These so-called columns are merely thin posts that go from the bottom to the top of the building, and to which the beams are affixed and not carried over them. The edifice is a monolith and not constructed on the old method of superposition or by layers. It is, therefore, illogical to expect base, shaft, capital, and entablature, and MM. Perret have had the courage to do away with them. They have merely placed little bronze bands under the ceiling to emphasize the points of junction. Round these cylindrical posts, to mark their continuity, there is a slight depression in the floor.



LE THÉÂTRE DES CHAMPS-ÉLYSÉES, PARIS: A SIDE STAIRCASE
A. AND G. PERRET, ARCHITECTS.

The beams apparent in the peristyle are covered with stone-coloured "stuc." They divide the ceiling into coffers which constitute the only ornament. The floor is paved with marble, framed with stone.

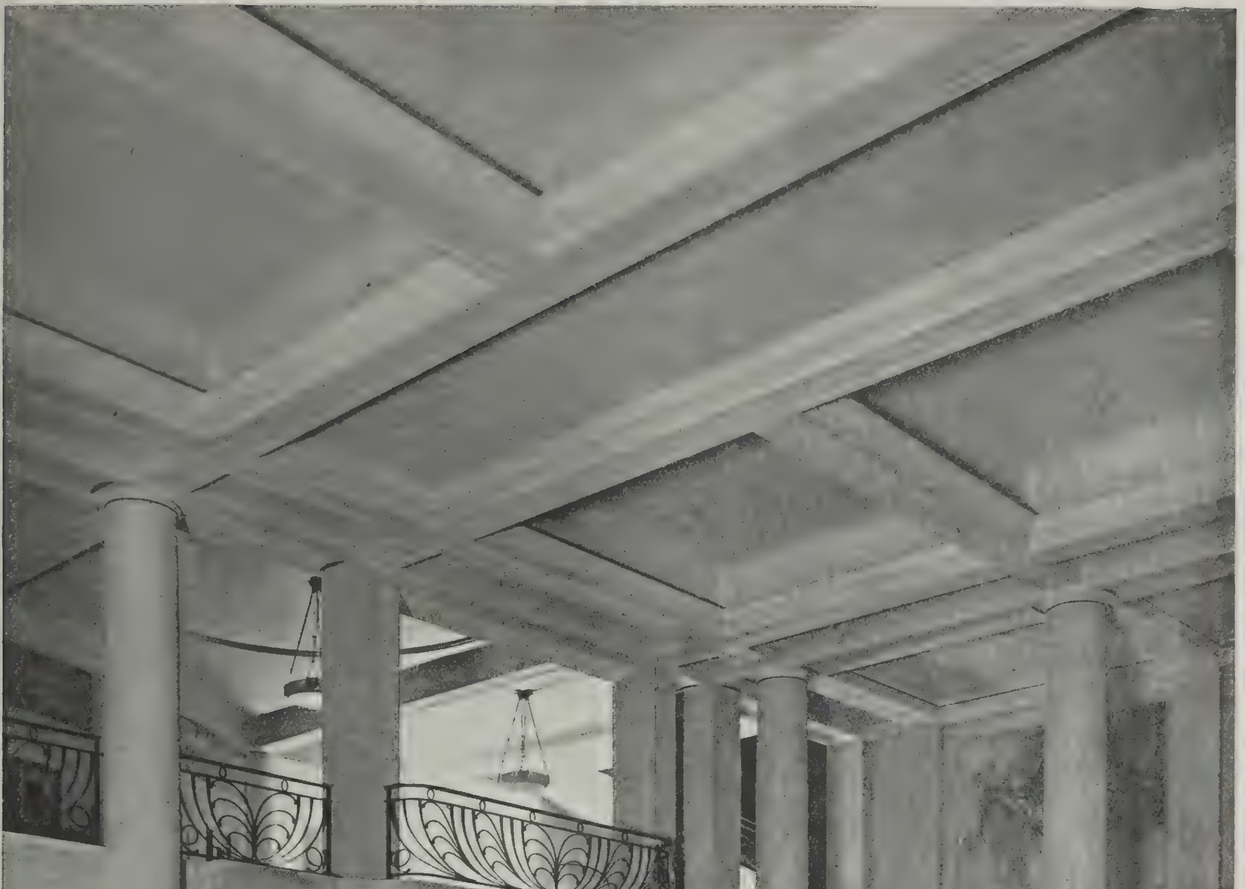
The elegant palm treatment of the wrought-iron balustrades is in harmony with the primitive character of this vestibule, a character which no sumptuous hangings, movable furniture, or fleshy oil-paintings disturb. Some panels were painted in fresco by Bourdelle direct on plaster without any attempt at polychromatic brillian

The auditorium is likened to a jewel-case. Yes ! bu must be full or it looks very empty. It is a new bea which makes one forget to praise its comfort. One longer looks at the auditorium, one only sees spectat It is admirably designed to show to advantage the bea of the fair sex. The "Opera" always looks full, but at Théâtre des Champs-Élysées there is no elaboration of g no stuffy drapery, no heavy cornices, no cupids balan themselves on thick bulging balconies. No prover cut-glass chandelier. The frame of the stage is somew richer than the rest, but the hall is noble in charac and free from the usual vulgar exuberance (cartouc caryatides, attributes), thus the spectacle on the st as well as the toilettes of the ladies in the audienc more enhanced than if an exaggerated sumptuou crushed it all out. The balconies have a gentle c edges very low, simply plated with marble, relieve copper bands. The seating is covered with amaran damask.

The cupola is decorated by the paintings of M. Ma Denis, representing in four large panels, separated by medallions "en grisaille," the history of music.

These paintings, it was hoped, would be the glory theatre, but if admired by the populace for their senti tality, their old academic composition mixed with m outlined drawing coloured in a sickly fashion leave with an insipid impression of music.

With none of the stronger qualities of the modern-a school they are falsely primitive and pseudo-mystic.



LE THÉÂTRE DES CHAMPS-ÉLYSÉES, PARIS: PERISTYLE STAIRCASE AND GALLERIES.
A. AND G. PERRET, ARCHITECTS

ideal striven after so fails to convince that they are bordering on the pornographic.

From an architectural point of view, it is unfortunate for the reputation of the co-operation in the "ensemble" that these paintings are not more in sympathy with the temper of the edifice.

The sculptures on the main façade and the frescoes round the outside of the "premières loges," by Bourdelle, are of a very different calibre. They have a strong personal conviction, so naturally have their bitter enemies and their staunch admirers.

With reference to the vigorous sculpture by Bourdelle on this theatre, the reader is referred to an article on the life and works of the master which appeared in THE ARCHITECTS' JOURNAL for March 29 and April 5 of this year. Those who dislike any transformation of the human figure, called by the naturalist distortion, and those who are enamoured with aristocratic elegance and with what is called distinction, will be shocked by these daring personal works of Bourdelle. The frescoes, however, are generally admitted to be harmonious in tone with the architecture, and the sculpture outside, whatever its taste, is in scale with the perspective.

Other artists were employed to decorate this complex organism, notably Madame Jacqueline Marval for the "foyer de la danse." Monsieur K. X. Roussel composed a *fête dionysiaque* for the curtain of the Théâtre de Comédie. In the foyer of this small theatre M. Vuillard has exercised his talent as colourist. M. Lebasque has decorated the "salon des dames," and the witty caricaturist, M. Sem, the "bar-fumoir." All these artists responded to the call of M. Thomas and collaborated under the discipline of the architects, Perret frères.

The decoration of the exterior is plain and simple. The long elevation to the narrow passage is left quite bare, only showing a rational treatment of the construction, cement posts and white brick fillings, the whole harmonious in tone, of good proportions, and composed.

The main façade to the Avenue Montaigne depends for its effect upon logical principles. It is a daring piece of work, where no artifice of decoration alters the complete expression of the construction. The richness necessary for such a monument is obtained by the materials themselves, the richest that the architect could procure, viz., marble and gold.

Nothing in this façade suggests an architecture of blocks of marble, no piling up on successive layers, but it is treated as what it is, a facing. It is easy to see that the jointing does not correspond horizontally as for a façade with courses. The architects did not wish to emphasize on the outside the use of cramps for fear of letting in water. It is interesting to note that the centre motive with the pylons of this elevation makes a perfect square. Bourdelle's sculptures are admirably in character with the subject, and make grey decorative focal spots in the right places. The rounded portion on the corner is the separate entrance to the small theatre.

The marble employed comes from Châtelperron (Allier) from a quarry once worked in the middle ages, notably for Notre Dame de Paris. The quarry, since abandoned, was specially reopened for the Théâtre des Champs-Élysées. This marble is of a light-grey tone tinted with yellow, and is not affected by frost, nor in any way deteriorated by contact with cement. Another important feature is the fixing of this lining, which is scientifically managed in such a way that any settling or movement could not cause it to separate from the wall. A serious omission in most cased buildings in the past.

Refined bands of gold discreetly indicate the assemblages and the luxurious aspect is completed by the gilding of the solid parts under the windows of the first floor.

* * * * *

The whole edifice was built in two years, and the complete cost of the entire structure (exclusive of site), including all the construction and all the decoration, was only five
million francs (£200,000). Like the theatre at Bordeau
by Louis, it was designed and built by the architect, carri
out on the principle of a contract for a ship—a lump su
for the whole job.

The Second Empire and the Third Republic.

Charles Garnier (1825-1898), author of the "Nouv
Opera" at Paris, Grand Prix de Rome, 1848, Membre
l'Institut, and Grand Croix de la Légion d'Honneur, w
probably the greatest architect of his age. His reputati
is immense, and justly so. His masterpiece, the "Opera
is a marvel of composition, one of the most admired, y
one of the least important of buildings. Designed
ancient principles, while materials of the epoch were use
it adds not one iota to the development of architecture.

It was monarchical in character, and served its purpo
admirably, but Garnier's genius, like the Second Empi
was destined to have its vogue and then to pass away as
interesting fashion. Not so with Egyptian and Goth
architecture, of which the construction and decoration w
honestly modern for its day, based on the same cand
principles now prevailing for steamships and for mot
cars.

The age makes the man, not the man the age, cons
quently the faults of fashion in Garnier's work, and t
qualities of research in Perret's, must be ascribed as mu
to the age as to the man. The "Opera" was undoubted
over-adulated in its day, but art critics are, perhaps, no
too severe on its demerits, neglecting, as they invariab
do, to study the "programme" which led to its "parti.

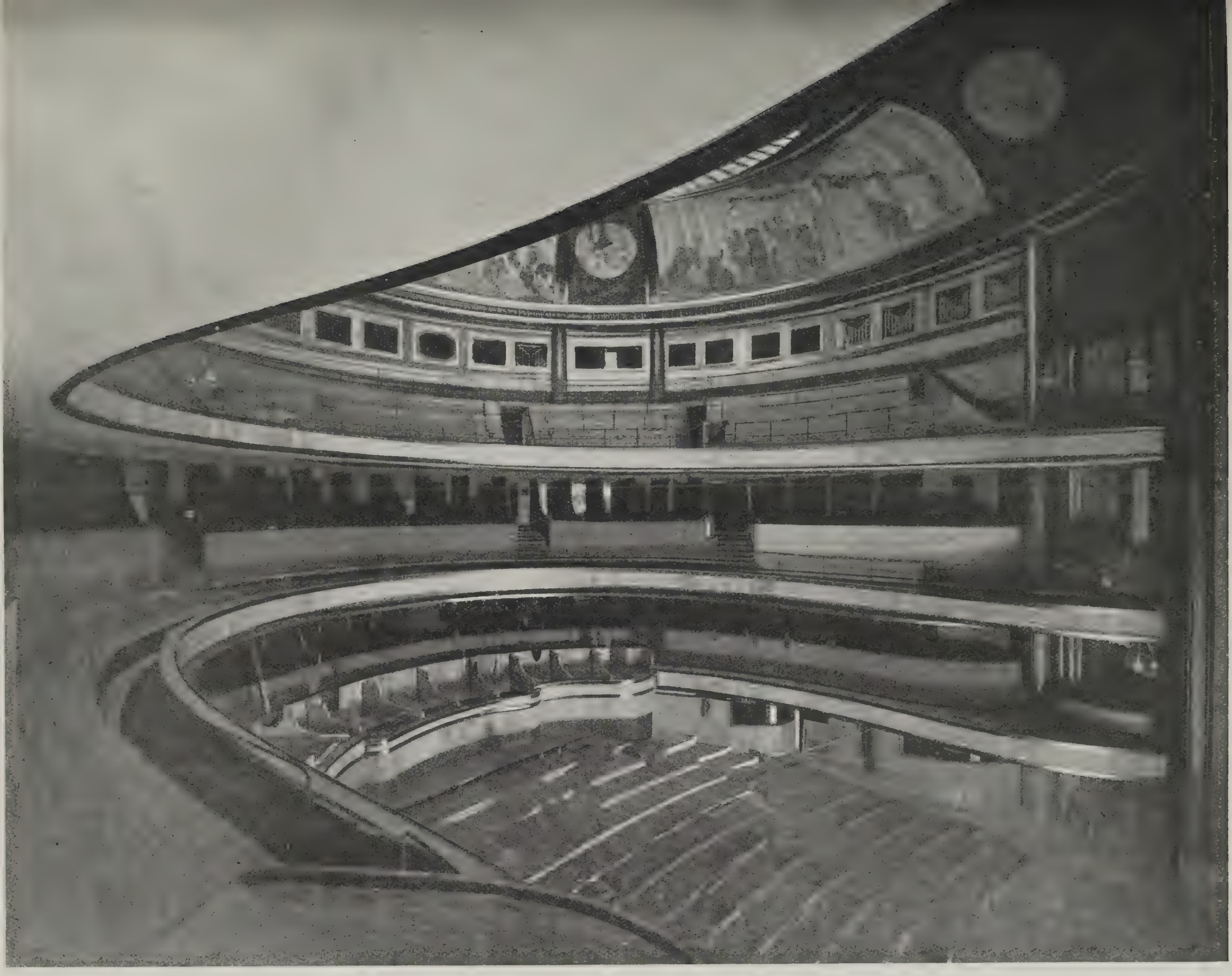
The "cassette" of the emperor was 40,000,000 frs.
year (of the epoch!). The President of the Repub
receives but 1,200,000. Political events have evolved, a
never will there be an opportunity for the realization
design such as that presented for the average Grand P
de Rome competition. However good these exercises m
be for study they are still based upon an antiquated a
pompous attitude. Great is the man, however, who, havi
profited by this training, can free himself from its tramme

Two of the greatest architects of the day, from a dem
cratic point of view, are Monsieur Tony Garnier, of Lyo
(Grand Prix, 1899), who scandalized the "Institut" by sen
ing as last "envoi de Rome" a design for "Une Cité Indu
trielle," and M. Auguste Perret, Maître de l'Œuv
of the Théâtre des Champs-Élysées. Both these men
learned and have a healthy dislike for a fastidious use
the orders. Both are practical and have a laudable co
tempt for the lazy archæological precepts of drawing-roo
architects. Both are successful because they do their b
to ennoble democratic work. Both take an interest in arc
tectural education, and admire the "École," but both prea
the necessity for a reformation of this official instituti
Their voices, together with many others, are being hea
and listenedt o; M. Tony Garnier is on the jury. In Engla
professors appear to be taking up the École methods
fifty years ago), at a time when France is striking out
modern lines.

* * * * *

M. Auguste Perret, born in 1874, was award
several medals at the École, and won the Prix des Amé
cains. At an early age he started on practical work, a
has collaborated with his brother on several factori
houses, and churches in reinforced concrete, besides t
Théâtre des Champs-Élysées, which is a landmark in t
evolution of architecture. He has travelled considerab
has a good library, but never uses books when maki
designs, nor are they sumptuously bound and ostentatiou
displayed to impress clients. He is fond of "Le Gra
Durand," which in his spare moments he studies, wi
compass in hand, in order to find out the secrets und
lying the proportions of the great architectural masterpiec
Another book he greatly admires is "Les plus excelle
bastiments de France," by Du Cerceau.

M. Perret is not a Gothicist but, though a pupil of Juli
Guadet, he appreciates the soundness of much of the tea
ing of Guadet's rival, Viollet-le-Duc, and believes with h



LE THÉATRE DES CHAMPS-ÉLYSÉES, PARIS: AN INTERIOR VIEW TAKEN DURING THE PLACING OF THE HANGINGS AND CARPETS AND BEFORE THE INTRODUCTION OF THE FURNITURE.

A. AND G. PERRET, ARCHITECTS.

that the architect (vague designation for modern work) is being rapidly replaced by the engineer. He admires the École, but only for training in composition; he feels that (like the Church) it should be separated from the State. M. Perret carries out work, not on mediæval principles, but in some respects similar to what prevailed in the Middle Ages. He is not, for that reason, a member of any of the big architectural societies. Both the Société Centrale and the Société des Diplômés request all their members to sign the "Code Guadet," which stipulates that: "Il (l'architecte) exerce une profession libéral et non commerciale. Cette profession est incompatible avec celle de l'entrepreneur, industriel ou fournisseur de matières ou objets employés dans la construction."

"L'Architecte qui se fait entrepreneur ou commis d'entrepreneur, métreur, vérificateur, perd la qualité d'architecte."

This "Code Guadet," which was conscientiously framed, is probably hindering the progress of the profession, and of late, especially since the war, is greatly attacked. Often the societies, in order to keep up their membership, are obliged to grant special dispensations. However, it is still in force and adhered to by the majority of the magnates who for the present run the profession for better or for worse. For this reason Messieurs Perret frères have many jealous enemies, and their architecture is often scathingly anathematized as the work of mere builders.

LE THÉÂTRÉ DES CHAMPS-ÉLYSÉES, PARIS: THE CENTRAL MOTIF (IN COLOUR) OVER THE PROSCENIUM.

The Théâtre des Champs-Élysées is, nevertheless, an unquestionable effort in the right direction. Much ink has been spilt in praising and condemning this building. In 1913 it was the public Press that first took the matter up, but as the articles were written by journalists the information was scanty and of doubtful origin. However, their noise was useful, for the professional papers could no longer keep silent.

A well-illustrated popular account of the decoration appeared in a special number of "Art et Décoration" (April 1913). "L'Architecture," the official organ of the Société Centrale, thought politic (May 17, 1913) to psalmodize against the exotic taste of the building in a polemical article trying to damn by faint praise. Such unpatriotic time-serving behaviour, under the cloak of sincerity, shows a lack of constructive vitality. It slowly lowers the prestige of all our old-established institutions. October of the same year "L'Architecte," a freer-lan devoted two numbers to a long, well-studied article M. Paul Guadet, who explained with much erudition æsthetic importance of this highly successful mod theatre; the article was accompanied by a large series very fine illustrations. Later "La Construction Modern in three consecutive numbers for November 1913, g a no less full account of the technical qualities and p lished numerous views. "Le Génie Civil" (April 5, 19 brought out a fully documented article by the engine M. L. Gellusseau, giving much useful information fron scientific point of view.

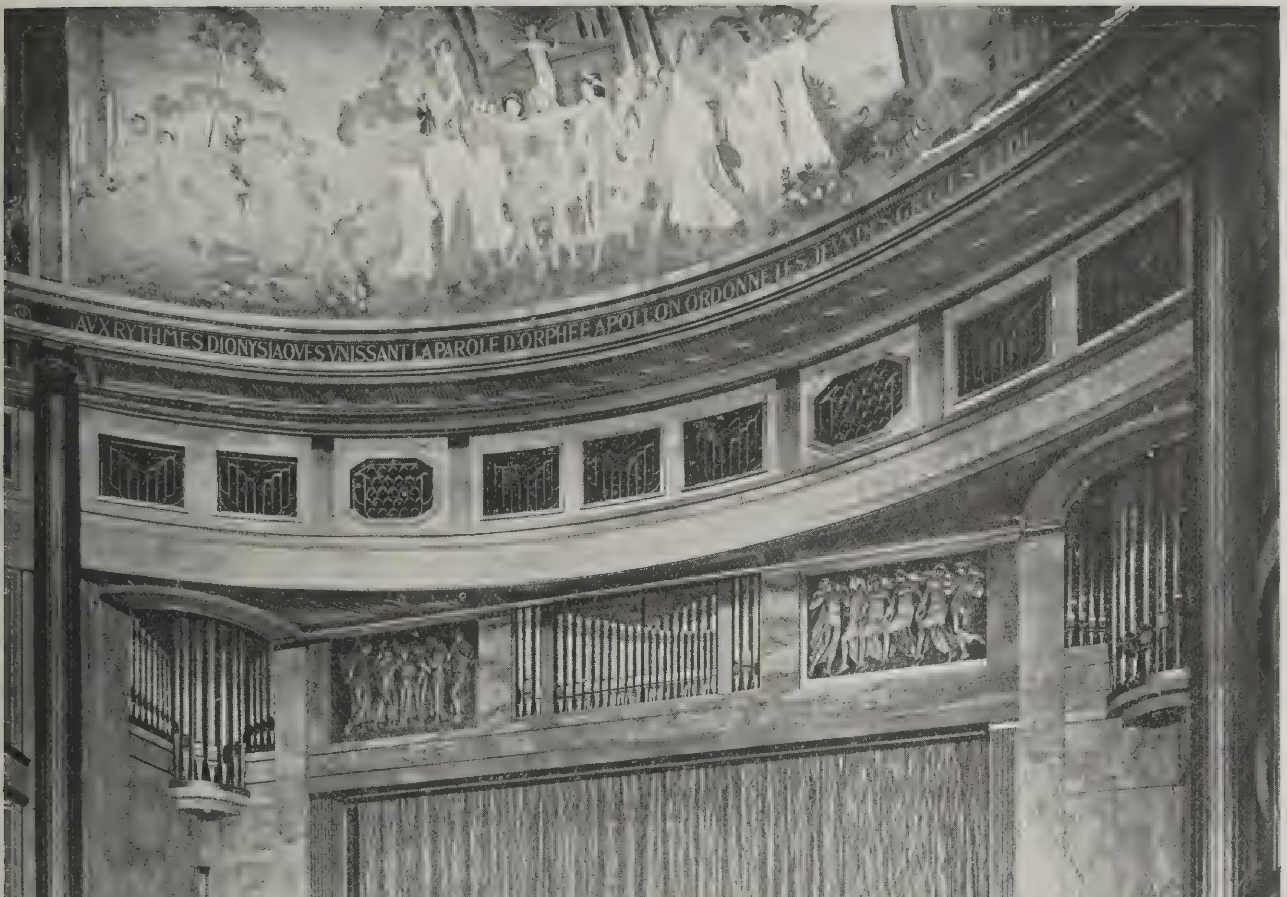
The great work on the æsthetic value of this theatre written by Monsieur Paul Jamot whom, either to uph or to refute, all the other writers quote. M. Jamot "conservateur adjoint du Musée du Louvre." His stu on this theatre is a special seventy-page illustrated pamph published by the "Gazette des Beaux-Arts," 1913. I a learned document written in a most inspired style.

Despite opinions, this building forces itself upon attention. Much credit is therefore due to the foresi of its founder, and to the faith of its administrator, Ast and Thomas.

"Le grand architecte, c'est l'état social" says Guad If such be true of Charles Garnier (the greatest expon of the "École" training) it equally applies to Augu Perret, for no other solution of the problem in quest would have rendered its erection possible. That is w the construction and decoration of this theatre passed i his hands. The buildings of the Third Republic cannot built, and therefore should not be judged, upon princip prevalent in the Second Empire.

* * * * * *

The building has been stigmatized as a poor civic deco tion, not having the aspect of a theatre, and not externa expressive of the internal arrangements. This is a kind armchair criticism characteristic of dotards and coxcom inexperienced with modern "programmes." Had State or the Ville de Paris offered a site and financed affair we certainly should have had another imitation


AVX RYTHMES DIONYSIAQVES VNISSANT LA PAROLE D'ORPHEE APOLLON ORDONNE LES JEUX

LE THÉÂTRE DES CHAMPS-ÉLYSÉES, PARIS: THE PROSCENIUM.
A. AND G. PERRET, ARCHITECTS.

"LE MUSE ET PÉGASE": A FRESCO. BY ANTOINE BOURDELLE.

the "Opera." Such may be the method for École "projets," but in twentieth-century practice it is otherwise.

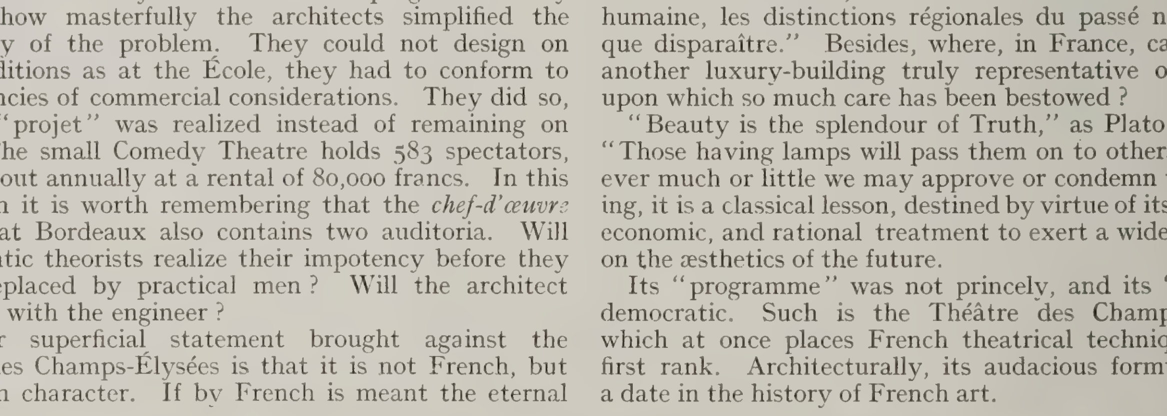
As to its aspect a modern theatre wants no great flight of steps, and (in France at least) it is unnecessary to have a pompous loggia from which a prince and his courtiers can offer themselves to the gaze of the populace. The life of a theatre is in its inside.

With reference to the external expression of internal arrangements a study of the site and programme fully explains how masterfully the architects simplified the complexity of the problem. They could not design on ideal conditions as at the École, they had to conform to the exigencies of commercial considerations. They did so, and the "projet" was realized instead of remaining on paper. The small Comedy Theatre holds 583 spectators, and is let out annually at a rental of 80,000 francs. In this connection it is worth remembering that the *chef-d'œuvre* of Louis at Bordeaux also contains two auditoria. Will our pedantic theorists realize their impotency before they are all replaced by practical men? Will the architect keep pace with the engineer?

Another superficial statement brought against the Théâtre des Champs-Élysées is that it is not French, but German in character. If by French is meant the eternal use of Louis XVI ornament, and by German a rat treatment of modern construction, then the stateme correct, but instead of being an indictment, as inter it is an unconscious compliment. M. Paul Guadet (s Julien Guadet) very aptly says in his masterly analys the building published by "L'Architecte," that "I évident aussi que, avec l'uniformisation actuelle des cédés de construction et des matériaux employés l'architecture comme, dans toutes les branches de l'act humaine, les distinctions régionales du passé ne peu que disparaître." Besides, where, in France, can we another luxury-building truly representative of the upon which so much care has been bestowed?

"Beauty is the splendour of Truth," as Plato says, "Those having lamps will pass them on to others." ever much or little we may approve or condemn this b ing, it is a classical lesson, destined by virtue of its scien economic, and rational treatment to exert a wide influ on the æsthetics of the future.

Its "programme" was not princely, and its "part democratic. Such is the Théâtre des Champs-Ély which at once places French theatrical technique in first rank. Architecturally, its audacious formula m a date in the history of French art.



LE THÉÂTRE DES CHAMPS-ÉLYSÉES, PARIS. A STUDY FOR APOLLO: THE CENTRAL MOTIF OF THE MAIN FACADE BY ANTOINE BOURDELLE, SCULPTOR.

Enquiries Answered

Foundation for Elevated Tank.

"Structural Engineer" writes: "Would Professor Adams kindly give the method of calculating the holding-down bolts and concrete foundation slab for the water-tank structure shown on the accompanying sketch. The total dead weight of the tank (full of water), including the structure, equals 70 tons, and with the tank empty equals 21 tons. The overturning moment due to wind-pressure is 424 ft.-tons, the total resultant pressure being 10·3 tons, acting with a leverage of 41 ft. above the top of the foundation. It has been suggested that four ⅞ in. diam. by 2 ft. 6 in. long anchor bolts to each post would be suitable, and the safe permissible pressure on the subsoil may be taken as 1½ tons per sup. ft. Please show calculations for four separate foundation piers, and also alternative if foundation is formed of a slab extended over the whole area. What would be the distribution of pressure on the soil in the latter case, and would steel reinforcement be necessary?"

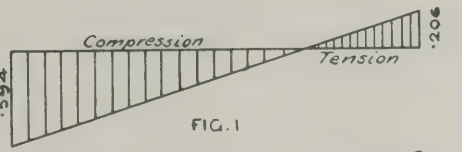


FIG. 1

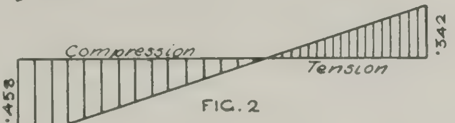


FIG. 2

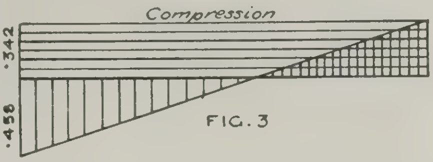


FIG. 3

—Assuming the tank full and a continuous base 20 ft. by 18 ft. the calculations will be

$$\frac{W}{A} \pm \frac{M}{Z} = \frac{70}{20 \times 18} \pm \frac{424}{\frac{1}{6} \times 20 \times 18^2}$$

=·194 ± ·4 = ·594 tons sq. ft. compression and ·206 tons sq. ft. tension as in Fig. 1. With the tank empty the calculations will be

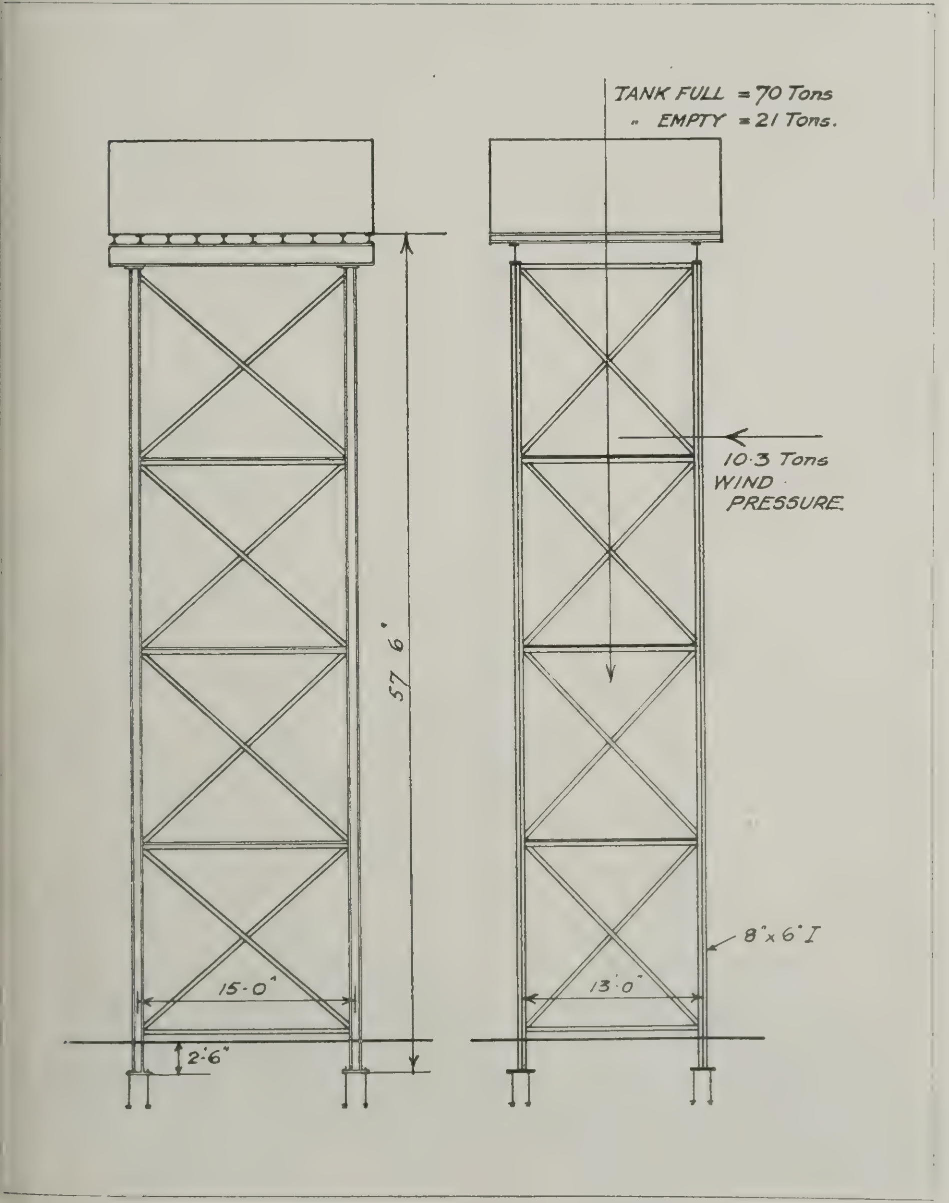
$$\frac{W}{A} \pm \frac{M}{Z} = \frac{21}{20 \times 18} \pm \frac{424}{\frac{1}{6} \times 20 \times 18^2}$$

=·058 ± ·4 = ·458 tons sq. ft. compression and ·342 tons sq. ft. tension as in Fig. 2. We must therefore add weight in the slab to extinguish the tension, as in Fig. 3, say, ·342 × 2,240 = 766 lb. per sq. ft., or a thickness of $\frac{766 \text{ lb. sq. ft.}}{130 \text{ lb. cub. ft.}} = 5{\cdot}9$, say 6 ft. With this thickness it will not need reinforcement, but the bolts should not be less than 4 ft. long with good washer-plates, say, 9 in. by 9 in. The pull on each bolt, there being four in each of the feet of the framework, will be $\frac{424}{13 \times 4 \times 2}$ = 4·07 tons. Allowing a safe working tension at bottom of thread of 4 tons sq. in. the area must not be less than $\frac{4{\cdot}07}{4} = 1{\cdot}02$ sq. in. A 1¼ in. bolt has an area at bottom of thread of ·894, which is not enough, so that 1½ in. bolts should be used.

If independent foundations be substituted for the slab the maximum upward pull on each will be $\frac{424}{13 \times 2} = 16{\cdot}3$ tons; their weight must therefore be at least equal to this, say $\frac{16{\cdot}3 \times 2{,}240}{130} = 280{\cdot}86$ cu. ft., or, say, a cube of 6 ft. 6 in. side. The maximum compression on the soil with independent foundations will be the same as the upward pull, plus the dead load, plus the weight of concrete

$$= \frac{70 \times \frac{1}{4}}{6{\cdot}5^2} + \frac{424 \times \frac{1}{2}}{13 \times 6{\cdot}5^2} + \frac{6{\cdot}5^3 \times 130}{6{\cdot}5^2 \times 2{,}240}$$

= ·414 + ·386 + ·377 = 1·177 tons sq. ft., which is well within the allowed limit of 1½ tons sq. ft. There will, therefore, be considerable saving by adopting the independent foundations. HENRY ADAMS.



FOUNDATIONS FOR ELEVATED TANK.
(*See Enquiry by "Structural Engineer."*)

The Size of Rolled Steel Joists.

Student writes: "Can you inform me the depth, etc., of a rolled steel joist, clear span 45 ft. at about 14 ft. centres, to carry only the steam pipes from three boilers. Cross joists to be at convenient centres? What is the most economic material, etc., for carrying a light load, say, two tons, over a 50 ft. span, when depth of beam has to be reduced as low as possible? Is there a rule which governs the depth of R.S.J.'s in such cases?"

—The information given is insufficient to permit of a full reply. A rolled steel joist 45 ft. span should not be less than 22½ in. deep however light the load may be, so that a 24 in. by 7½ in. by 100 lb. R.S.J. is indicated. The size and position of the steam pipes should have been given. The general rule for rolled joists is that the depth in inches must be not less than half the span in feet; every case must, however, be considered on its merits. A lattice girder is the most economical method of carrying a light load over a long span because of the increased depth that is possible. If the depth is to be reduced to the smallest limits a compound girder of rolled joists and plates is practically the only means available, but extra material is then required to overcome the deflection due to shallow depth.

HENRY ADAMS.

Proposed Improvements in Central London

By JOHN MURRAY, F.R.I.B.A., F.S.I.

IT is generally agreed that a large area north of the river in the Charing Cross district needs development in order to improve traffic conditions and to afford greater facilities for trade even if a new Charing Cross Bridge be not built. During recent years various independent schemes of improvement have been suggested; but owing to lack of co-operation among the various authorities concerned little has been carried out.

It may be thought that there is no great likelihood of any large development taking place immediately, but I venture to suggest, in order to prevent any further unnecessary interests accruing, that the problem should be considered without delay by the authorities concerned, including the London County Council, the Westminster City Council, the Holborn Borough Council, the Lambeth Borough Council, and the railway companies.

There is a great need for central offices for Colonial trade similar to those now being provided for America by the Bush Building in the Strand. These offices could all be erected in the proposed new thoroughfares shown on the accompanying plan, and the opening up of Central London in this way should result in the greatest improvement that has been attempted in the Metropolis since Regent Street and Regent's Park were laid out by the Crown about a century ago and presented to the public under the auspices of King George IV.

It is desirable that a decision be arrived at regarding the necessity for a Charing Cross Bridge, and in the event of its being deemed necessary the position should be agreed upon and further vested interests in that connection restricted.

The street improvements which I suggest would afford additional traffic facilities in the Charing Cross area, and at the same time provide for future traffic across the river by the proposed Charing Cross Bridge should it ultimately be built. The location of the bridge should be fixed with full regard to the best approaches procurable on the north side of the river, for it is to this point that the traffic to and from the proposed new railway station of the South Eastern and Chatham Railway and the existing station of the South Western Railway on the opposite side of the river would converge.

The possible developments in the district that are required in order to accomplish the proposed improvements are very large, but I am convinced that if they were all considered and undertaken in a thoroughly comprehensive and businesslike way the whole problem could be solved in sections, and largely by private enterprise controlled by the authorities. I also think that if the schemes were all worked out upon sound business principles, the capital invested in the improvements on the north side of the river would result in a dividend-paying investment, whilst in addition the benefits to the community would be very great.

The primary essentials are combination of the authorities as suggested above and the raising of the necessary capital. The amount required would be very large, but thousands of millions have been raised for war, and, I think, for the development of British trade it should be possible to raise the necessary amount of capital on a business basis from private sources if it were approved by the interested authorities and guaranteed by the security of public assets. If the improvements were undertaken on bold lines, they would, I think, result in a great trade development, not only of London and the country, but of the empire.

I, therefore, venture to submit the following list of improvements as indicated on the accompanying plans, together with some views thereon for consideration :—

The opening up of the Charing Cross district around the Strand area by the formation of a large open space or "Place" partly on the site of the present Charing Cross Station from which could radiate about ten important streets.

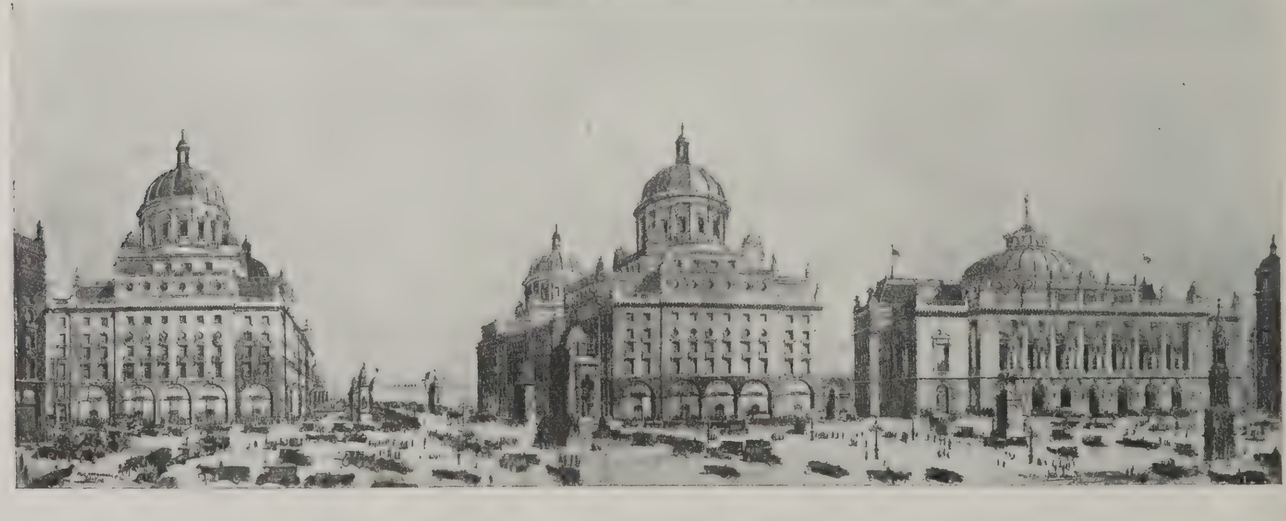
The enlargement of Piccadilly Circus and the formation of a new large open space, in the form of a new Piccadilly Square, by the removal of the Pavilion Theatre block, etc., from which would radiate seven important streets.

The connection of these two open spaces by a new broad Imperial Way running eastward from the north side of Leicester Square across Charing Cross Road and St. Martin's Lane, bending southward, skirting and affording ample additional access to Covent Garden Market, thence down Agar Street, widened on the east side, into the Strand and the new "Place." If, however, the bridge be not built, the Imperial Way would still supply a great traffic need by terminating at the Strand.

From about the centre of the "Place" at the Strand, opposite the centre of Coutts' Bank, a new high-level Charing Cross Bridge could, I submit, be best constructed.

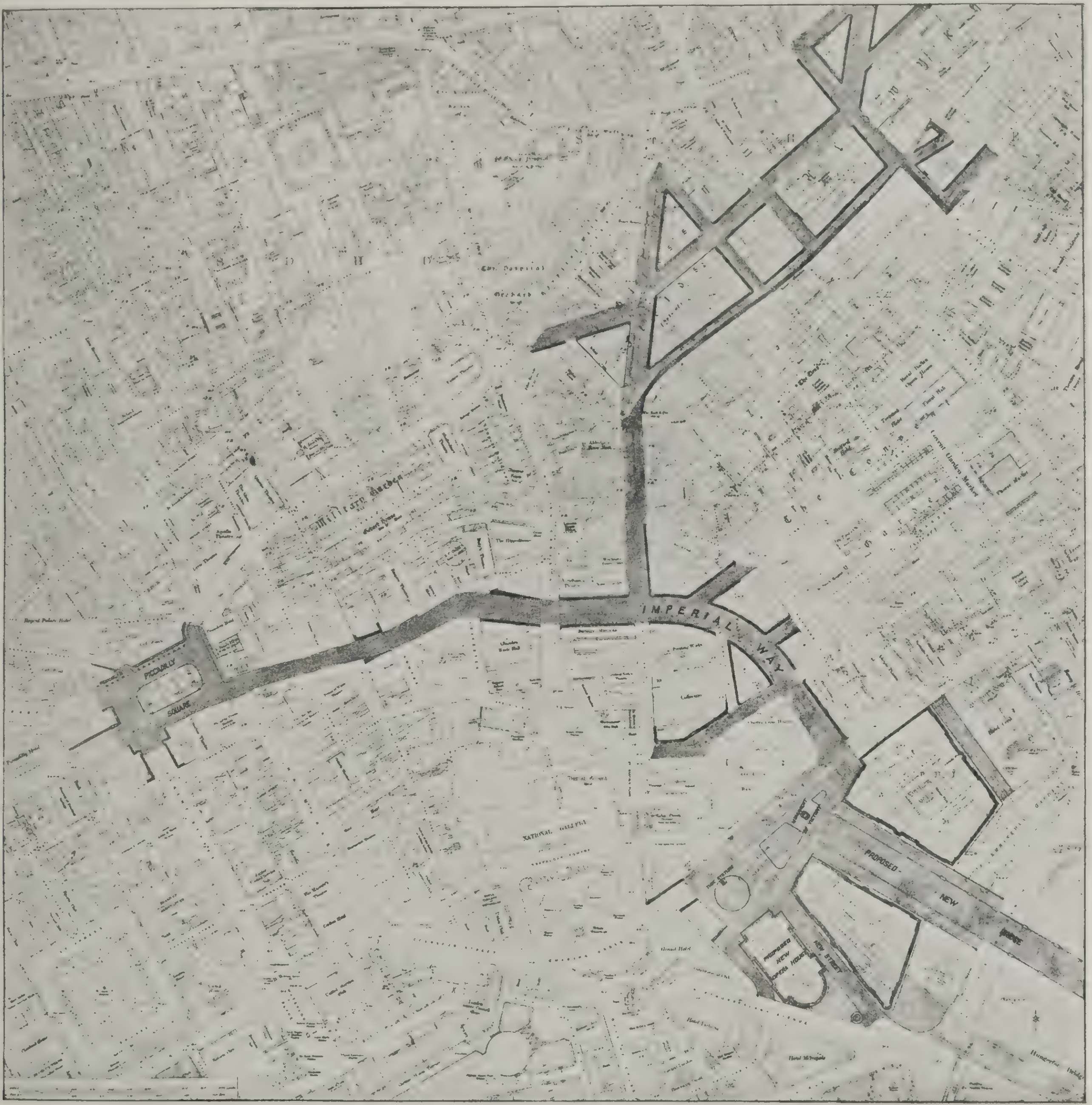
It is impossible to provide adequately for the increased traffic from a new bridge solely by the existing roads on the north side of the river, as they are all at present congested by the existing traffic, and a new bridge would be a distributor of an enormous amount of additional traffic.

The transference of the present Charing Cross Station to the south side of the river, as proposed by the London Society would afford full scope for all these great improvements on the north side, and the pedestrian traffic across the river could be sufficiently provided for by motor-buses tube railways, and covered ways on the new bridge. The necessary compensation to the South Eastern and Chatham Railway Company, now amalgamated with the South Western, should not be an insuperable obstacle. No better position appears to be possible, or smaller site desirable, for the future enlarged South Eastern and Chatham Railway Station than the island site bounded by the southern approaches to Waterloo and Charing Cross Bridges, York Road, and



IMPROVEMENTS IN CENTRAL LONDON: VIEW FROM THE STRAND LOOKING OVER THE RIVER THAMES. SUGGESTED BY JOHN MURRAY, F.R.I.B.A., F.S.I ıe river. There a magnificent station ıd hotel could be built facing the river, ith the two bridges as main arteries ading to and from them. They could, oreover, be completed before the pre- nt Charing Cross railway bridge, sta- on, and hotel were interfered with in ıy way.

The cost of the new bridge itself, and ıy compensation for trade disturbance quired for the street improvements, if ised by public funds, would not be a



PLAN OF IMPROVEMENTS IN CENTRAL LONDON. SUGGESTED BY JOHN MURRAY, F.R.I.B.A., F.S.I
(ALSO SHOWING THE HOLBORN IMPROVEMENTS SUGGESTED BY SIR GEORGE PARKER.)

rious addition to the rates of the County London chargeable on the rateable lue of forty-nine millions, and the cost ould be fully justified by the additional tes from new buildings, and the in- eased trade and prosperity which would sue.

The extension of the tube railways om Waterloo Station to the London idge stations, in order to link up the ffic from those stations directly with West End of London.

The gradual construction of a system low-level tube railways from a large central underground station in the Covent Garden area, from which could radiate in practically straight lines tube railways out to the docks, and to the outskirts of London extending about 15 to 20 miles. By this additional and quite feasible means of transport the public, and also agricultural produce, could rapidly be conveyed daily between the open country and any part of London, whilst the roads of Central London would be greatly relieved of traffic and consequently of much wear and tear. Agricultural produce could be conveyed by road motor traction from the country to the outlying stations. The motor vans or lorries could be run at night on to train trucks and transported to Covent Garden or any part of London, being raised by means of lifts at the stations to which they were consigned. The empty vans or lorries could be similarly returned to the outlying stations and the country. The low-level tubes, if properly constructed, could run deep in the London clay, under buildings, the river, docks, etc., without any difficulty or detriment to property. The housing problem could thus be largely solved by building houses in the outlying districts where land would be cheap and rates low.

The rebuilding of the old property in Regent Street and the neighbourhood, which is now progressing rapidly, and the additional trading that will be produced thereby will certainly, in a few years, necessitate some substantially increased traffic facilities in this part of Central London.

The important road and housing improvement scheme which has been suggested by Sir George Parker for the Holborn district, and is shown on the plan to the north of St. Martin's Lane, could proceed simultaneously and could connect with the new Imperial Way at the north end of St. Martin's Lane, thus opening up the Holborn district and connecting it directly with the South of London.

With the exception of the new station and hotel, the construction of the proposed embankment and the laying out and rebuilding of the property on the south side of the River Thames could be more satisfactorily carried out after the more urgent improvements on the north side and the new bridge are completed. When this is done the value of much of the property on the south side would be very greatly enhanced, and the increased value might be credited to the improvements.

Breadth of outlook and the exercising of foresight are necessary in these very important and interdependent matters, and the full consideration of them should not be delayed until the necessity is overwhelming, otherwise additional vested interests, much increased expense and loss to the community would be involved, whilst an early commencement with some of the street improvement work would relieve much unemployment.

Properly organized loans, spread over a number of years and guaranteed by the authorities, should, I think, suffice to raise the large amount of capital that would be needed for the street improvements so far as the property and new streets are concerned.

The whole of the schemes could pro
ably be best considered by a special com
mittee to include representatives of a
the interested authorities.

As soon as a complete scheme is agree
upon for developing Central London
receive increased trade and traffic, th
time will then be ripe for considerin
the provision of additional and eff
cient transport for additional forei
and Colonial traffic and merchandi
in the form of the proposed ne
Channel tunnel under the Straits
Dover.

The Tragedy of the Adelphi

It is now definitely announced that the Adelphi—"one of the finest building sites in London"—is to be sold. Negotiations are now being opened, it is said, which may lead to a great hotel for American visitors to London being built. It was thought, after the Freemasons had decided not to build their memorial hall on the Adelphi site, that it would be allowed to remain a residential quarter. The owner, however, is determined to sell the estate, for which it is understood that he is asking £1,000,000.

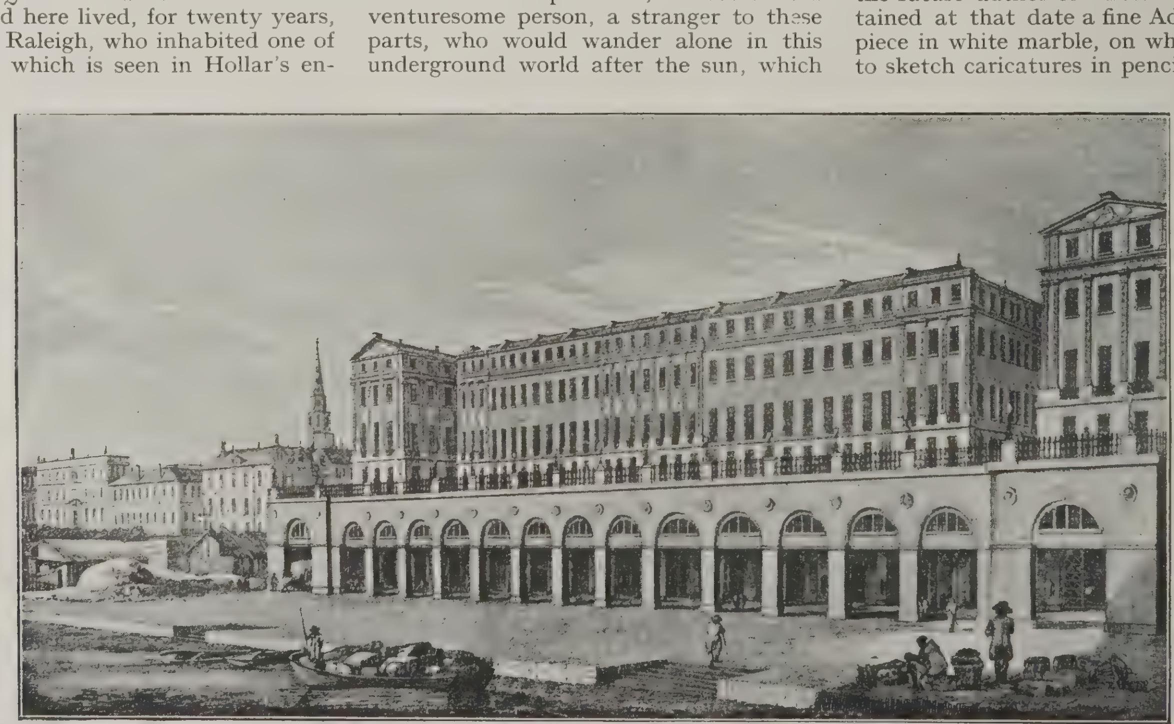
Apropos of the present controversy which is raging upon the subject of the Adelphi's threatened destruction, Mr. Fisher Unwin has sent to us a copy of "A Literary History of the Adelphi and its Neighbourhood," by the late Austin Brereton, and to him we are indebted for the permission to reproduce illustrations and the following passages from the book:—

Within that small space which has been known as the Adelphi since 1772, a district so confined that it is contained within five hundred square yards, came, in its earlier years, several bishops and other clerical dignitaries, then that prince who was afterwards the fifth King Henry of England, anon, amid much pomp and pageantry, King Henry VIII. Queen Mary and Queen Elizabeth were familiar with it, and here lived, for twenty years, Sir Walter Raleigh, who inhabited one of the towers which is seen in Hollar's engraving of Durham House. Lady Jane Grey went hence to the Tower and thence to the scaffold. Dryden alluded to it in one of his plays, Voltaire drank wine here, and its memory is hallowed by Dr. Johnson, Oliver Goldsmith, Sir Joshua Reynolds, and a host of other celebrities. Here David Garrick began his career, and here, curiously enough, he ended it, the funeral procession of the "poor player" reaching from the Adelphi to Westminster Abbey, those who followed him to the grave numbering many men of rank and genius, including Johnson, and a large concourse of the general public who grieved for the loss of the great actor.

The history of the world-famous banking firm of Coutts & Co. is indelibly associated with the Adelphi. Dickens, when a boy, prowled about its dark arches—until lately one of the most degraded spots in London—and last, though not least, the Brothers Adam.

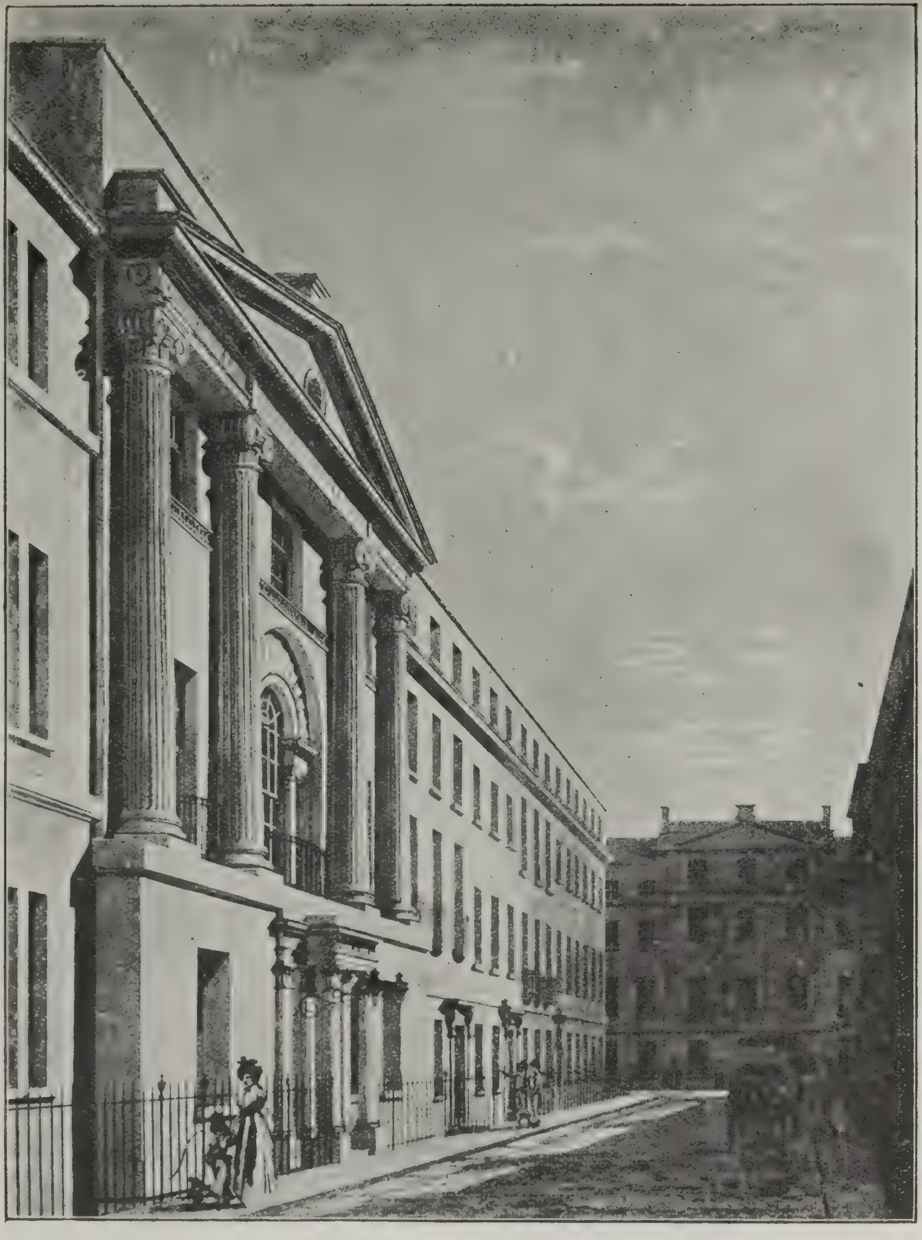
Underneath "Adelphi Cottages," and extending below the houses of the terrace, and John, Robert, and Adam Streets, are the famous arches, which few people have ever visited. The gloomy recesses do not conduce to joy, and, although the footpad has scant opportunity for indulging in his nefarious practices, he would be a venturesome person, a stranger to these parts, who would wander alone in this underground world after the sun, which
never enters these passages, had ceased
illumine the earth above. Hundreds
thousands of bottles of wine are in bri
here, and a most admirable place for th
purpose it is. The underground Adelp
is absolutely dry, and the temperatu
does not vary five degrees in the cour
of a year. Far removed from the nois
Strand—in regard to atmosphere an
surroundings—there is one arch, dar
indeed, and shut off from the outer wor
by huge gates, which are some distan
away, where, many feet below the surfa
of the streets, is a secret entrance to th
premises of Coutts' old bank.

One of the most notable residents
the Adelphi in modern times was M
Thomas Hardy, who, happily still wi
us, lived at No. 8 Adelphi Terrace in th
years 1863–67. During that time "I s
there drawing," he wrote to a frien
"inside the easternmost window of th
front room on the first floor above th
ground floor, occasionally varying th
experience by idling on the balcony.
saw from there the Embankment ar
Charing Cross Bridge built, and, of cours
used to think of Garrick and Johnson
Mr. Hardy, who was born in 1840, w
then practising architecture under S
A. Blomfield, A.R.A. The room in whi
the future author of "Tess" worked co
tained at that date a fine Adam mante
piece in white marble, on which we use
to sketch caricatures in pencil.

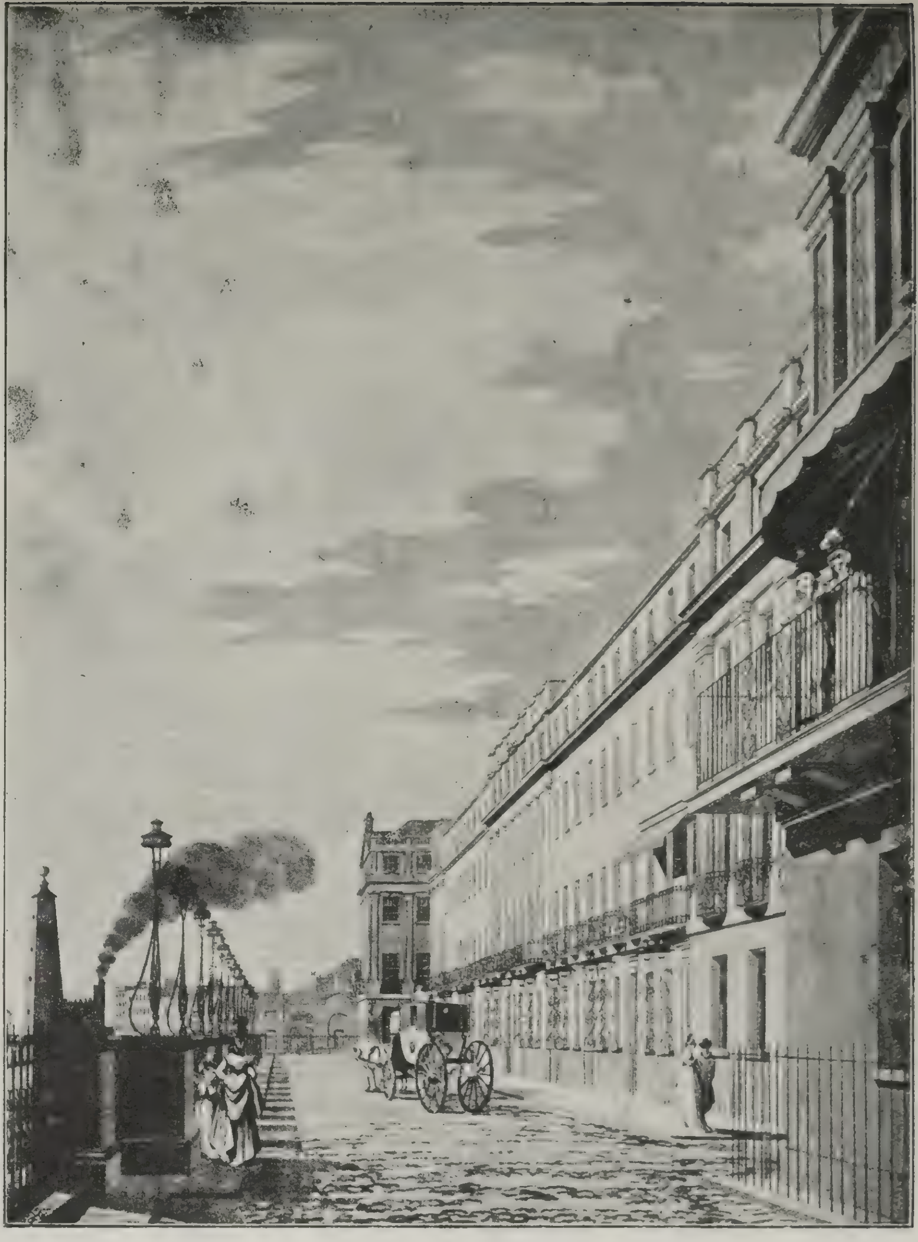


"THE BUILDINGS, CALLED THE ADELPHI," 1777. ROBERT AND JAMES ADAM, ARCHITECTS.

(*From "A Literary History of the Adelphi and its Neighbourhood."*)



THE SOCIETY OF ARTS. JOHN STREET, ADELPHI.



ADELPHI TERRACE IN GARRICK'S TIME

ROBERT AND JAMES ADAM, ARCHITECTS.

(From "A Literary History of the Adelphi and its Neighbourhood.")

A New Branch Bank in Clapham

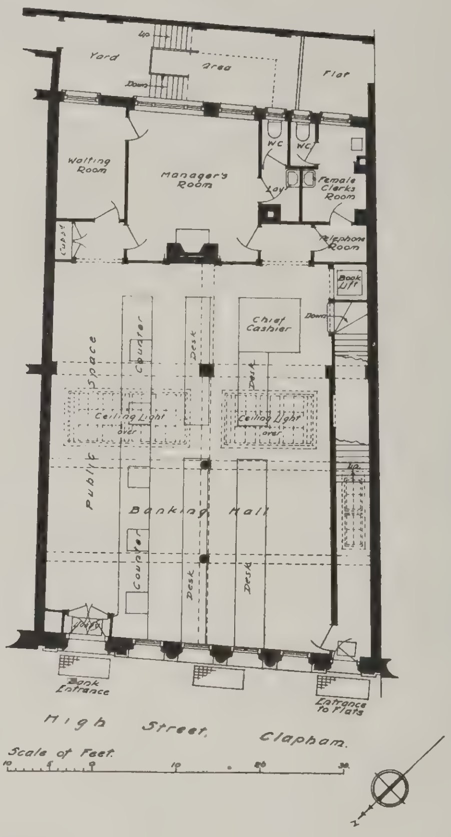
J. W. STANLEY BURMESTER, F.R.I.B.A., F.S.I., ARCHITECT

THIS branch bank has been erected in High Street, Clapham, for the London County Westminster and Parr's Bank, Ltd. Mr. J. W. Stanley Burmester, F.R.I.B.A., F.S.I., was the architect.

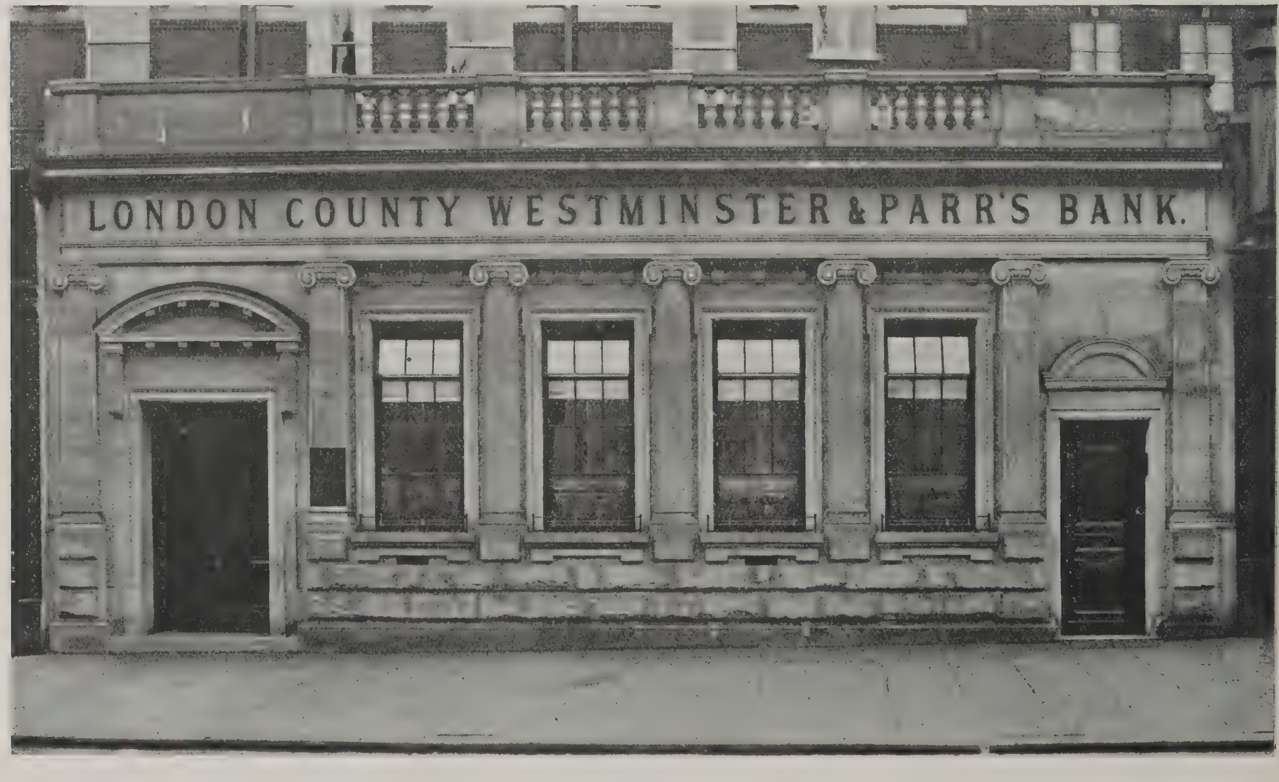
On the ground floor is a large banking hall lighted by means of overhead ceiling lights and by four windows on the principal front; the manager's room, a waiting-room, female clerks' room, telephone-room, a book lift, and the usual offices. At the back of the premises is a yard and area and above the bank are three residential flats.

The front of the building is of Portland stone. The entrance shown on the left of the illustration is for the use of the bank, and that on the right for the residential flats. The total cost of the work was nearly £18,000. The carving was executed by Messrs. Gilbert Seale & Sons, Ltd.

Messrs. Holliday and Greenwood, Ltd., were the general contractors, and the sub-contractors were as follows: Messrs. Haywoods, Ltd. (pavement lights); H. and C. Davis (iron staircases); H. Young & Co. (steel construction); Robert Adams (steel sashes); Marryat and Scott, Ltd. (bullion lift); Art Pavements, Ltd. (mosaic paving); Bratt Colbran & Co. (stoves); Wontner Smith, Gray & Co., Ltd. (heating); Ewart and Son, Ltd. (califorts); Zeta Wood Flooring Co. (wood block floors); Ogilvie & Co. (bank fittings); Ragusa Asphalte Co. (asphalting); Highton and Son (title lettering); and B. Finch & Co., Ltd. (sanitary fittings). The Portland stone front was executed by the Bath and Portland Stone Firms, Ltd.



GROUND FLOOR PLAN.



THE EXTERIOR

Steel Frame Buildings*

An Explanatory Note upon the Joint Conference Report

By EWART S. ANDREWS, B.Sc.Eng., M.I.Struct.E.

THE design of steel-frame buildings in the London County area is governed by the L.C.C. (General Powers) Act, 1909. Several difficulties soon arose as to the meaning of some of the requirements of the Act, and in consequence the district surveyors convened a conference of representatives of the R.I.B.A., the District Surveyors' Association, and the Concrete Institute. The conference met in the early days of the war, with Mr. F. R. Farrow, F.R.I.B.A., s chairman, and Mr. H. Kempton Dyson s hon. secretary, and their report was elayed by the war and has just been ssued in the journal of the Concrete nstitute.

Experience has shown that it was unwise to include rules for design in an Act of Parliament, and that it would have been much better for the Act merely o authorize the preparation of regulations to receive the assent of the Government Department concerned, and to be placed on the "table of the House" for discussion in Parliament should any ggrieved person wish to ventilate his views. This procedure was, in fact, ollowed in the case of the Reinforced Concrete Regulations, and has the great dvantage that the regulations can be mended without involving the starting troubles of the machinery for bringing in an amending Act of Parliament.

As a matter of fact a new "omnibus" London Building Act for bringing into line the very many Building Acts of the past is long overdue, but we cannot hope for this to come into being for several years; meanwhile the Joint Conference Report will act as a very useful relief from some of the most onerous provisions of the Act. The report cannot, of course, alter the Act, but by giving liberal interpretation wherever possible some of the greatest hardships have been in part remedied, and the report is drafted with considerable skill, and merits a close study by structural engineers and architects.

In this article it is proposed to explain the principal provisions of the report, and to illustrate by numerical examples the effect upon detail design of some of its recommendations.

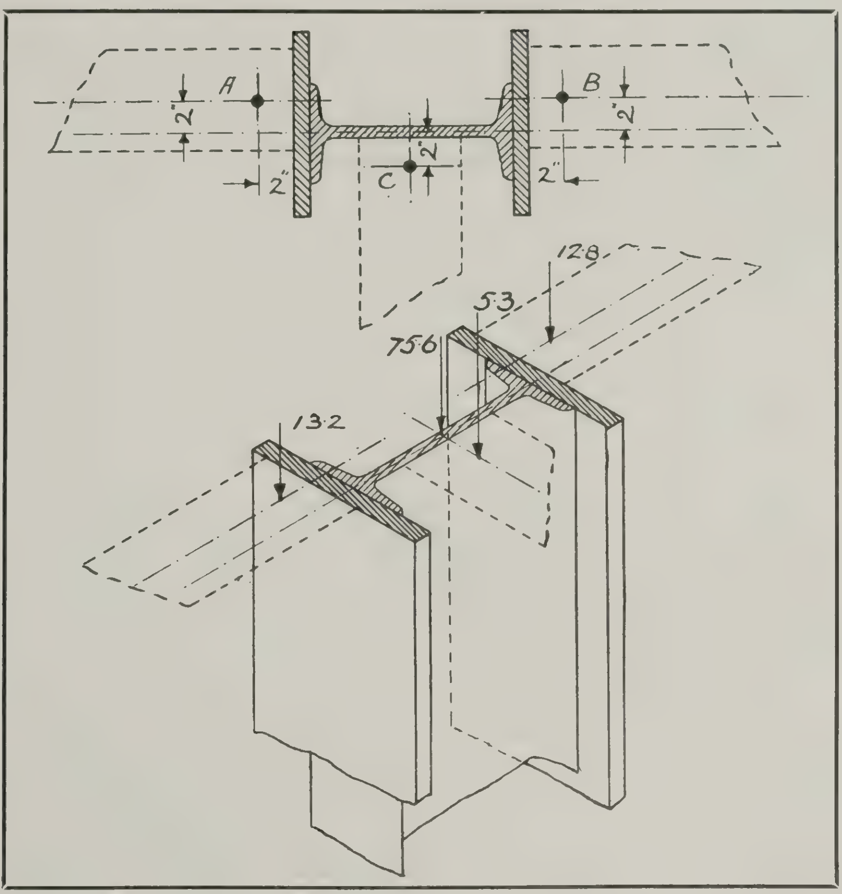


DIAGRAM INDICATING LOADS ON PILLAR.

The Design of Pillars

We will deal first with this question because it is one of the most important, and certainly the most complicated question, of the subjects in steel-frame design.

Fixity of Ends of Pillars.

Most district surveyors have held in the past, and rightly so, that the end condition of pillars employed in steel-frame buildings does not conform to the theoretical condition known as "both ends fixed," assumed in deriving pillar formulæ. But the stresses allowed by the Act for "both ends fixed" are lower than those given by the most reliable formulæ for "one end fixed and one end hinged." The report, therefore, wisely suggests that under certain conditions pillars may be regarded as having "both ends fixed."

These conditions may be summarized as follows:—

1. The pillar must be continuous and, if jointed, joints must occur at or near a beam-level.

2. The joints must have spice plates to each flange of thickness not less than $\frac{1}{2}$ in., and must be designed to comply with conditions specified.

3. A pillar must be connected in the direction of the radius of gyration under consideration by a beam connected by closely fitted cleats above and below. These cleats must not be less in thickness than $\frac{1}{2}$ in., or $\frac{1}{4}$ in. less than the rivet diameter; there must be at least two rivets of diameter not less than $\frac{3}{4}$ in. in any one leg of such cleats, and the sectional area of rivets in any one leg shall not be less than

$$\tfrac{1}{4}\cdot A_f\,\frac{d_p}{d_b},\ \text{where}$$

A_f = Sectional area of one flange of the beam.

d_p = Diameter or thickness of pillar in the direction of the beam.

d_b = Depth of beam.

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* Copies may be obtained, price one shilling, from the ecretary of the Institute, Denison House, 296 Vauxhall ridge Road, S.W.1.

Any additional rivets necessary to carry the shear of the beam must also be provided in the bottom cleat.

Eccentric Loading of Pillars.

The report recommends a relief upon the usual practice in the troublesome matter of eccentric loading of pillars in the case of continuous pillars, but this concession does not apply to the top length.

If e is the eccentricity of the load, the resulting bending moment for a load P' may now be taken as $\frac{P'e}{2}$.

The value of the eccentricity e in the following cases is to be as follows :—

(*a*) Single-web Connections.—One-half the projection of the cleat or 2 in., whichever is greater.

(*b*) Double-web and Flange Connections.—One-half the thickness or diameter of the pillar measured in the direction of the length of the beam.

The report also makes clear a point which has in the past often been neglected by designers, namely, that in the case of oblique loading, when an eccentric load is not placed upon one of the principal axes, the flexional stresses due to each principal axis must be calculated separately and the results added together.

Numerical Example

To make clear the fact that these concessions have real effect in economizing the amount of steel required in pillars we will illustrate them by a numerical example. To save space we will take pillar P from the excellent detailed calculation given in Mr. W. Cyril Cocking's text-book on "Steel-Frame Structures," published by Messrs. Scott Greenwood and Son.

In the bottom length of this pillar the loads are made up as follows :—

Load from above = 75·6 tons
,, at A = 13·2 ,,
,, ,, B = 12·8 ,,
,, ,, C = 5·3 ,,
Total .. 106·9 tons

(*See Illustration on previous page.*)

On the previous method of calculation the equivalent central load 156·5 tons and the section adopted was a 12 in. by 6 in. by 54 lb. **I** with three 10 in. by ⅜ in. flats each side.

The length of the pillar is 132 in. (the report lays down that the length is to be measured between the upper surfaces of successive girders).

The area of the section is 38·4 sq. in., so that the stress per sq. in. is $\frac{156{\cdot}5}{38{\cdot}4}$ = 4·08 tons, whereas the permissible stress considered as one end fixed and one end hinged is 4·15 tons per sq. in.

Now let us see what section would be suitable if designed in accordance with the report.

As a first approximation we take the addition for eccentricity as one half of its previous value, viz., $\frac{156{\cdot}5-106{\cdot}9}{2} = 24{\cdot}8$

$\therefore$ design load = 106·9 + 24·8 = 131·7 tons.

It is clear that we shall be enabled to use a smaller section, the radius of gyration (g) of which will be less, and 2·00 in. will be a reasonable value to assume.

This gives $\frac{l}{g} = \frac{132}{2} = 66$, and for this slenderness ratio the permissible stress is 4·85 tons per sq. in. for pillars fixed at both ends.

$$\therefore \text{area required} = \frac{131{\cdot}7}{4{\cdot}85} = 27{\cdot}2 \text{ sq. in.}$$

A 12 in. by 6 in. by 54 lb. **I** with one 10 in. by ½ in. plate each side gives 28·4 sq. in.

Our saving is, therefore, 38·4 − 28·4 = 10·0 sq. in., which represents a saving of 26 per cent.

We have now to check back for this section : $g = 2{\cdot}16$ in. [See "Andrew and Cocking's Pillar Tables." Pitman.]

The loads at A and B are so nearly equal that we can neglect their eccentricity.

Eccentric load at 2 in.

$$= 13{\cdot}2 + 12{\cdot}8 - 5{\cdot}3 = 21{\cdot}7 \text{ tons.}$$

$$\therefore \text{effective BM} = B = \frac{21{\cdot}7 \times 2}{2} = 21{\cdot}7 \text{ in. tons.}$$

$A = 25.9$;

n = distance to extreme edge = 5 in.

$\therefore$ stress due to bending

$$= \frac{Bn}{Ag^2} = \frac{21{\cdot}7 \times 5}{28{\cdot}4 \times 2{\cdot}16^2} = {\cdot}82.$$

$$\text{Direct stress} = \frac{106{\cdot}9}{28{\cdot}4} = 3{\cdot}76 \text{ tons per sq.in.}$$

$$\therefore \text{total stress} = 3{\cdot}76 + {\cdot}82 = 4{\cdot}58 \text{ tons per sq. in.}$$

This is clearly less than the permissible stress which will be a little in excess of the 4·85 assumed, because the slenderness is now a little lower.

Solid Steel Pillars.

The report points out that by the bases specified by the Act the use of solid steel pillars are precluded, but states that they may be employed in isolated situations subject to the condition that such pillars shall not be considered as adding to the stability of the building, and provided that certain rules of design set out in detail are complied with.

Miscellaneous Provisions.

A number of other interesting and important points are dealt with in the report, a summary of which is as follows :

In calculations relating to rivets the diameter of the hole is to be taken as the diameter of the rivet.

Where twin beams are employed gas barrel and bolt separators may be used if the space between them is filled with concrete; but where the beams are close together cast iron separators should be employed.

The report is accompanied by four appendices.

The first, by Mr. H. Kempton Dyson, deals with the stresses in mansard roofs based upon the theorem of least work. The resulting formulæ are, of course, complicated, but they should be studied in detail, and it will be found that their application in practice is not nearly so troublesome as the mathematical expressions in the formulæ lead one to fear. Mr. Dyson is to be congratulated on having given a useful addition to the literature of the subject.

The second appendix is by Mr. W. C. Perkins, and deals with dimensions of rivet heads.

The third appendix comprises a note by Mr. Dyson on shear on rivets in compound girders.

The fourth appendix is written by Mr. Perkins, and Mr. E. F. Etchells deals with the design of splice plates in pillars.

The Stresses of Some Important Structures

At the last meeting of the Birmingham Architectural Association Mr. H. Jackson, A.M.I.C.E., A.M.I.M.E., read a paper in which he discussed the stresses in some important building structures and their transference to the ground. Members of the Birmingham Institute of Civil Engineers were invited to the meeting.

Mr. Jackson said that it was impossible to draw a hard-and-fast line of distinction between those structures which might be called architectural and those which might be called engineering. The former must of necessity comply with the laws of statics to be possible, while the latter, if they were to be pleasing as well as useful, must not offend architectural good taste. When, however, structures verged on the border line of the untried, when new and daring conceptions were anticipated, the co-operation of the two special branches of knowledge became desirable, and this joint meeting of the associations was an endeavour to foster this spirit of co-operation.

They had to live by their profession, and if part of an architect's fees were to go in paying for an engineer's co-operation so as to save his clients expense, and at the same time reduce the sum total of his own fees, he had little inducement to seek co-operation.

The first building Mr. Jackson discussed was the Roman Catholic Cathedral at Westminster. He showed several drawings and lantern slides, illustrating the construction of the dome and its supports, and also showed, by means of a small model, how the horizontal force necessary to prevent the bursting of the dome was supplied by the supports.

Passing to the question of the foundations, Mr. Jackson said that uniform stressing of foundations was necessary if local sinking was to be avoided, and instanced the case of St. Paul's Cathedral, in which serious sinkings due to the uneven distribution of loads had taken place.

The second building the lecturer referred to was the Liverpool Cathedral, in illustration of which he exhibited a blue print showing the plan of what was nominally the east end, and an original drawing showing sections, which, he said, Mr. Gilbert Scott had kindly lent him.

Lastly Mr. Jackson discussed the roof of the Westminster Hall, and showed a lantern slide of a model of the truss, illustrating the way in which the walls had been forced inwards.

At the conclusion of the paper a vote of thanks to the lecturer was proposed by Mr. C. S. Madeley, A.R.I.B.A., and seconded by Mr. J. B. Surman, A.R.I.B.A., and a discussion took place on the desirability or otherwise of introducing tension resisting members into buildings of a monumental character.

The vote of thanks to Mr. Jackson was then carried unanimously.

Professor Abercrombie on Universities

THE announcement of a lecture on the Site of London University aroused expectations of a lively ontroversy; but when Professor Aber- ombie rose to address the Town- lanning Institute it appeared that there ad been some slight misunderstanding, nd that the subject of his lecture was to e "The University in Relation to the lanning of the City."

The position in the City which the niversity should occupy is, said the eaker, one of those problems which the actitioner of town-planning must face, nd of which he must sooner or later tempt a solution. One of the interests well as one of the difficulties of the bject was the absence of well-known ata. On the superficial analogy of the ost office or library it might be thought at the university, occupying its logical osition at the apex of the educational dder, should be found invariably at the ltural focus of the City.

The university, however, was by no eans always the same type of institu- on, and within it were two factors con- nually attracting in opposite directions, e intellectual drawing it towards cen- al institutions, libraries, hospitals, useums, and even business life, and the sidential drawing it outwards into the untry for playing fields, fresh air, and quiet. In many cases, again, historic associations and sentiment outweighed practical reasonings.

The attitude of the thoughtful town-planner was neither, on the one hand, to allow that the university was right in growing up wherever it happened to find itself, either scattered or huddled, or, on the other, that very much more was involved besides planning grandiose groups of buildings on any vacant site that appeared to offer itself for a display of architectural virtuosity.

Professor Abercrombie then proceeded to illustrate various types of university towns, capital cities, commercial boroughs, university towns proper, and American universities.

Every capital city should possess its university, which would naturally have a certain national quality in it. Paris was the clearest type of the capital university, the city being formerly divided, and so marked on all the old maps, into three, La Cité, La Ville, and L'Université. This was the ideal arrangement, the quarter of learning—le Quartier Latin—self-contained, a world in itself, with its own valuations and standards.

The claims of open-air exercise had in recent years given strength to the pull of the country magnet. In the great Paris competition of 1920 two of the competitors projected a cité universitaire, both choosing the old Parc de Seeaux. The winning competitor proposed to transfer the whole teaching apparatus of the University of Paris to this spot, leaving the Sorbonne as the Grand Palais des Réunions Academiques, but this project was not likely to be realized.

There was considerable support for the alternative scheme for a cité universitaire purely residential, adjoining and forming part of a very large suburban development projected south of Moudon. There would thus be no suggestion of an isolated community of academic recluses.

In Berlin the chief building of the university was much more in evidence than the Sorbonne. It takes its place as one of the official buildings of the Empire, and next to it is the library.

In Edinburgh, the university was originally housed in a single large building designed by Robert Adam. It had now burst these limits, and there was the McEwan Hall for graduation ceremonies, the medical school and other institutions, grouped close together; next door to the original building was the Scottish Museum.

Trinity College, Dublin, introduced two entirely new elements; firstly, it was partly residential, and secondly, it possessed what was called elsewhere a campus—though centrally placed it had ample space and almost the seclusion of a country situation. It was enclosed in a block of twenty-eight acres in the heart of the city.

While Edinburgh and Dublin were building up their universities, London, relying on the vicarious offices of Oxford and Cambridge, remained without a university—a mistake for which she was paying now.

The problem of London was more complicated than that of any other city with a university in it. There was, firstly, the fact that it contained in its organization a feature which is to many the negation of a university function, it was in part an examining body which did not teach. Its teaching also, however, was on a colossal scale, three full colleges of which two were each as big as the larger provincial universities and a mass of smaller institutions of which the medical schools attached to the hospitals formed the most homogeneous block. Among many schemes to draw together some of the scattered fragments of the largest university in the world four were outstanding: (1) the concentration of as many as could be moved on to a site in Bloomsbury contiguous to University College, and the creation of an academic quarter of which the intellectual focus was the British Museum. For this purpose the Government had already given eleven acres; (2) the development of a new site at Lambeth, presumably for the administrative headquarters and King's College: the latter would give the south bank a teaching institution to balance University College on the north; (3) the removal to Kenwood, close to Hampstead Heath: but whether for teaching, administrative, or only residential, was not certain; (4) less remote, Holland Park had been suggested as a site large enough to allow a spacious lay-out almost

FROM A CARICATURE BY H. DE C

on the lines of an American campus, utilizing Holland House.

The first of these was the official scheme to which the others were suggestive alternatives.

The lecturer, after describing numerous other university towns both at home and abroad, proceeded to discuss the problem of location. He said: The three sorts of location are, urban, suburban, and country. In the case of an urban location a central situation has clearly many advantages on the academic side, particularly in a capital city where are co-related institutions on a national scale. Its drawbacks, however, become acute where the site is incapable of, or too expensive for, expansion, or where the centre of the town was unhealthy to live or work in.

The scattering of the parts of a university is generally found to be wasteful. The four colleges of the Welsh University are necessarily separated to serve the whole of Wales, and the shadowy headquarters would appear to be in Shrewsbury. But there does not seem to be the same necessity for separation in London, the whole Metropolitan district of Greater London being a single geographical unit with a clearly marked heart, the arteries of which grow in volume as they approach the centre.

It can hardly be said that there is a truly suburban university in this country except a part of Birmingham; New York and Chicago are, however, clear examples. The drawbacks are obviously remoteness from the central institution, loss of touch with extension and continuation work and city life generally.

In the country, if a central site were inevitable, then the most careful civic survey in all its bearings must be carried out in order to be sure that the right quarter of the city has been settled upon.

With regard to methods of planning and growth there are three broad types of universities: the continental or single building, the English or quadrangle, and the American or campus and group. The Sorbonne is the greatest example of this continental concentration of a university into one building. Efficiency of administration is the key note. In England the quadrangle is an inheritance from the monastery. The efforts aimed at may be described as internal to the college rather than external to the town; the typical front had originally a fortified character with a gateway as its chief feature. In its method of growth much might be said in favour of the quadrangle, proceeding by means of enclosed units which can be added *ad libitum* without the new endangering the old.

The openness of the campus was as natural to America, a new country, as the enclosed quadrangle to this old country. In the campus method the departments of the university were scattered about a park and were naturally among trees. At first this might suggest a lack of unity, but that depends upon the type of park, whether picturesque or formal. In some of the older universities after a first roughly grouped square the other and later buildings have almost been allowed to squat anywhere, and Princeton looks as though it is built in the open glades of a wood. In Virginia, a rotunda forming the library is the climax of the composition, a logical position which has become almost a recognized arrangement.

The effect of the campus on a university is seen at aglance, but as in all unified sonceptions, it is difficult to provide for future growth. Speaking of residential aspects, Professor Abercrombie said that it was possible to build dormitory blocks close to the teaching blocks of the college buildings, as was happening in many American colleges. For the non-residential student who lived at home, the central site was certainly the best as most routes converged, but it was dangerous to lay down rules. It was quite conceivable that a situation on a ring road that linked up all the suburbs and was capable of taking rapid cars would provide easier access.

Proposing a vote of thanks to Professor Abercrombie, Sir Gregory Foster said that he hoped his extraordinarily interesting and comprehensive lecture would be published.

The problem of university location was a difficult one, especially in London, where it was proportionate to its size. They had started late, and this added to the difficulty. It was impossible to locate the site of the University in one place. They had 36 colleges and 20,000 students, and it was undesirable, and might even be unsafe for London, to locate them all in one place.

In the University of the capital of the Empire undergraduate life and work were not the main feature; 70 to 75 per cent. of the students resided at home, and this state of affairs was likely to continue.

Extension was not as necessary as were facilities for making good gaps in the provision of post-graduate research, facilities which is most important. In pre-war times the majority of the students went to German universities for advanced work. Their task in relation to the general population was the provision of tutorial classes for the lower classes.

The heart of London was the best site for additional buildings. The University had no adequate headquarters, half of it being situated at the Imperial Institute. This was an inconvenient site for two-thirds of the senate and staff. They intended to erect a Senate House and administrative headquarters in Bloomsbury.

It had been proposed to move King's College to a position south of the river. This would be practicable if each college was to be a cosmos by itself. But staffs must co-operate if work was to be effective, and bringing the colleges together would effect a great educational advance.

Captain Swinton dwelt on the enormous advantage of space for purposes of extension and for the buildings to be properly seen. The desire of Paris University to keep to the Quartier Latin was unfortunate. In Edinburgh a fine building was hopelessly shut in, and they had bought 100 acres a mile and a half away. Cardiff had the advantage of belonging to an enlightened nobleman who had held up a large site in the centre of the city—castle, park, and 50 acres.

They were a town-planning body met to discuss town planning, and communications and power of expansion were, therefore, axiomatic. The 50 acres of South Kensington buildings were due to the forethought of the Prince Consort, and that, with the 70 acres now available in the Holland Park site, should be combined into a campus. When the Bloomsbury site was accepted they did not know Holland Park was available, but as soon as it was known a large majorit asked the Government to reconsider th matter. No reply had been received, bu he hoped they would stick to their guns They ought not to cram up old centres but to get new ones.

The University in Bloomsbury was between three great railway stations.

Professor Adshead said that the Tow Planning Institute had no view as to th location of the University. Circumstances differed all over the world, London, for instance, was totally differen from the campus type in America. Th first essential was a site for new administrative buildings and senate house, wit a great library as the centre. This the had in the British Museum, and University College was a real university, hug buildings with many departments co lected into the same area. The Bloomsbury area should develop into a Sorbonn and a centre of post-graduate research. would be impossible to uproot it at th stage.

A woman student at University Colle dwelt on the importance of the proble to the students themselves. They o jected to being removed from real li Lectures were not all-important. R search, reading, and university life we also essential.

Mr. Haywood on Amenit

For another of his town-planni lectures at the Birmingham Universi Mr. William Haywood, F.R.I.B.A., to for his subject "Amenity." He said th in the records of town building throu 4,500 years—reference to which he h made in previous lectures—the two ou standing factors to which attention h been directed, and by which success town design had been measured, we structural convenience and beauty of for

Where one of these factors had be deficient in early cities, convenience h usually given way to amenity. Athe did not forget convenience, she co demned it. She concentrated on beau Florence made no reference to utility her decree of 1294, but set about the building of Santa Maria Reparata w much "prodigality of magnificenc And it would usually be found that wh a community thought collectively gracious environment would accompa convenience, or exist without it.

In modern Paris beauty had been consistently sought for and as succe fully achieved as traffic convenience a general plan efficiency, although it probably more difficult to secure amen and convenience together than either them apart. It was also evident that the promoters of our own Town-Plann Act of 1909 both factors were of eq importance, yet it could not be said t they retained this relation in pract and hence it was necessary to stress value of beauty in towns. This va could be most effectively demonstra in the great building periods of the p but while the past might stimulate example, it could not properly serve a model. Modern cities which sought give their growth an appropriate exp sion must effect this by an imagina treatment of their own vital energ Industry and its equipment had m potential beauty, and industrial ci offered great opportunities for a new t of expression in civic design.

Correspondence

The Registration Bill

To the Editors of THE ARCHITECTS' JOURNAL.

IRS,—In view of the R.I.B.A.'s pro- al to bring before Parliament a Bill the registration of architects, I sug- t that it would help matters consider- y if each architect were to approach member of Parliament with a view btaining his support.

S. H. LOWETH.

luminating Engineering Relation to Architecture

To the Editors of THE ARCHITECTS' JOURNAL.

IRS,—May it be permitted to one who for many years been an ardent lent of illumination, in all its aspects, express regret at the narrow view ch the paper by Mr. Lawrence M. Tye blished in your issue for November 29) es of that wide and interesting sub- , which is, to architects especially, also extremely important one.

t is, I suggest, most unfortunate that author, instead of dealing with illu- ation, should have dealt exclusively n certain methods of obtaining it. l more unfortunate is it that these hods should have been illustrated, I ik exclusively, by the practice of one n, as if one would illustrate the rela- of wood-carving to architecture by cribing the chisels used by one eminent tsman.

he architect, as the responsible master tsman, is not so much concerned with s, theoretical or practical, as with the lt. He is concerned with illumina- in its utilitarian, hygenic, and hetic aspects. The minutiæ of light- he can leave to those whom he em- s to give him such illumination as he cifies. He should, of course, be able specify the intensity in foot-candles ch he requires, and to measure that nsity. He is also concerned with its ur, direct and reflected, with its con- ts no less than with its uniformity, the depth of its shadows, its free- from glare and its effect upon that ricious and apparently unreasonable bination the human eye and mind. is concerned with its broad utilitarian ects of first cost and running cost and suitability for the varying require- ts of human industry, and he must be unmindful of its hygienic aspect, e or eye-strain being to him the result bad craftsmanship, which he must and will not have at any price.

or are his interests confined merely rtificial light, any more than they are ricted to any one form, such as nent or gas-filled lamps. Gas is a thy rival of electricity, and rapid ances are being made in the use of light lamps, the light from which ld possess all the main physical acteristics of daylight and not merely same spectrum, as was stated in anation of one of the slides. We w of their adoption in drapers' shops manufacturers' test rooms, but they also coming into use elsewhere, in art ols, for instance. They may prove to involve less eye strain, and become the standard artificial illuminant. Daylight itself, with the photometry of which I have been more particularly associated, is to the architect really a form of illumination, his windows being the lamps. He needs not only data of the hours of sunlight to be expected to enter any window, but of the light from that window on dull or wet days, and over or beside obstructions. The photometer will tell him what he has got when the buildings are completed. It will not tell him what he is going to get.

It may be said that in the foregoing there is sufficient to occupy several evenings, and that the author was wise to limit his scope. Possibly that is so, but on the other hand a paper that might convey the impression that the art and science of illumination—for it is both—can consist of a few elementary formulæ and some tools, means even more than a lost opportunity of securing the sympathetic co-operation of architect; it gives an unfair start to an utterly false impression.

Much data on the subject which I have indicated is of comparatively recent growth; much more awaits research, and it is hoped that architects will in increasing numbers avail themselves of the labours of members of the Illuminating Engineering Society, and will assist in those labours. That society is by no means composed entirely of engineers; some of its members are scientists or physicists, some, like its president, are ophthalmic surgeons; others are architects. The society studies broad results and the best means of obtaining them. It collates information from all over the world. It welcomes new methods and tools, but it also criticizes them very freely.

In many ways it might assist architects by indicating the extent of knowledge which exists at any time with respect to any given problem, such as daylight lamps, the natural and artificial lighting of hospitals, cinemas, churches, factories, etc., in order that the architect may ascertain whether reliable data exists which he can use, or, if he must rely wholly on his own judgment, whether any boundaries have been set to the problem, so that his labour may be minimized.

The architect is responsible and must make his decisions. The illuminating engineer can help him, but that is all. If he tries to abrogate to himself the position of the architect, the latter will inevitably fall back upon rule of thumb and common sense, and do the best he can by himself. And it will not be a very bad best either, for by the time that a man of trained observation is satisfied (and there will be no final payment until he is) there will not be very much to grumble at.

His methods of predetermining results may seem rather crude and elementary to the engineer, and he may make mistakes; but the very crudity and simplicity of his mental deductions will probably protect him from any very glaring mistakes. The very slowness of trial and error methods may be his salvation, whereas the rapidity of more scientific methods applied to a new and partially explored subject may easily invite disaster. Unfortunately, when an illuminating engineer makes a mistake it is almost bound to be a "glaring" one, in some directions at least, and generally in all.

Scientific methods of calculation must necessarily depend for their accuracy upon accurate data, and wise illuminating engineers recognize, of course, that we are greatly in need of more and better data, if only to correct figures which were hurried prematurely into print in the early days, and have been copied and quoted wholesale.

Take, for example, the familiar American table of artificial illuminations which, as the paper states, appears in the catalogues, though not, I believe, in the practice, of many firms. I have often wondered whatever could have induced its compiler to recommend so many values which are so greatly in excess of what people need, or even of what they could endure. Too much artificial illumination can be far worse than too little, for our eyes are only accustomed to take in very moderate intensities of light. The illuminations of daylight are enormous, and they vary enormously, but the iris diaphragm of the eye stops them all down to a small amount, probably two or three foot-candles. Unfortunately the iris diaphragm does not work properly under artificial light, and we only need high illuminations, such as four to ten foot-candles, when viewing substances or fabrics which reflect only a small proportion of the light falling on them; dark clothes, for instance. Objects are not seen by the light thrown on to them, but by that which they reflect back into the eye. If the five foot-candles recommended were adopted in elementary school class-rooms where slightly glazed paper was in use the school medical officer would have his hands full.

The Committee of the Illuminating Engineering Society which investigated school lighting very exhaustively some years ago restricted its recommendations to a minimum of two foot-candles, and even in America a minimum of two and a half foot-candles is now suggested. General offices with the five foot-candles recommended may exist, but I have not yet discovered them, whereas rooms with half that quantity seem excellent. Ask a draughtsman to work on tracing cloth under an illumination of five to ten foot-candles as recommended. He will immediately tie a handkerchief round the bulb or rig up a translucent paper screen. The most recent recommendations of the Home Office Committee on Factory Lighting are three foot-candles for fine work and five foot-candles for very fine work. The list in the paper recommends five to ten for fine work.

I would venture to suggest that before embodying in a specification any value from this table an architect should compare it with some installation of known intensity, or better still, find one which pleases him and measure it with his own photometer.

Architects and scientists are both aiming at the same goal, viz., illumination which shall satisfy the human eye. In this the trained judgment of architects should be invaluable, especially if they would acquire the habit of using photometers for recording the intensities which satisfy their trained judgment, recognizing and noting contrasting surroundings which might tend to affect or prejudice the result.

But before they can do this there must be cheaper and simpler photometers. If some enterprising firm would place on the market something similar to the "Bee" exposure meter, which can be made into a good and reliable little photometer for many purposes, architects would speedily find the subject of absorbing interest and could do most useful work.

In conclusion I should like to deprecate the suggestion that photometers or bald photometric measurements have any magical value of themselves in all ancient light cases. Photometric measurements will tell you what light you have before or after the offending building is completed, but they will not make prospective or retrospective measurements, or determine what light you are going to have, or what you might have had. The case quoted did not turn on the measurements taken by one of the parties, but on the evidence based on those measurements, coupled with suitable sky diagrams. I have used several types of photometers and studied many more, but I have never yet met one which could mesmerize a Chancery judge.

P. J. WALDRAM, Licentiate, R.I.B.A.

The Organization of Acoustical Research

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Your leading article on the "Organization of Acoustical Research," in your issue for November 29, was preceded by an editorial in your scientific contemporary "Nature," for October 28, to which there appears, in the correspondence of the issue of the latter for December 9, a complaint from Prof. Lyman, of Harvard University, to the effect that "the practical problem of predicting the acoustics of an ordinary auditorium in advance of its construction, or of correcting one already built, was solved by Prof. Sabine some twenty years ago," and, therefore, the repeated assertion in this country that the acoustics of buildings is a subject of which we know nothing "implies a lack of respect for Sabine's profoundly accurate and thorough work."

Prof. Lyman points out that no one who has taken the trouble to acquaint himself with the subject can maintain such an attitude, and as Sabine's work has now been gathered into a volume of "Collected Papers on Acoustics," there is even less reason than before for not being acquainted with the subject.

It is interesting to repeat the whole sentence in the leader of "Nature," of October 28, to part of which particular exception is taken: "Many of our public buildings erected by eminent architects show considerable faults in this direction (i.e., acoustically), and *as we may assume that these faults are not due to professional apathy*, it would seem that the laws regulating the production of a successful building for hearing and speaking have yet to be worked out."

Prof. Lyman implies that the assumption regarding professional apathy is not admissible, for "Architects in the United States," he says, "have become aware of the importance of Sabine's results," and as the proof of the pudding may be reasonably assumed to be in the eating, "scores of cases could be cited in which the application of the principles worked out by him has led to *complete success*." So the distinction between architects in the United States and those elsewhere who still clamour to the scientist for guiding principles in the construction of auditoria is apparently one of enlightenment.

One wonders what would be his comment on Sir William Pope's assertions that "quite a small expenditure of time, money, and intelligence would suffice to provide architects with knowledge which would render every hall acoustically perfect," and, "since no knowledge is available concerning the acoustical properties of a chamber, the blame for faulty acoustics is not his" (the architect's). In view of Prof. Sabine's life-long labours, their proved value, their endorsement by scientific opinion in general, and the continuing of his work by a number of scientists, it is very surprising either that such statements are so often quoted and regarded as authoritative, or that Sir William Pope has not already been approached to undertake to provide the knowledge required.

That further work is necessary in architectural acoustics is admitted. Prof. Lyman himself points out that Sabine has left to his successors a programme which was being worked out at the time of his untimely death in 1919, and which included the experimental investigation of questions "such as the transmission of sound through walls, the effect of resonance, etc." So without disputing the completeness and thoroughness of W. C. Sabine's researches, the solution of the problem as a whole is still incomplete.

Undoubtedly architects must take the lead, as you suggest. They want the information, and naturally they should pay for it, after the example of the many industrial concerns who maintain research departments. There is an alternative in individual enterprise.

In conclusion, it is well, perhaps, to draw attention to the fact that the spirit of research is rather foreign to the proposal of a committee with an "experienced organizer" to speed up matters with a view to getting rapid results. Let the architectural committee find the money, collect its experience, state its requirements, offer facilities for work, then leave the rest to the scientific man, and exercise patience and understanding, whilst following closely the course of events. The results may be expected to be more rapidly achieved in proportion to the number of competent workers engaged on the research. "Team-work" is becoming the watchword of scientific research, and when we get several teams striving towards the same goal, Prof. Ruckmick's suggestion (quoted in "The Times") of establishing an Institute for Acoustic Research will follow naturally.

P. ROTHWELL.

["Lancs Architect." We ignore anonymous communications. When you have the courtesy to enclose your name and address your letters will receive attention.] EDS.

Exhibition at Devonshir House of Paintings an Drawings by Art Student

This exhibition, which has been arrange by a students' committee, is on behalf the Hospitals' Combined Appeal. A lar part of the proceeds of the sales is go to the all-important cause of th hospitals.

Mostly the London schools are repr sented, chiefly, the Royal Academ Schools, the St. John's Wood School Art, the Heatherley School of Art, th London School of Art, the Royal Colleg of Art, and the Regent Street Polytechni

Architecture is represented by th Architectural Association alone. Th work is generally good, with here an there a sense of inexperience and lack essentials, and here and there the wor of the older or more accomplished stu dents. If this is a representative exhib tion of the work of the present-day ar student—and I trust that it is—then should say that many of the modern ar students are just a little afraid of worl There seems in some cases to be a avoidance of anything that require accurate drawing, few of the pictures cor tain figures, and then only in a highly conventionalized and hieroglyphic form.

The composition in many of the pic tures leaves much to be desired. Ther is a certain carelessness in correct ton values and colour design. All this woul seem to point to the fact that some student are rather forgoing the craft of picture making in order to obtain greater facili ties in expression—a striving after a quic effect rather than the pure pleasure giving qualities of a picture.

As an architect one would alway suggest that the art student should study our methods of design and presentation and paint first in monotone.

There are, however, many exception to these criticisms, and those intereste would do well in visiting Devonshir House and discovering these for them selves. They would, no doubt, find some thing that would well repay them fo their visit; for—who knows? from these— are to be the great men of the future.

The pictures are not high priced, an the sales of them are to help a very worthy cause; moreover, one has thus an oppor tunity of seeing the interior of a fine ol house before it is demolished.

Among the many noticeable works would mention the following: The litho graphs and black and white drawings are generally quite good. No. 105, a figure study by Mr. A. Burton, is good, but perhaps there is a lack of indication in the figure the emphasis being on head and hands which are well drawn. Mr. D. M. Stacey's etchings of heads, "The Flower Seller" and "The Longshoreman," have vitality and good drawing without being laboured. No. 144, an unobtrusive miniature of a child, should not be unnoticed. The delicate pencilled drawing, No. 40, by Alma Elliott, has the quality of fine lace but it is rather a pattern than a design.

As to the oil paintings, the work of Mr. A. M. Burton, of the Regent Polytechnic, is worth special notice, especially No. 234, a small landscape of hills, which has light and air and a way out of the picture. On the other hand, his "The Sedge withered from the Lake" appears lack unity, because it has no cal point. The eye wanders over the cture and finds no way into it. This is common enough experience in architec- re, and like an otherwise good façade, requires a "brooch" or an "entrance" the bottom.

I like Mr. W. Strachan's "Along the nal." Yet, although it has light and eerfulness, I feel that the sunlit brick- rk of the bridge lacks warmth.

Mr. D. S. Paynter's "The Toilers," is an bitious effort but it is a little faulty in nposition. It is, in fact, two compositions th no efficient link between them, and a ure in the left half, presumably in the ckground, is of the same tone value as e figure in front of it. This picture, vertheless, is one of the few figure com- sitions shown, and its author has empted something more than most.

I should say that Mr. C. J. Kennedy, o sends a picture, "A Morning Flight," . 268, knows his subject. Mr. Mac Ivor- ierson, of the Heatherley School, in his r picture, "Mud" (No. 405), displays mind that is striving for something ove the ordinary. He has chosen a y difficult subject, and although he s obtained an effect, it is, I fear, rather the expense of good composition and rity. The contrast between the bility of the figures behind and the tability of the sinking figures in front not sufficiently expressed.

An interesting picture called "Flight," a member of the R.A. Schools, attracts ention, but the figures, a man and man, in their effort to get out of the ture, are almost falling out. The ting of the figures with the long, wind- road behind them is expressive with- t them, and the picture might be ppier if they had disappeared from it ogether, leaving their footprints on road behind them.

Among the water-colours special men- n should be made of Mr. D. H. Banner's oat Fell." I like its feeling of space. . Banner has the courage to go on and sh his pictures. No. 310, a landscape Phyllis Dod, should be noticed.

The architectural drawings are a loan lection. They are not new, and so are niliar to most of us. A small sculp- ed group, "Hagar and Ishmael" . 457), by Cecil Gunthorpe, is one of best things in the exhibition; and head "Judas," by Michael C. Hamp- , although excellent in its way, is quite sufficiently convincing. F. E. T.

Irish Furniture at the V. and A. Museum

t appears not to have been generally ognized that during the eighteenth tury furniture of a very high standard execution was produced in Ireland, owing the main lines of the English les of the period, but with character- c differences. A group of examples of s class has now been arranged for ibition in the Loan Court of the Vic- ia and Albert Museum. Those lent by s. Bruce are of inlaid satinwood, hare- od, etc., and consist of a pair of com- des with finely executed decoration in Adam style, with a pair of tall estals and corner-cupboards of similar racter. Mrs. Bruce also contributes air of small tables and a wine-carrier ch correspond more with the style of raton.

R.A. Schools Prize-winners

Below is the list of prizes and prize-winners of the Royal Academy Schools. Sir Aston Webb, P.R.A., made the presentations.

As reported in our last issue, Sir Aston Webb, in his address, congratulated the students on the standard of work sent in, and hoped that the students of painting and sculpture would co operate more with those studying the allied art of architecture.

The speaker went on to say that everyone nowadays was trying to "learn without tears"; they knew, he was sure, that it could not be done. Like gold tried by fire, work must be learned with pain.

Speaking of the exhibition of mural painting, to be held at the Royal Academy in January, he said: mural painting was contemporary with the oldest of the arts—architecture; and as men began to build they also began to decorate their buildings in colour and relief. He would like to remind them that mural decoration does not mean painting pictures on panels and leaving the surrounding walls untouched. Mural decoration entails a knowledge of painting, and much sympathy with the architecture it is called on to decorate. Often in these days an architect erected a building, a sculptor was called in independently for certain work, and a firm of "decorators" was given a free hand to do the rest. There should surely be one controlling mind over the various arts employed to ensure a complete work of art.

It was this art of decorative painting—as it seemed to him—that provided a great opportunity for the student. The master mind prepared the general scheme, but many busy minds and brains were required to carry out the work under his constant advice and encouragement. The student would soon find the study of architecture indispensable to him. He would soon learn that colouring must extend beyond the limits of the picture if it was to become truly decorative, that mass was more important than detail, and that composition, proportion, colour, and form were all dependent one on the other to obtain a complete whole.

Touching on the power and versatility of the great mural painters of the past, from Giotto in his chapel at Padua to Michael Angelo in the Sistine Chapel, and on to our own times with such men as Alfred Stevens, Burns Jones, and G. F. Watts, the speaker said that we were fortunate in having some very fine decorative painters amongst our members to-day.

Design in Monochrome for a Figure Picture.	(a) The Pool of Bethesda .. (b) "Now when the sun was setting, all they that had any sick with divers diseases brought them unto Him; and He laid His hands on every one of them, and healed them."—*St. Luke*, iv. 40.	Armitage Prizes, 1st (£30) and Silver Medal.	Constance Emily Edith Grant.
		2nd Prize (£10) and Bronze Medal.	Not awarded.
Landscape Painting	A Country Road	Creswick Prize (£25) and Silver Medal.	Not awarded.
Design for the Decoration of a Portion of a Public Building	The Arts	1st Prize (£30) and Silver Medal.	Reginald Lewis.
		2nd Prize (£10) and Bronze Medal.	Constance Emily Edith Grant.
Composition in Colour		Prize (£10) and Silver Medal.	Barbara Cayley Robinson.
Set of Four Drawings of a Figure from the Life.	.. ..	1st Prize (£15) and Silver Medal.	Eleanor Barbara Georgina Shiffner.
		2nd Prize (£10) and Bronze Medal.	Kathleen Mary Hornung.
Two Paintings of a Figure from the Life.	.. ..	1st Prize (£10) and Silver Medal.	Margaret Maitland Howard.
		2nd Prize, Bronze Medal ..	Eleanor Barbara Georgina Shiffner.
Cartoon of a Draped Figure ..	A Suppliant	Prize (£25) and Silver Medal.	Margaret Maitland Howard.
Portrait Study of a Lady in Evening Dress showing Arms and Hands.	.. ..	Arthur Hacker Prize (£30) and Silver Medal.	Constance Emily Edith Grant.
Painting of a Head from the Life, Life Size.	.. ..	Arthur Hacker Prize (£20) and Silver Medal.	Violet Muriel Baber Mimpriss.
Set of Three Studies of Drapery.	.. ..	Silver Medal	Margaret Maitland Howard.
Drawing from the Antique ..	.. ..	Prize (£5) and Silver Medal	Not awarded.
Painting from Still Life ..	.. ..	Prize (£5) and Silver Medal	Margaret Maitland Howard.
Perspective Drawing in Outline (open to Painters and Sculptors only).	The Entrance Hall of the Royal Academy from the East End.	Prize (£5) and Silver Medal	No Competition.
Two Models of a Bust from the Life.	.. ..	1st Prize, Silver Medal ..	Daphne Mayo.
		2nd Prize, Bronze Medal ..	David Evans.
Set of Three Models of a Figure from the Life.	.. ..	1st Prize (£15) and Silver Medal.	Daphne Mayo.
		2nd Prize (£10) and Bronze Medal.	David Evans.
Model of a Design	"Aquarius": a Fountain ..	Edward Stott 1st Prize (£50) and Silver Medal.	Not awarded.
		Edward Stott 2nd Prize (£20) and Bronze Medal.	David Evans.
Model from the Antique ..	.. ..	Prize (£5) and Silver Medal	No Competition.
Model for a Medal or Coin ..	The Visit of H.R.H. The Prince of Wales to India.	Prize (£5) and Silver Medal	No Competition.
Design in Architecture ..	A Memorial Chapel	Travelling Studentship (England) (£60) Tenable for one year.	John Oliver Brook Hitch.
Set of Architectural Drawings	The Lion Gate, Hampton Court.	1st Prize, Silver Medal ..	Richard George Cox.
		2nd Prize, Bronze Medal ..	Not awarded.
An Architectural Design (First Term Students only).	.. ..	1st Prize (£15) and Silver Medal.	Sidney Harold Loweth.
		2nd Prize (£10) and Bronze Medal.	Not awarded.
Perspective Drawing in Outline (open to Architects only)	The Lion Gate, Hampton Court.	Silver Medal	No Competition.
An Original Composition in Ornament (Architects only).	.. ..	Prize (£5) and Silver Medal	No Competition.

The Landseer Scholarships in Painting and Sculpture, of £40 a year each, tenable for two years, have been awarded—in Painting to Leslie J. G. Smith and Lilian J. Minard; in Sculpture to David Evans.

The following awards were given for Architecture :—

Travelling Studentship (England) £60 : John Oliver Brook Hitch.
Measured Drawing, Silver Medal, The Lion Gate, Hampton Court : Richard George Cox.
Architectural Design, £20 and Silver Medal : Romilly Bernard Craze.
Architectural Design, Silver Medal and £15 : Sidney Harold Loweth.

Housing and Town Planning

The Need for Revised Financial Co-operation

THREE alternative proposals with regard to the future terms of financial co-operation between the State and local authorities in connection with State-aided housing schemes are among the matters to be considered at a series of conferences which are being convened by the National Housing and Town Planning Council. These proposals are given in the course of a review of the progress made in the housing and town-planning movement during the past five months.

The Review states: In July last a representative deputation comprising leading members of local authorities and various associations interested in housing and town-planning administration was received on behalf of the late Government by the Minister of Health (Sir Alfred Mond) and the Secretary for Scotland (Mr. Munro). In the replies then given by these Ministers two points were made clear.

Replying to Mr. F. M. Elgood (Chairman of the National Housing and Town Planning Council) Sir Alfred Mond stated that proposals had been submitted to the Cabinet by his colleague and himself relative to the building of a further number of houses by local authorities when the 176,000 included in the present limited programme had been completed.

It was, however, made clear that in the event of a further instalment of the great housing programme of 1919 being sanctioned the terms of financial co-operation between the State and the local authorities would be profoundly modified. On this point Sir Alfred Mond said:—

"There is a considerable feeling throughout the country that the penny-rate scheme is by no means the best scheme that can be devised. That is shared by a good many local authorities, who prefer greater freedom. I personally feel that local authorities would have done better if they had been allowed greater freedom. I do not think public opinion would tolerate the continuance of the present scheme as it stands."

In view of the fact that, although no final decision was reached by the late Government relative to the proposals thus foreshadowed, a change in the terms of financial co-operation between the State and the local authorities would, without a doubt, form the basis of any new instalment of the housing programme of 1919; a joint meeting of the Committees of the National Council throughout England and Wales and Scotland has now been held for the purpose of preparing the agenda for a series of representative conferences of local authorities to be held throughout Great Britain early in the coming year.

The first of these conferences will be held in the McLellan Galleries, Glasgow, on January 23 and 24, with Sir Henry Ballantyne (Chairman of the Royal Commission on Housing in Scotland) in the chair.

On January 25 and 26 a conference for Lancashire and Cheshire will be held in the Memorial Hall, Manchester, with Councillor Harold Shawcross (Rochdale) in the chair.

On January 30 and 31 a conference for Yorkshire will be held in the Town Hall, Leeds, Mr. F. M. Elgood (Chairman of the National Housing and Town Planning Council) presiding.

Further conferences following these in quick succession will be held at various other centres in England and Wales.

With regard to the question of future terms of financial co-operation between the State and local authorities the representatives attending the conferences will be asked to consider the three following alternative proposals:—

Proposal I.

That a definite sum per house per year be given by the State to those local authorities undertaking assisted housing schemes in 1923, such definite sum to be payable (and not subject to revision) for the whole of the loan period for the houses in respect of which the annual grant is made.

The local authority should have freedom of action concerning both the details of their schemes and the administration of them when completed.

The State should, however, require that the accommodation in the houses should be up to a good standard and that the estates on which the houses are built should be laid out on good town-planning lines.

The definite sum per house should be greater for houses provided in rural districts and for houses built for the occupation of those dispossessed in connection with schemes for unhealthy areas.

Proposal II.

That the State should pay a definite sum per house built under an assisted housing scheme, such sum to represent a percentage of the loss as set forth in an estimate to be submitted to the Ministry of Health before the building tender is accepted by the local authority.

The percentage of the loss should be greater in the case of rural housing schemes and schemes for the re-housing of those dispossessed in connection with schemes for unhealthy areas.

When the definite sum has been determined on the percentage basis it shall not vary during the period of payment of the loan charges.

Subject to the Ministry of Health being satisfied that the accommodation to be provided is up to a good standard, and that the estates on which the houses are to be built will be laid out on good town-planning lines, the local authority should have freedom of action concerning both the details of their schemes and the adminsistration of them when completed.

Proposal III.

That the State should lend capital to local authorities at the rate of interest current before the war, viz., 3½ per cent., the difference between the rate at which the capital is thus lent and the rates at which the State borrows the money to represent the subsidy given by the State in aid of the housing schemes of lo authorities.

Subject to the Minister of Health bei satisfied that the houses to be provid will conform to good standards of acco modation, and that the estates on whi they are to be built will be laid out good town-planning lines, the lo authority should have freedom of acti concerning both the details of th schemes and the administration of the when completed.

The following correspondence relati to Proposal I. is made public with t permission of Sir Alfred Mond:—

NATIONAL HOUSING AND TOWN
PLANNING COUNCIL.

41 Russell Square,
London, W.C.1.
November 29, 19

DEAR SIR ALFRED MOND,

At a joint meeting of all the Co mittees of the Council held on Saturd last at York it was unanimously reco mended that the following propos should, *inter alia*, be submitted to series of conferences of local autho ties:—

"That a definite sum per house p year be given by the State to those lo authorities undertaking Assisted Housi Schemes in 1923, such definite sum to payable (and not subject to revision) f the whole of the loan period for the hous in respect of which the annual grant made.

"The local authority should have fre dom of action concerning both the deta of their schemes and the administrati of them when completed.

"The State should, however, requi that the accommodation in the hous should be up to a good standard, and th the estates on which the houses are bu should be laid out on good town-planni lines.

"The definite sum per house should greater for houses provided in rural di tricts and for houses built for the occ pation of those dispossessed in connecti with schemes for unhealthy areas."

In a letter you kindly sent to me pri to the general election you drew m attention to a paragraph in your electi address.

In this paragraph it is stated that t late Government had under considerati a scheme of your providing for the futu financial co-operation of the State and t local authorities.

It is believed by the Committee of t Council that the proposal set forth abo is not dissimilar to the proposal you su mitted to the Government, and I a desired to say that in the opinion of t Committee you will render a real servi to the housing movement if in the eve of the surmise that this proposal is harmony with your own be correct, yo will be good enough to permit the Counc to state that this is the case.

Believe me to be, yours sincerely,
HENRY R. ALDRIDGE,
Secretary.

35 Lowndes Square, S.W.1.
December 4, 1922.

AR MR. ALDRIDGE,

I am in receipt of your letter of the h ultimo respecting proposals to be omitted by the National Housing uncil to a series of conferences of local thorities.

When in office as Minister of Health I ne to the conclusion that some further ite assistance is necessary to bridge the nsition period before ordinary econo- c conditions are fully restored, and it the local authorities cannot be left deal with the housing shortage un- led. The question arises how and in at form this aid can best be given. As u will remember, Mr. Lloyd George in speech in the House of Commons on ly 21, 1921, intimated that in his inion the action of the Government s to call a halt in the programme then ng carried out in order to put the using question on a better and more siness-like footing. But he implied it this halt did not mean a cessation of necessary interest of the Government the housing shortage which still exists. e substantial reduction in the prices ought about by the policy which I ried out has resulted in a saving below present estimate of the annual charge something like £350,000 a year.

Before leaving office I formulated a eme which—reversing the policy of king the local authority a fixed partner th the State in housing—made the ate a contributor to a fixed grant per num of between £3 and £4 per house, ving to the local authority the responsi- ity of any further deficit between the nual charge and the rent it could tain, but also leaving to the local thority a free hand as to the manner which it would build, subject of course a general supervision by the Ministry Health as to a reasonable standard.

On the estimates presented to me it med probable that by such a partner- p some further 80,000 houses could be ovided without any increased charge the estimates of the Ministry of alth or any further burden on the tional exchequer. The figures of the st of building houses and of the lower e at which money can be obtained ve, I think, fallen since the date when it estimate was prepared and, conse- ently, the number is a tentative one. is number of houses would probably ve to be spread over some two years, d it would be essential in any future eme to be adopted to escape over- ding the somewhat limited market of use and cottage building capacity so not again to raise the price of housing ainst the prospective tenant, a policy ich has acted so disastrously in the st.

So far as I can gather this scheme is on lines of the recommendations of your uncil, which I am glad to see put ward and which I shall be happy to pport.

Yours sincerely,
ALFRED MOND.

R. Aldridge, Esq.,
National Housing and
Town Planning Council.
Russell Square, W.C.1

It will be seen from this correspondence it Proposal I, as tabled above, is ap- ved by Sir Alfred Mond on the ground that the financial responsibility of the State will be limited to a definite amount already made available by economies in the existing housing programme.

This fact will doubtless exercise great weight with Members of Parliament in dealing with the matter in the next session of Parliament.

The Housing Committees of local authorities will for their part be inclined to regard the proposal with favour on the ground that under it they would be given far greater freedom of action concerning the preparation of the details of their schemes and the administration of schemes when completed.

It should hardly be necessary to state that in the case of all three proposals it is taken for granted that the terms under which the first 176,000 houses have been built by local authorities (viz., with a limitation of the burden falling upon local authorities to the production of a penny rate) remain unaltered. The issue on this point is not in any doubt. It is legislatively provided that this limitation shall apply in the case of all housing schemes sanctioned and carried into effect under the terms of Section 7 of the Housing and Town Planning Act, July 1919 (England and Wales) and August 1919 (Scotland).

The meeting also discussed in close detail the practical possibilities of the proposal that the State should give financial aid to private enterprise. The conclusion definitely reached was to the effect that the lending of large sums of public money and the giving of subsidies to private enterprise of the ordinary kind would need to be so carefully safeguarded with regard to the securing of precedence to ex-service men and large families as tenants and with regard to the amount of rent to be charged as to render the proposal impracticable. It was, however, agreed that the activities of public utility societies established on well-ordered lines could with real service be made the subject of financial aid from the State. It was also agreed that financial aid to the purchasers of new houses built under the Small Dwellings Acquisition Act might with advantage be given by both the State and local authority.

Proposals relative to the terms on which financial assistance might suitably be given to these types of semi-public activity will therefore be submitted to and discussed at the conferences.

In view of the great public interest evinced in the proposal that new houses should be exempted from municipal rates for a series of years, the discussion of this matter will be included in the agenda of the conferences.

The view prevailing at the meeting already referred to was, however, to the effect that the resultant burden falling upon the ratepayers will be far heavier than the advocates of the proposal at present realize, and that on this ground it will prove to be inacceptable to local authorities.

Several of the vexed problems arising in regard to the administration of earlier Housing Acts concerning the clearance of unhealthy areas will be dealt with at the conferences. These will include questions as to the type of house which should be built, the desirability of re-housing on cleared sites, or the migration of the dispossessed to suburban areas, and the possibility of securing attention to the repair of houses not in all respects for human habitation.

The question of town planning will also be given a leading place in the agenda of the conferences.

With the passing of Clause 46 in the Act of Parliament of July 1919, under which all urban authorities with upwards of 20,000 population are required after January 1923 to prepare and administer town-planning schemes, the position has become one of real urgency. Additional interest will, moreover, be given to the discussions on this subject by the fact that local authorities throughout the country are now preparing large schemes of arterial road construction capable of absorbing unemployed labour.

It is urged that there is a special suitability in discussing this subject at the conferences called by the National Council. The Committee remember with pride that the great schemes of arterial road construction now being carried into effect in Greater London are due, to a large extent, to the town-planning activities of the Council in the years preceding the war. Following a conference held in 1913 at the Westminster Palace Hotel, under the presidency of the late Alderman Thompson, a deputation of representatives of Greater London local authorities was received by Mr. Asquith and Mr. John Burns, conjointly with a delegation from the leading technical associations of the country.

Two proposals were then submitted to the Government. On behalf of the technical associations the Government were urged to set up a Commission. The National Council urged that a series of standing conferences representing the local authorities concerned, as well as technical associations, should be set up for the purpose of working out in close detail schemes for arterial road construction.

The second proposal was accepted and work extending over a period of three years was then entered upon, with the result that in 1916 a report embodying the findings of the conferences was formally submitted to the Government.

The well-ordered schemes embodied in this report form the basis of the work of arterial road construction now being carried into effect on the borders of London with the aid of unemployed labour.

It is hoped that the coming series of conferences will render an equal service to the local authorities in the various areas concerned by making clear to them the fact that results of great public value —both social and economic—can be secured by the vigorous exercise of their new town-planning powers and duties.

Architects' Fees for State-aided Housing Schemes

The Ministry of Health and the tribunal appointed by the R.I.B.A. are anxious to obtain a settlement of all claims for architects' fees in connection with State-aided Housing Schemes without further delay. Architects who still desire the assistance of the tribunal are therefore requested to apply to the secretary of the R.I.B.A. on or before December 31, 1922. The tribunal cannot undertake to deal with cases submitted to them after this date.

The Week's News

More Houses for Woolwich.

Woolwich Council have decided to build fifty more houses at Well Hall at a cost not exceeding £400 each.

New Stained-glass Windows for Mansfield.

Bridge Street Church, Mansfield, is to be improved, and fourteen stained-glass windows inserted at a cost of about £600.

Sheffield University.

The Council of the University of Sheffield have appointed Mr. Charles D. Carus-Wilson, M.C., A.R.I.B.A., to the post of lecturer in architecture.

Bricklayers' Strike.

The strike of bricklayers employed in the iron and steel works of the North East Coast, which has extended over practically the whole of the current year, has collapsed.

Proposed Houses at Watford.

Plans have been submitted to the Watford Rural Council for the development of the Cassiobury estate. The surveyor reported that the drainage would be very costly.

Big Housing Scheme for Stainforth.

Hatfield Main Colliery are negotiating for the erection of several hundred more houses at Stainforth, and notice has been given to the Council that 50 per cent. of the new sewerage scheme will be required to deal with sewage from the houses.

The R.I.B.A. Exhibition of Architecture.

During the closing week (Dec. 15th to 22nd, inclusive), the Exhibition will be open from 10 a.m. to 8 p.m. (Saturday, 10 a.m. to 5 p.m.).

Wren's Bi-centenary.

In connection with the bi-centenary of Sir Christopher Wren, which it will celebrate in the new year, the Selborne Society is arranging a visit to Paris at Christmas. The special object is to study the architecture of that city, from which Wren obtained considerable inspiration.

Hastings Building Scheme.

The Ministry of Health has agreed to sanction a new building scheme at Hastings on the terms that the Government would provide thirty-two houses, it being understood that the Hastings Council would consider the erection of a further thirty houses without a subsidy.

Site of the Old G.P.O.

Negotiations for the purchase of the site of the old General Post Office, St. Martin's-le-Grand, are in progress. The Disposals Board is conducting the negotiations. The old General Post Office ceased to be used twelve years ago, and the demolition of the buildings was completed shortly before the outbreak of war in 1914.

Fireproof Thatching.

A fireproof and vermin-proof straw thatched roof has been invented by a Tunbridge Wells firm of builders. It is made of straw and cement, bound with copper wire. In appearance it is similar to an ordinary thatched roof. It has been approved by the Ministry of Health, and has been accepted for insurance against fire.

Large Building Scheme for Belgium.

The Brussels municipal authorities have authorized the construction of a large block of flats in one of the principal streets of the city. The building, which is to consist of 120 flats, and to provide garage accommodation for 100 motor cars, is to be erected by the Crédit Général Hypothécaire, 38 Boulevard Bischoffsheim, Brussels, to whom interested British firms may care to communicate offers of fittings, furnishings, etc.

New Bakery for Edinburgh.

A large bakery is to be erected on a site reclaimed from the canal area at Port Hamilton, Fountainbridge, Edinburgh. Plans have been prepared by Mr. T. P. Marwick, architect, of Edinburgh, and have been approved by the municipal authorities. The new building will be 250 ft. square by 70 ft. in height, and the total expenditure is estimated at £250,000. This large central bakery is for the St. Cuthbert's Co-operative Association, Edinburgh.

Cardiff Technical College Scholarships.

Ten scholarships, tenable in the various departments of the Technical College, covering tuition fees and maintenance grants of £40 per annum for three years, are offered each year by the City of Cardiff Technical Instruction Committee, for competition to residents and non-residents of Cardiff. At the scholarship examination recently held Mr. Alfred C. Light, of Hanley, Stoke-on-Trent, obtained one of the scholarships tenable in the department of Architecture and Civic Design.

Esperanto and the Finnish Fair.

The promoters of the International Fair of Finland, to be held in Helsingfors, July 1–6, 1923, have just issued a booklet in Esperanto. It is well illustrated, and contains a mass of information on matters connected with the land, population, imports and exports, and various branches of industry and commerce. The booklet, entitled "La Ekonomiaj Fortoj en Finnlando" (the economic resources of Finland), will be sent free on application to Konrad Ojala, Finland Foiro, Helsingfors.

Dundee Architects' Grievance.

Representatives of the Dundee Institute of Architects appeared at a meeting of the Reorganization Committee of Dundee Town Council and complained of the work of preparing plans for and superintending the erection of the new subsidy houses being performed by the City Architect and his staff. As the Council had already agreed that the City Architect should prepare the plans for the houses, the Committee felt that nothing could be done in the matter, but it was agreed that if any more houses were to be erected a Sub-Committee would be appointed to consider and report as to the better method of having the plans prepared.

The National Guilds.

A conference of guilds and trade unions, convened in London by the National Guild Council, adopted a formal constitution for the Guild movement provid
for an annual conference and the meth
of electing the National Guild Council,
well as the functions of the Council,
terms of affiliation, representation, etc.

Resolutions were passed by the co
ference concerning the necessity for
guilds being based upon the trade unio
and advocating workers' control in ind
try as an object of trade unions. C
outstanding resolution adopted was
favour of a mutual understanding
tween the Guild and co-operative mo
ments.

York Minster Windows.

Sir Aston Webb, P.R.A., was the ch
speaker at a meeting held in York Ma
sion House to assist in raising £30,000
make up the £50,000 required to compl
the work of restoring the stained glass
York Minster. The windows, he sa
were four or five hundred years old, a
were the most complete set of stain
glass windows in the world. They we
really English in design and workma
ship, and were irreplaceable and pricele

According to the Dean of York, w
spoke at the Hull Luncheon Club, t
windows are worth £73,000,000. I
Norris bases this stupendous figure on t
fact that in New York last year a piece
Early English glass, 30 in. by 31 in., so
for £18,500. There are 30,000 square fe
of glass in York Minster.

Liverpool University M.Arch. Degree.

The Court of the University of Live
pool have confirmed the resolutions of t
Senate and Council and thereby esta
lished the degree of Master of Archite
ture (M.Arch.) in the University. Th
degree may be given by the Senate
Bachelors of Architecture of not less tha
ten years' standing who have erected
building of distinguished merit in the
own names. This is the first degree of i
kind in any university, English or foreig
and should in the course of time form
distinction of considerable interest to t
profession. The establishment of th
new degree does not preclude Bachelors
Architecture of the University of Live
pool from proceeding to the ordinary M.
degree on the production of a thesis en
bodying historical or scientific research

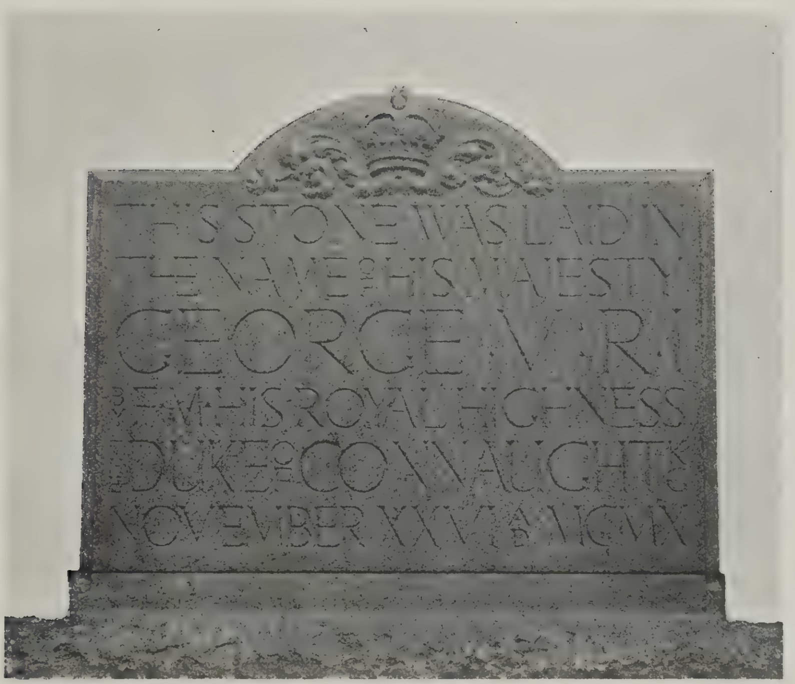
Improvement of Scottish Insanitary Area

The Scottish Board of Health intima
that the local authorities who desire
share in the annual grant of £30,000 whi
has been provided to assist local autho
ties in Scotland in carrying out schem
for the improvement of insanitary area
must complete and send to the Board t
appropriate schedule that accompani
the Board's circular of August 18, n
later than December 31. Local authoriti
are not required at this stage to subm
schemes complete in all their details, b
merely to furnish the information
quested in the schedule. The elaborati
of the details, to comply with the stat
tory requirements in respect of schem
with which local authorities may deci
to proceed, can be done later, when lo
authorities have been informed by t
Board of the amount, if any, which the
are prepared to contribute out of t
grant.

dnesday, December 27, 1922 Vol. LVI. No. 1460

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."



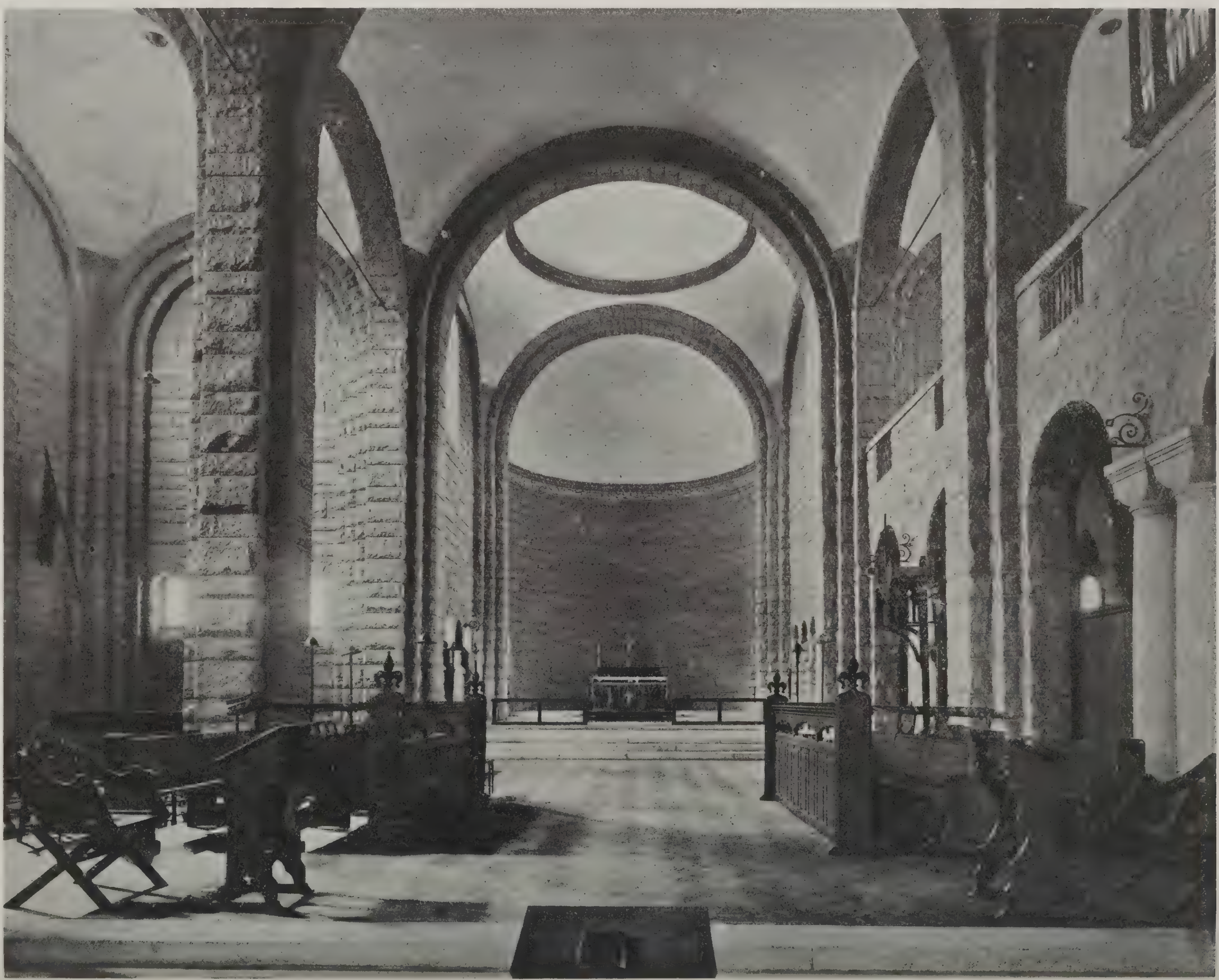
THE FOUNDATION STONE OF UNION BUILDINGS, PRETORIA.
HERBERT BAKER, A.R.A., F.R.I.B.A., ARCHITECT

(*See also page* 889.)

27-29 Tothill Street, Westminster, S.W.1.

Modern Ecclesiastical Architecture. 20.—The Interior of Salisbury Cathedral, Rhodesia

Herbert Baker, A.R.A., F.R.I.B.A., Architect



This is one of the three Cathedrals in South Africa which have been designed by Mr. Baker, the other two being at Cape Town and Pretoria. It was in South Africa, whither Mr. Baker emigrated in 1892, that he laid the foundations of his great reputation as an architect. An article, dealing mainly with the South African work of this distinguished architect, begins on page 889.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

dnesday, December 27, 1922 Volume LVI. No. 1460

The Future of the R.A. Schools

TIME was when the Royal Academy School of Architecture, Painting, and Sculpture was the preeminent art school in this country. The most brilliant of students fought hard for the right of try, and a good "place" in the school was regarded as first step on that steep and difficult ascent which led the Chair of a Royal Academician.

Now times have changed, and we imagine that those mbers of the Academy who take the work of the ools seriously must be somewhat perturbed at the sent exhibition of their students' work. The only one the three schools that appears to us to have any ality is the sculptors.

How far this is due to the work of one man, a young lptor from Wales, Mr. David Evans, we are not prered to say; but this exhibition, though small in compass d weak on the decorative side—the prize for the design a fountain was rightly withheld—is still sufficiently od as a whole to form an effective challenge to most her schools.

The case of the painters is not quite so happy; in spite some quite good individual work, the exhibition as a ole is not impressive.

There may be some excuse for the failure of the land- pe work—we do not remember that the R.A. School s ever been particularly successful in this department— t what excuse can be offered for so much of the weak awing and undecided colour ?

Compare this exhibition with a corresponding show at e Slade, for example, and we at once note the difference: the latter case the school is full of vitality and stands something definite in the art world, and, whether we e the work or not, we must admit that the students e taught to draw, and to express themselves forcibly in e and colour.

In a word the Slade School (and there are others) is a ive" school which, for good or ill, impresses itself on the dent and the art world—it stands for conviction and ality.

We do not propose to examine any further the asons that underlie the decay of painting at the R.A. hool; possibly one of the greatest is the fetish of e easel picture, and the unconscious standard set by e annual show with its big "gate" dependent on a pular appeal.

We are more particularly concerned here with the sition of the Architectural School and the performance the architectural students as exemplified in the present hibition, and we may say at once, that compared with average exhibition of any of the leading architectural hools, the standard of the work shown by the R.A. udents is quite poor.

We do not make these remarks in any unfriendly spirit. p to ten or fifteen years ago the R.A. School of Archi- cture held the proud position of the leading architectural school in this country; all other schools were in a sense contributory to it, their best students eagerly competing for the right to study there. If it no longer holds that position of authority to-day, there must be some deep underlying reason for the change.

Now, we do not for a moment believe that this failure of the school to maintain its old supremacy is in any way due to the personnel of the architect members of the Royal Academy. At probably no time in the history of the Academy have the architectural members been more representative of the best in British architecture.

Under the distinguished and able leadership of the President, Sir Aston Webb (who himself has done as much for architectural education as anyone in this country), are grouped some of the most famous and authoritative architects of to-day—Sir Reginald Blomfield, Sir Edwin Lutyens, Sir John Burnet, Mr. Baker, Mr. Gilbert Scott, and others. Neither can it be said that these gentlemen are representative of a past generation, and out of touch with present conditions. Many of them are in the prime of their artistic career, and we believe that Mr. Gilbert Scott, if not the youngest R.A., is one of the youngest. No, we believe the cause of the failure lies far deeper than can be explained by any personal or administrative reason.

Sir Aston Webb, in his presidential address to the students (which, by the way, was a model of sound advice and delightful geniality), said that we must remember—"that the students of this school did their work after a long, tiring day in an office"—so they did in the old days, but with far different results. Nevertheless, this remark of Sir Aston's probably conveys a hint of what is wrong with the school, for during the last twenty years or so our conception of architectural education has undergone very profound changes.

In place of the old system of pupilage, under which the pupil spent a not too strenuous day in the office of an architect and afterwards supplemented his education by evening work in one or other of the schools that then existed for that purpose, he now undertakes a very strenuous training lasting some four or five years and devoting his whole time to it, in one of the larger and more important of the architectural schools, such as the Architectural Association or those at Liverpool and London Universities.

When the student of to-day leaves his school or university he has received a very thorough grounding in the fundamentals of his art, and looks with a very critical eye on any school or system of design which shall offer him a lower achievement or inspiration than that which he found in his own Alma Mater.

Now, can the Royal Academy School, as at present constituted, offer such a student sufficient inducement to continue his studies, when he has completed his preliminary training ?

That some such continuance is to be desired, either at the R.A. or elsewhere, cannot be gainsaid. Five years is all too short to equip anyone for practice in one of the most difficult and exacting of all the professions.

The monetary value of the prizes offered by the Royal Academy are more than generous, and, as we have said, the eminence of the distinguished artists who are responsible for the guidance and training in the school cannot be questioned. Why is it, then, that the best type of architectural student is not to-day attracted to the school? That he is not so attracted cannot be disputed. Compare the work in the present exhibition with the work shown at any one of the more recent exhibitions of students' work at either the Liverpool or the Architectural Association Schools.

Except for the beautiful set of drawings and sketches by Mr. Cyril Farey, exhibited as the work of the returned gold medallist, and who was himself a pre-war student of the Academy and can hardly be reckoned amongst the present students — there is nothing that can compare with the best work of the students of the two famous schools we have referred to.

The R.A. School of Architecture was the pinnacle of the pupilage system, and when that system passed away the school was left like a great river with all its tributary streams dried up, except, perhaps, for a mere miserable trickle.

We believe the Royal Academy could, and should, exercise a very important influence in architectural education again, but we do not believe it will ever exert this influence through its own school, unless the conception and organization of the school undergo radical and fundamental changes.

The Architectural Association has a very flourishing evening school, formerly known as "the Atelier" and now as the "Design Club," in which the traditions of the Architectural School proper are maintained and developed by post-graduate students. It might be that the R.A. School could fulfil some such function as this, providing a post-graduate course for not one of the London schools, but for all the London schools. Or, it may be that the Royal Academicians would be better employed as a purely examining body, somewhat analogous to the École des Beaux-Arts in Paris, on which they would sit as a jury and award the prizes to be competed for by the various schools and ateliers.

What the future of the Academy Schools is to be we cannot say—that remains with the Royal Academicians themselves, but that they cannot continue on the present lines is more than obvious.

The Manchester Building Guild

According to "The Manchester Guardian" the National Building Guild, Ltd., of Manchester, has had to borrow capital to "carry on," and in return for the loan has handed over the control of its business to a Glasgow firm of contractors, by whom the business of the Manchester Guild will be controlled for three years. It is to be explicitly understood that the London Guild is not in any way involved in this transaction, which, however, discourages the sanguine hopes for the guild principle which had been enter tained in so many different directions. It does not, howeve finally dispose of the guild idea, which, as several architect have recently contended in our columns, has in it man elements of vitality, and so valiant an attempt to pu quality before profit, and to introduce more equitabl not to say more humane, conditions into the building indus try, is certain to be revived sooner or later in a new an possibly more effectual form, and on a sounder financi basis.

Mr. J. F. McRae

We reproduce below a portrait of Mr. John Findla McRae, Joint Editor of THE ARCHITECTS' JOURNAL, who leaving us to take up another appointment in the new yea Mr. McRae has been associated with Technical Journal Ltd., for the past sixteen years, during which time he ha not only been jointly responsible for the production of th Journal, but has exercised general supervision over th various publications of the fir on the literary side, besid contributing articles to man of them, especially to TH ARCHITECTURAL REVIEW.

A journalist of uncommo versatility, he has brought t the discharge of his duti an enviable combination qualities—fine scholarship, broad and sympathetic ou look, and a rare gift of literar expression. Together wit these qualities has gone a fu and intimate knowledge the art of architecture and the conditions and practic of the building industry.

A man of strong and in dependent views, he has nev failed to say in this Journ what he has thought to be tru even at the risk of some ten porary unpopularity. Witha he has consistently endea voured, in the many hundre of leading articles and note which he has written, t preserve an attitude of stri impartiality; and his sincerity of purpose an honesty of judgment have gained for him the esteem respect, and friendship not only of his directors an colleagues, but of many prominent architects an builders.

Photo: Wayland, Blackheath

MR. J. F. McRAE.

Westminster Hall Roof

Once again the King and Queen have demonstrated th keenness of their interest in the "things that matter. On this occasion their influential example has taken sha in a visit to Westminster Hall to inspect the roof repai that have been so long in progress there. But for the inte ruption caused by the Great War, the work would have bee finished long ago, and is now presumably nearing compl tion. Their majesties were greatly interested in the accou of the work given by Sir Frank Baines, whose ingenio device of strengthening the woodwork with invisible ste rods will preserve for future generations the virtuall unaltered appearance of the ancient woodwork which such a magnificent testimonial to the craftsmanship of ol English carpenters. Their majesties' visit will be widel interpreted as a vindication of the growing publi interest in building progress; and the visit is in som respects the more impressive from its purely privat character.

The Work of Herbert Baker, A.R.A.

(Specially Contributed)

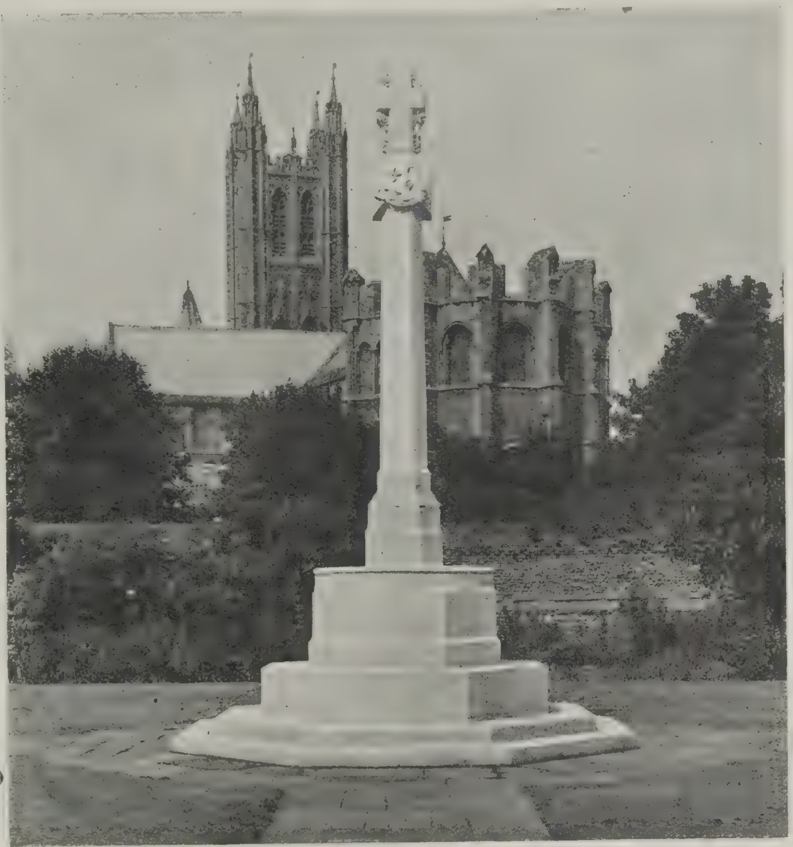
ENERGY, pent up and impatient, leapt the imaginary palisade that hems every country, and in the person of Herbert Baker one more pioneer joined those who had already set foot in South Africa, ountry that was then awakening from centuries of sleep. nong the many who were attracted to the new Land of omise, it was but very few who could make return for e country's hospitality; hive the bees or tend the cattle, her would they despoil each in turn. Fewer still, by nscious effort, left the land better than they found it. was an heroic age. The destiny of a continent was in e hands of the idealist, Cecil Rhodes, then in the full gour of his life, and he kept vigil ever for those whom he ew could help to ake real his vast eams, and could help n express himself.

Rhodes was much orried by the way ilding culture and ings of the home had nk in the slough, but was not until fortune rew Herbert Baker ross his path that he tered enthusiastically the complement of s great undertakings.

Herbert Baker had en in a short while e possibilities of the digenous architecture, manner of building, ough its origin was olland, yet was utterly ansformed by the new nditions to which the rdy settlers of the xteenth and seventeenth centuries accusmed themselves. He as well fitted for the eat work that was to ll to his lot. The fluence of the office Ernest George and eto, from which so any of our prominent chitects have graduated, was strong upon him. Two score etch-books of this period point to unremitting labours in ngland and on the Continent, a careful survey of the d Conway palace of Plas Mawr he had made the subject a book, and the "Archeologia Cantiana" contains much his research and recording.

Nevertheless, it was a situation in which character and tellect needed to be mentor to taste, and a lesser man ight easily have taken a road to disaster so far as a tional architecture was concerned. The great open aces, the liquid blue of the far-famed mountain, the soft inging lines of gables, and the great dreams of Cecil hodes were heady stuff for a young man. But out of it l he selected just the right things for perpetuation and nstructing into fresh harmonies. From the very first he alized that fundamental things had the true value, and e has never forsworn his hatred of sham and purposeless fairs in every form, a characteristic doubtless reinforced association with a man whose every idea was pregnant ith possibilities.

In the spirit of antiquarian reverence he restored Groot Schuur for Rhodes, replacing the slate with thatch as formerly. Fire destroyed it entirely, and in a larger, freer manner he rebuilt it in its present form, setting saw mills busy for the first time to supply ceiling beams of teak, and sounding the death-knell of the imported slate by encouraging the manufacture of tiles. This work probably gave rise to the first national consciousness in building. The people realized that there was a livelihood to be made from the manufacture of building materials, and there came about a constantly diminishing importation of the cast-iron filigree work that had been fashionable for so long, and many other things which can be built into a house by harking back to older and more rational methods he revived.



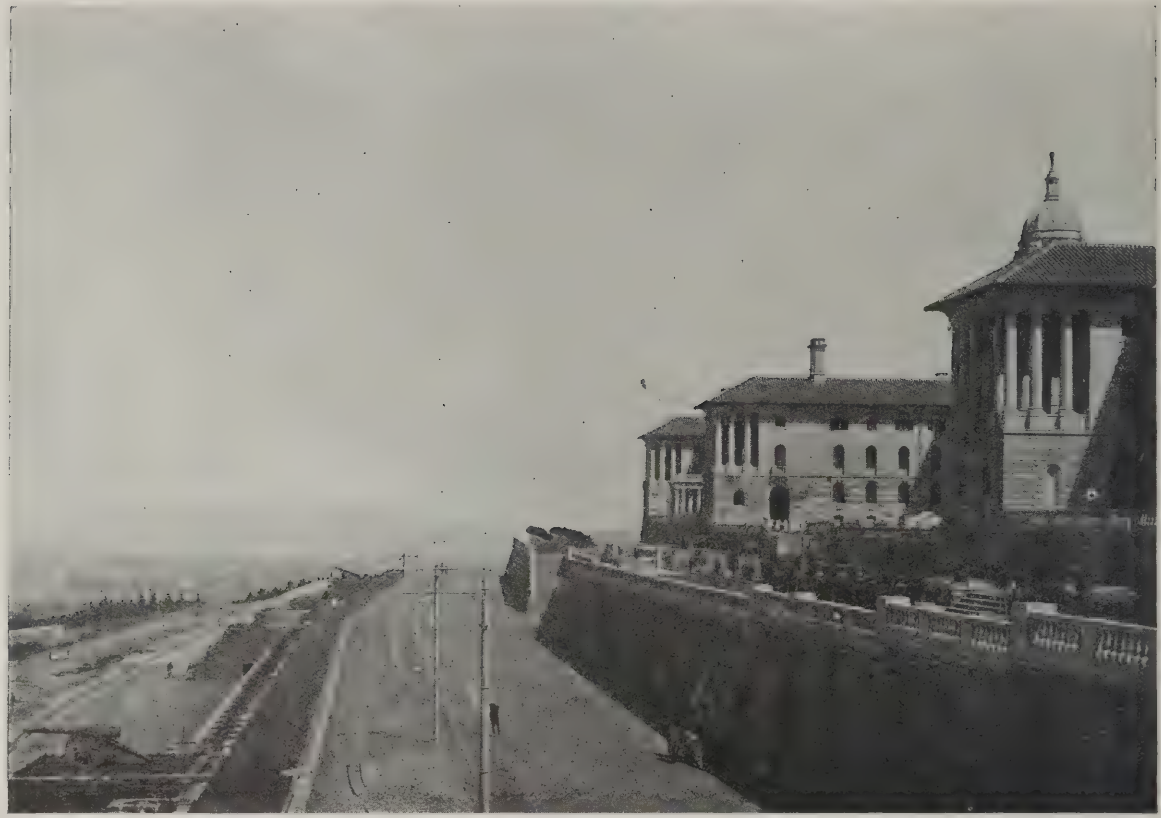
WAR MEMORIAL AT CANTERBURY CATHEDRAL.

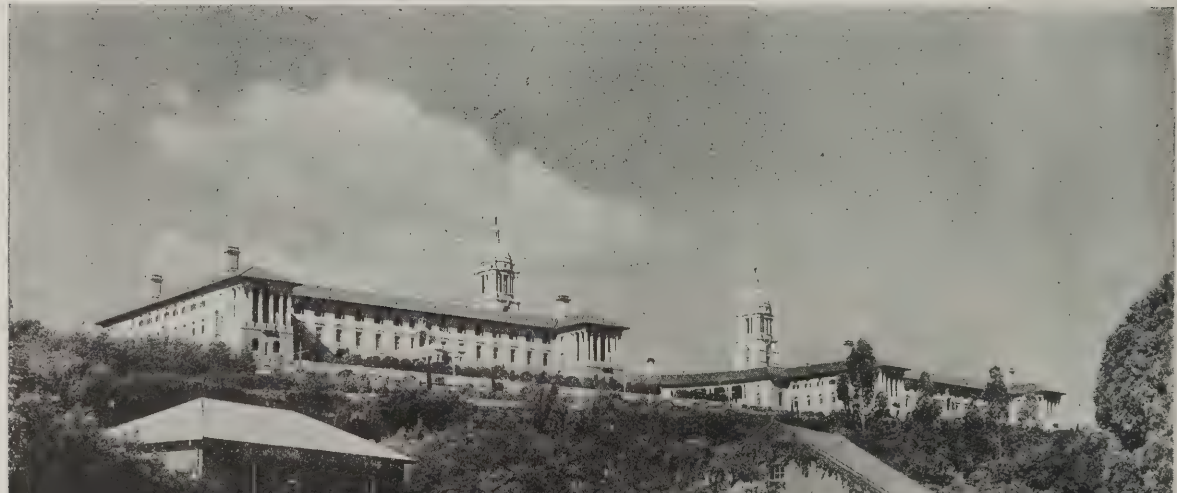
Having made a beautiful home of his own, Rhodes turned his thoughts to creating beauty elsewhere. He therefore sent Herbert Baker on a tour "to see Thebes, Pæstum, Athens, and the tomb of Lars Porsena," as he curtly expressed it. Baker was so impressed with the value of this tour, after he had already tasted the difficulties of practice, that later in life he founded a scholarship for young South African architects, tenable for two years in Rome.

Reference to all the houses built and villages designed in the subcontinent is impossible, except to remark on their extraordinary diversity. There are homes for coloured farm labourers, gold miners and magnates. Not only is there diversity in the size and appointments of these homes, but they have been built with whatever material could be found at hand, and this gave rise to the charming series of stone houses which appear to grow out of the ridges of the kopjes around Johannesburg. Here, too, was a fresh problem, and further scope for capacity in that houses could not sit for ever on barren brown hills, so he terraced and planted and lawned, the directest way in each case, with resultant charm that can only be found in Italy where the climatic conditions are similar.

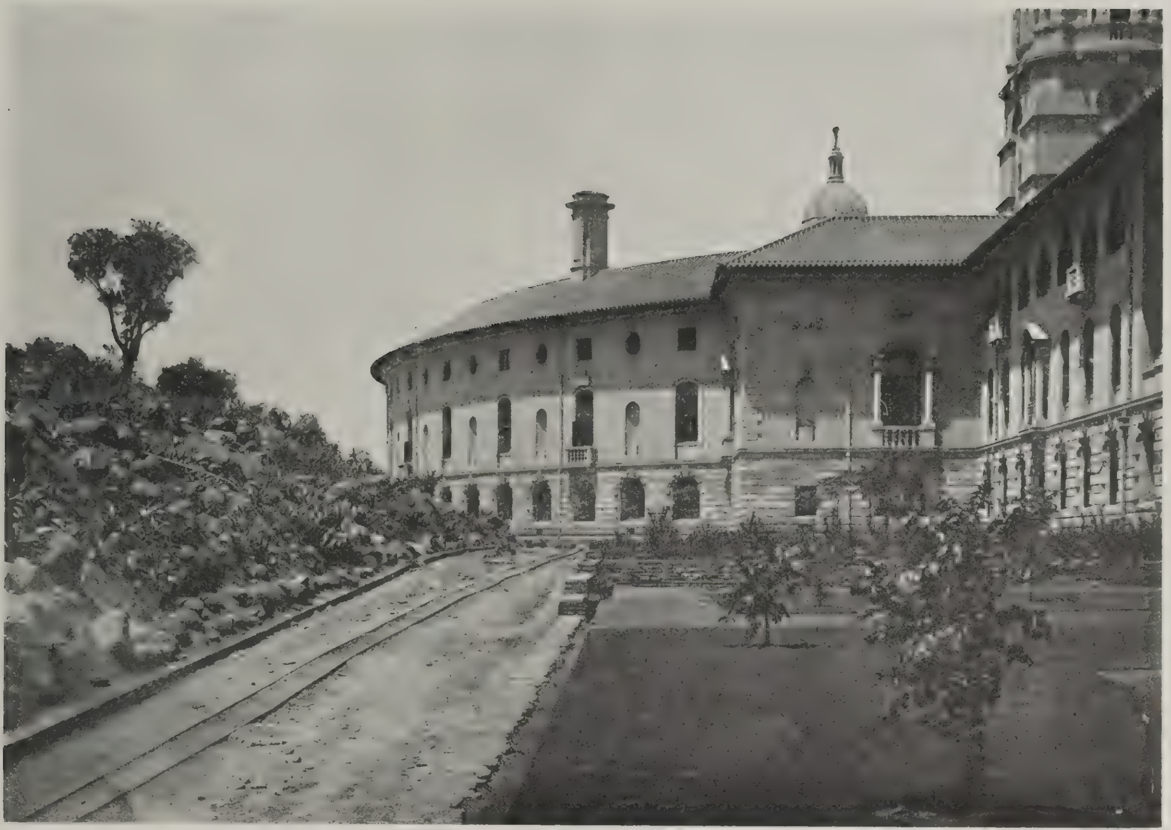
When the Governor's residence outside Pretoria was being built, Mr. Baker used to pass a kopje on the outskirts of the town which, with a big quarry in the centre, intrigued him greatly by its form. It was some years later, when the various provinces formed the Union of South Africa, and the dual capital was decided upon, that the Transvaal made arrangements to build the offices of the Government at Pretoria. Almost too good to be true, this hill was selected for the site, and the quarry became an amphitheatre where statesmen now address the people, flanked by two big buildings and terraced down to

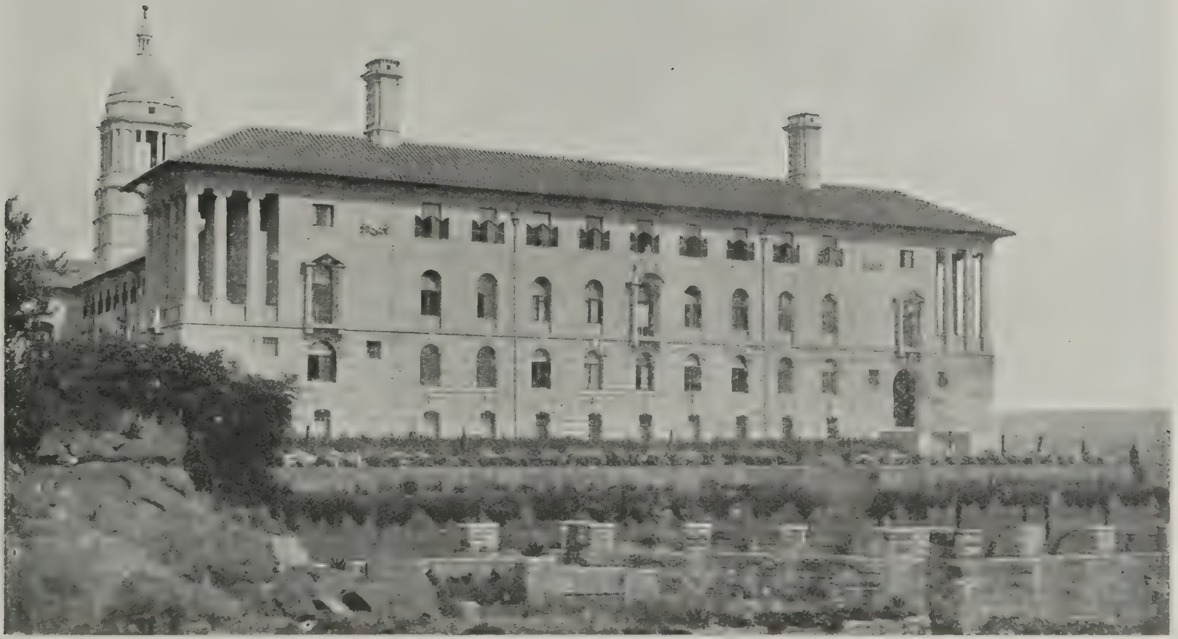
(*Continued on page* 897.)





UNION BUILDINGS, PRETORIA, SOUTH AFRICA.
HERBERT BAKER, A.R.A., F.R.I.B.A., ARCHITECT.





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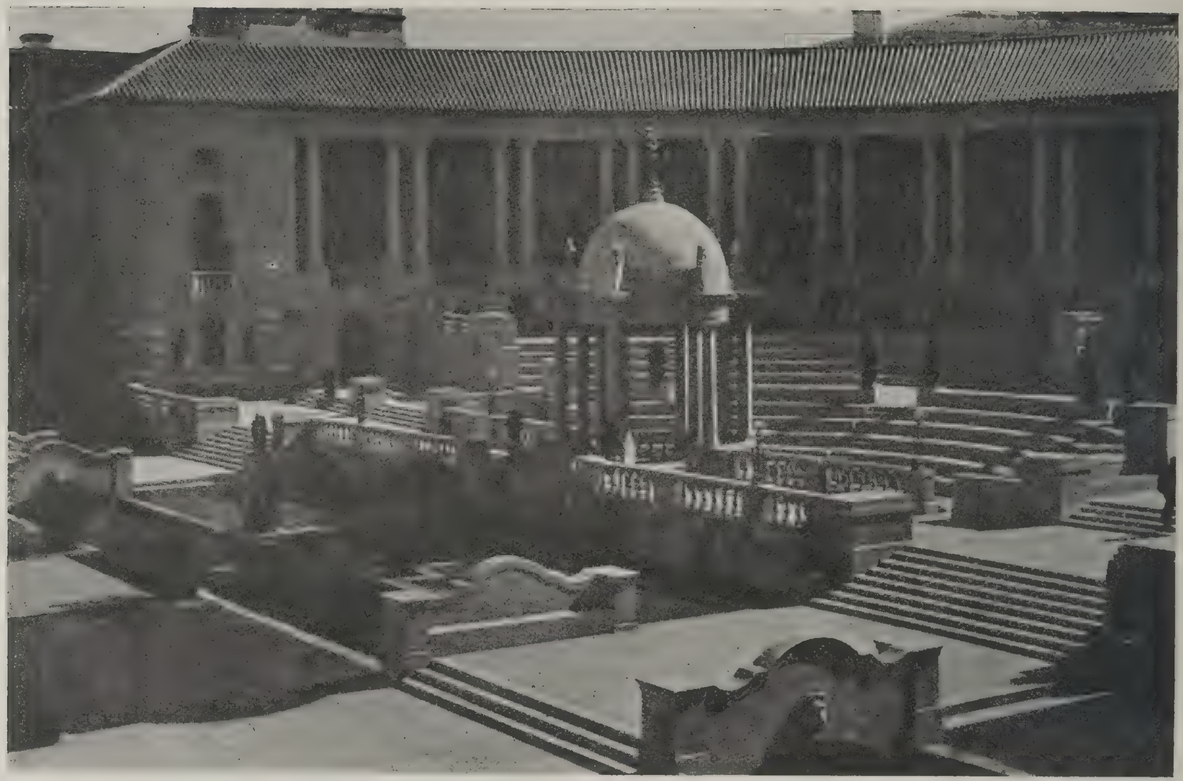

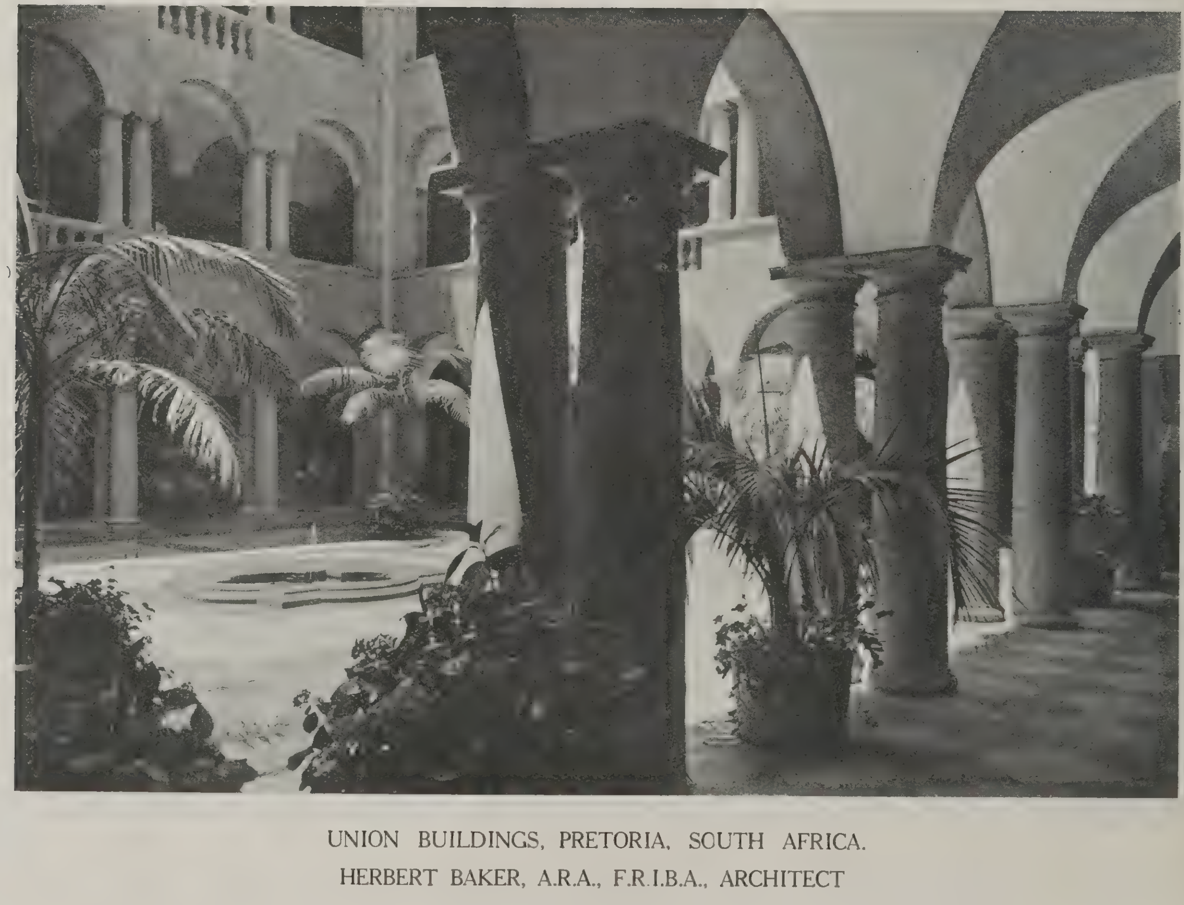

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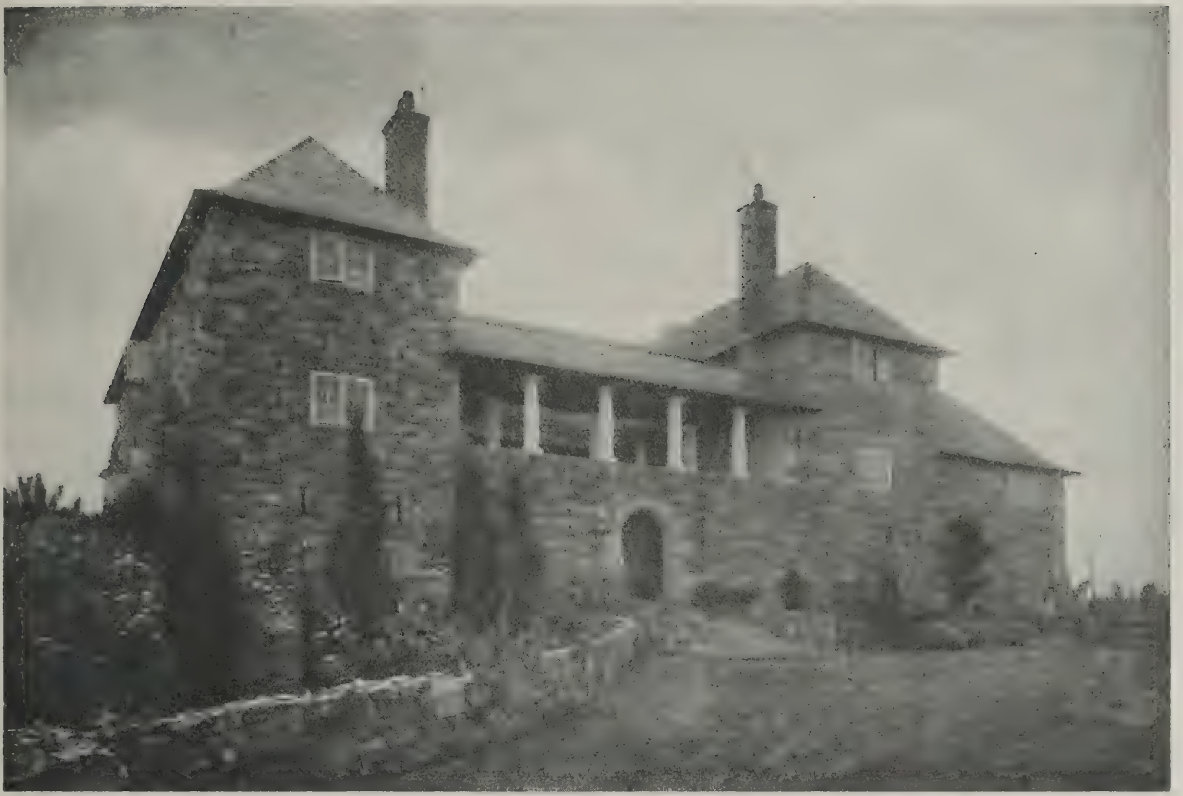
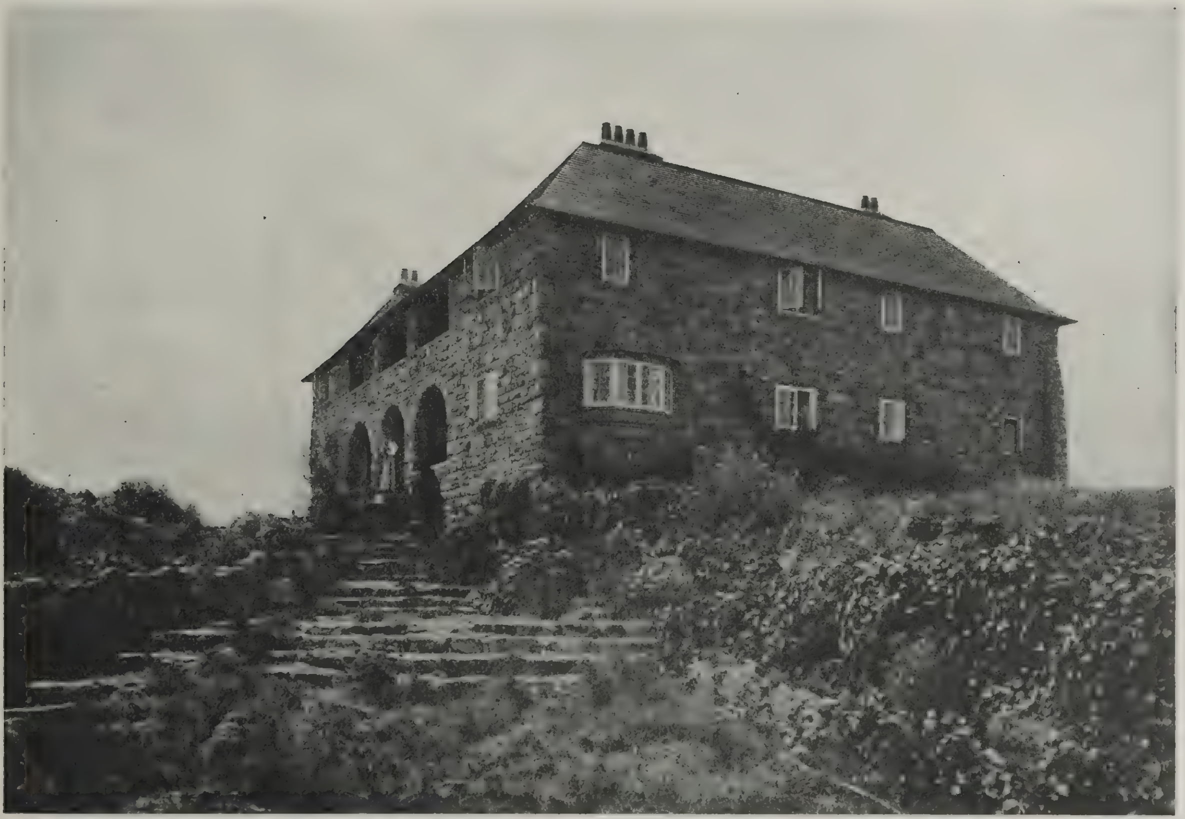


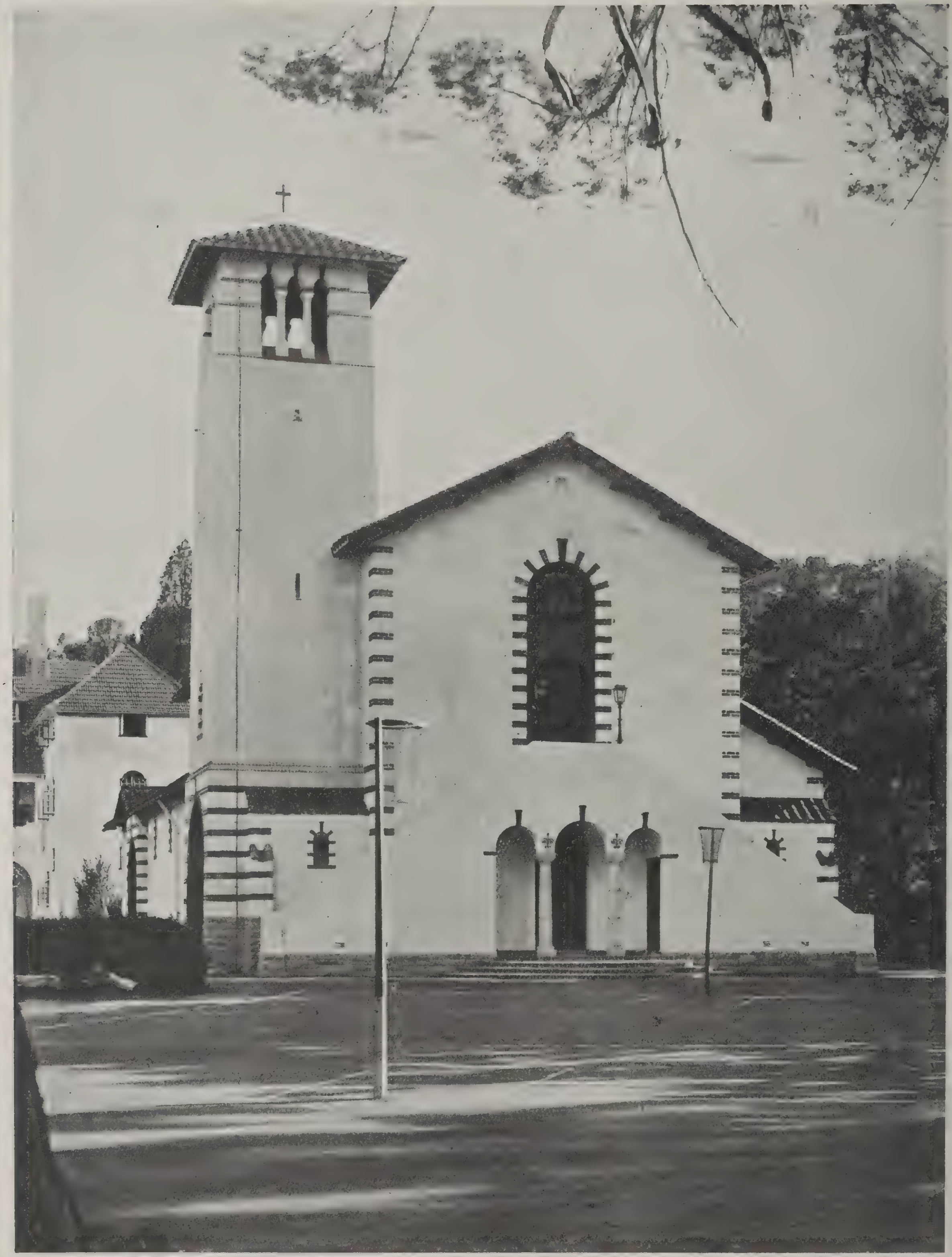
THE ENTRANCE FRONT.



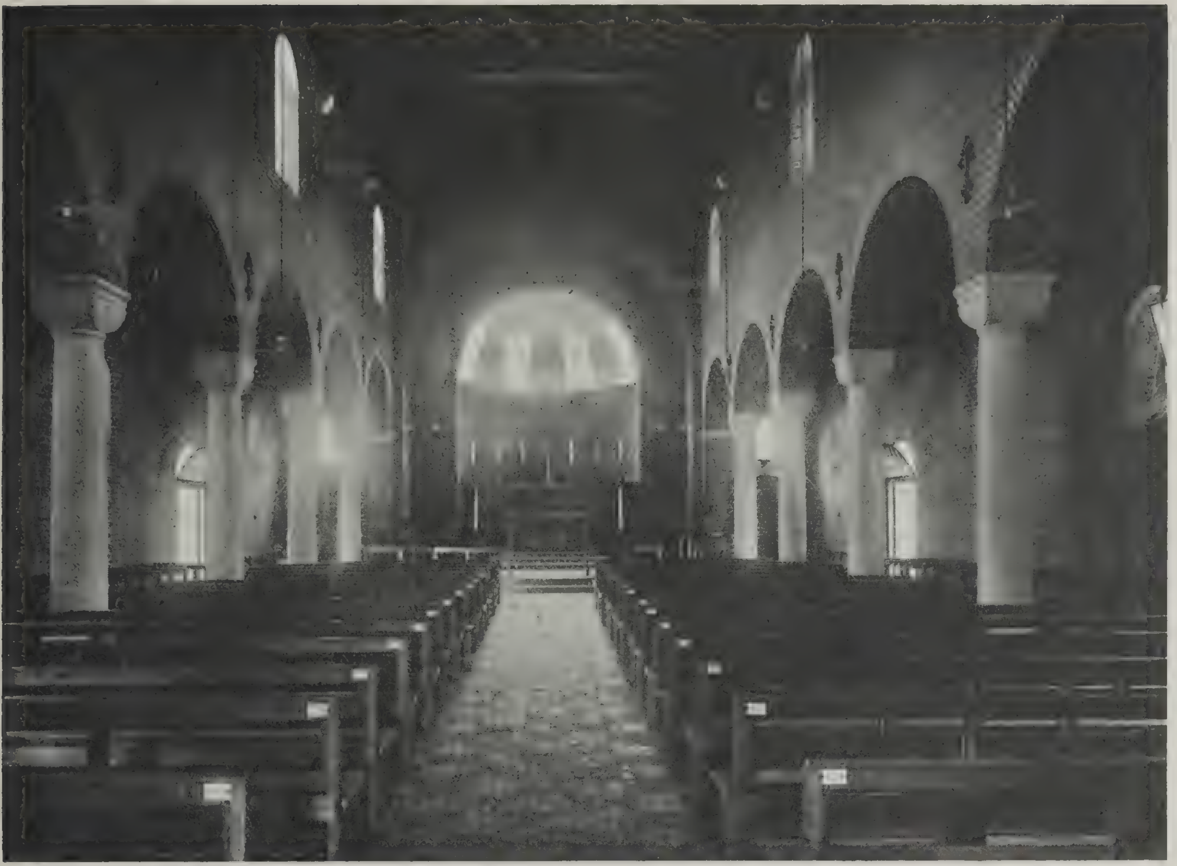
A VIEW FROM THE GARDEN.

MR. BAKER'S OWN HOUSE AT JOHANNESBURG, SOUTH AFRICA.

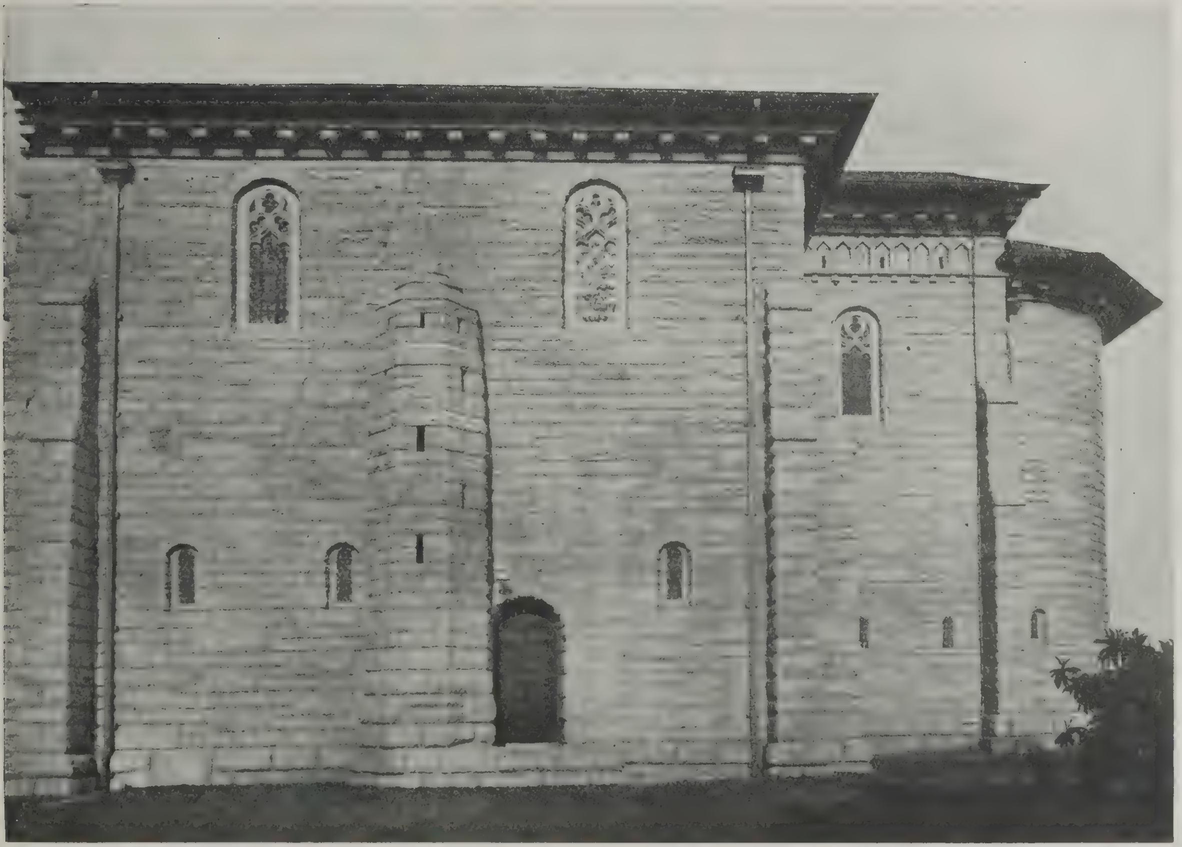
(Designed by himself.)



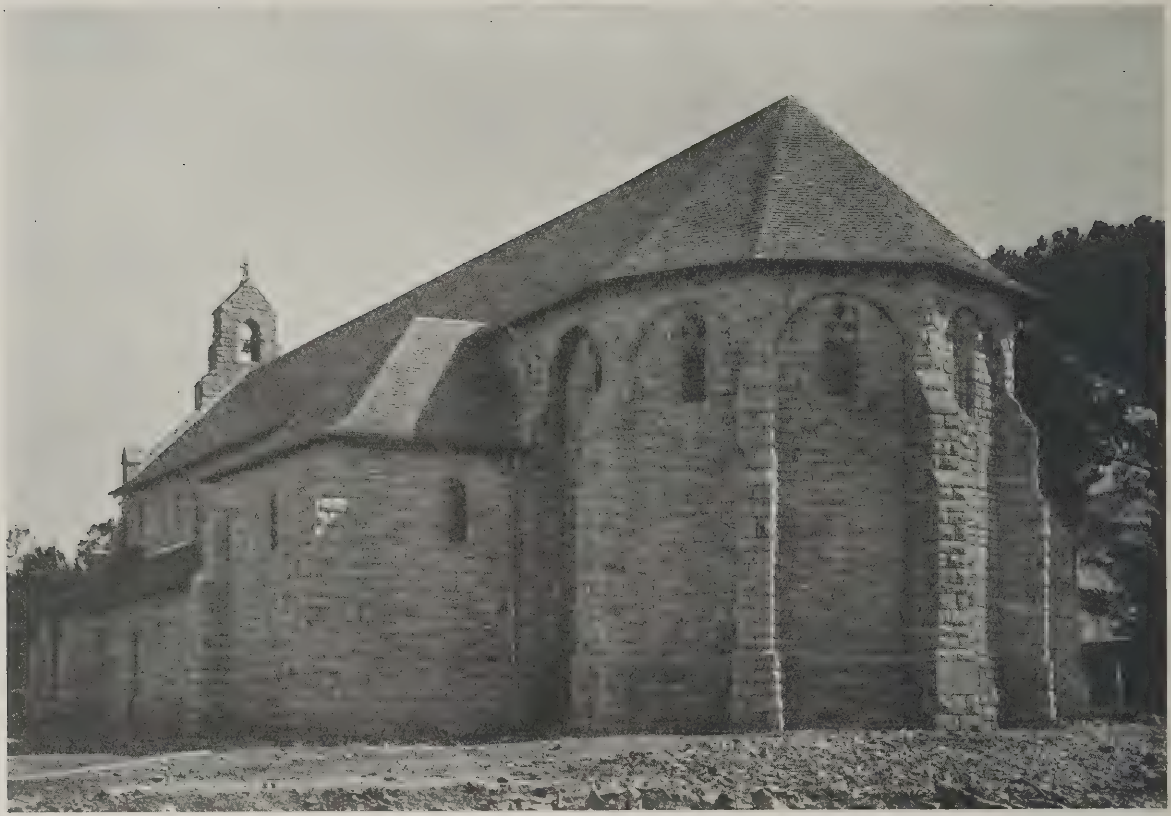
ST. PETER'S CHAPEL, GRAHAMSTOWN, SOUTH AFRICA.
HERBERT BAKER, A.R.A., F.R.I.B.A., ARCHITECT.



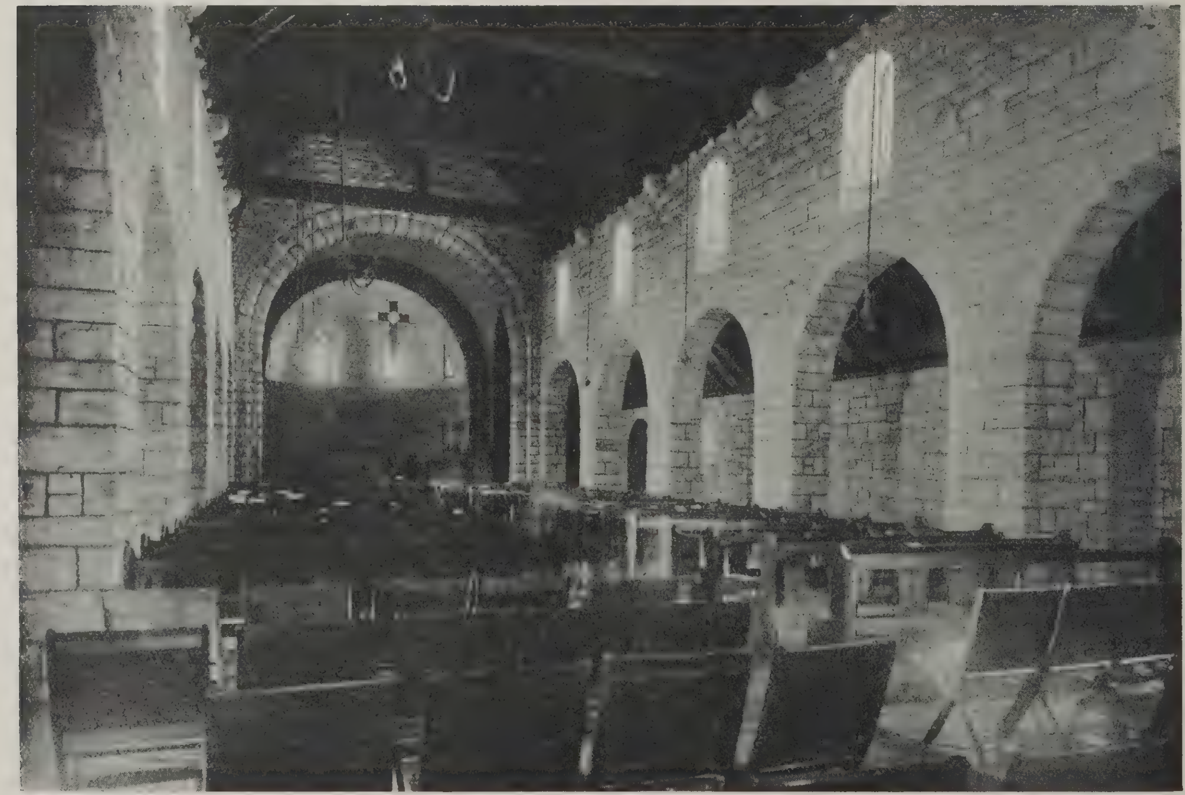
THE INTERIOR OF ST. PETER'S CHAPEL, GRAHAMSTOWN, SOUTH AFRICA.



A DETAIL OF SALISBURY CATHEDRAL, RHODESIA.
HERBERT BAKER, A.R.A., F.R.I.B.A., ARCHITECT



THE EXTERIOR.



THE INTERIOR.

ST. ANDREW'S COLLEGE CHAPEL, GRAHAMSTOWN, SOUTH AFRICA.
HERBERT BAKER, A.R.A., F.R.I.B.A., ARCHITECT.

valley below. It is too well known to require scription.

During these years many churches and several catheals were built by him, and perhaps in these even more an his other work may be seen Herbert Baker's faculty devising a design which shall be the best that each ality can be expected to achieve, that is, a sympathetic derstanding for the probable limitations of building perience, as, for example, in the more ornate manner of pe Town Cathedral, where builders of experience and desmen are plentiful, in comparison with the perfect nplicity of that in Salisbury some 2,000 miles away, or, ain, that of Pretoria, where the stone is extremely hard cut.

In 1912, during the final stages of the great building at etoria, the Imperial Government were considering the ilding of New Delhi, and Herbert Baker was appointed collaborate with Sir Edwin Lutyens, R.A., in its design. their younger days they had been together in Ernest orge's office, and had tramped England together, and it seems that, as has happened, only the best could result from their combined experiences and the different angle of approach, the outcome of those experiences. It was this work which made it necessary to begin practice once more in a hostile world. His energy is unabated, and besides the work in India, working with the Imperial War Graves Commission, he is one of the three principal architects for France. He is responsible for many memorials in England, notably that at Canterbury within the Precincts, to the County fallen; that at Winchester also to the County; Harrow School, Winchester College, and King's School, Canterbury; also the memorial work to W. G. Grace at Lord's.

The Royal Academy honour is well awarded if only that Mr. Herbert Baker found Rome, not of brick, but of cast and corrugated iron, and left it with the precious heritage of a sound condition, a vigorous school and renown for beautifying a continent from the sea to the Zambesi; a fitting and faithful work for the disciple of an Empire builder.

"Camilla Lacey," near Dorking, Surrey

HEATON COMYN, F.R.I.B.A., Architect

"CAMILLA LACEY" is situated in the hamlet of West Humble, near Dorking, Surrey, commanding extensive and magnificent views towards Box Hill and the surrounding country. It is out 200 ft. above sea level, and the whole estate extends an area of over 80 acres. It was in 1919 that the iginal mansion was completely destroyed by fire, and e new one, which has been planned and designed by r. Heaton Comyn, F.R.I.B.A., to meet the special needs d wishes of the present owner and his wife, stands on e site of the old one.

Memories of "Camilla Lacey" fill the letters of Fanny urney, for it was here, as Madame D'Arblay, that she st set up housekeeping. The original house was built om the fortune produced by Fanny's third novel, Camilla." Dr. Burney delighted in referring to his ughter's future residence as Camilla Cottage, and the name as adopted by her many friends. The house stood on the rders of Norbury Park, at that time the residence of anny's close friends the Locks. Near by also was niper Hall, which housed the colony of distinguished fugees from the French Revolution, to which General 'Arblay had belonged. So idyllic was the existence led the D'Arblays thus "in the bosom of their most rling friends," that Fanny could not bring herself to ave it and resume her position as Maid of Honour, though the Queen would gladly have had her back after r marriage. Madame de Staël and Talleyrand were two the most distinguished frequenters of the house, while . de Narbonne, the exiled French Minister of War, was vited to make his home there.

The new house planned by Mr. Heaton Comyn is approached by a long carriage drive, guarded by a lodge, and inding through well-timbered parkland terminating in a oad sweep. Actually the house is divided into two parts -the main building and the servants' wing, both of which e connected by a turret. This was one of the essential quirements, that the servants' quarters should be olated from the rest of the house. Externally the walls the main building are constructed of Kentish rag with ath stone dressings; the servants' wing is of brick up to e first floor and half timber above, and the turret and ays on the south front are of Bath stone.

The accommodation provided includes a hall, morningom, living-room, study, dining-hall with gallery, nine incipal bedrooms and dressing-rooms, four bathrooms, d five secondary bedrooms and bathroom. Other buildings on the estate and connected with the house include stabling for fifteen horses, a riding-school, a laundry, a garage with chauffeur's quarters, a lodge, and eight cottages.

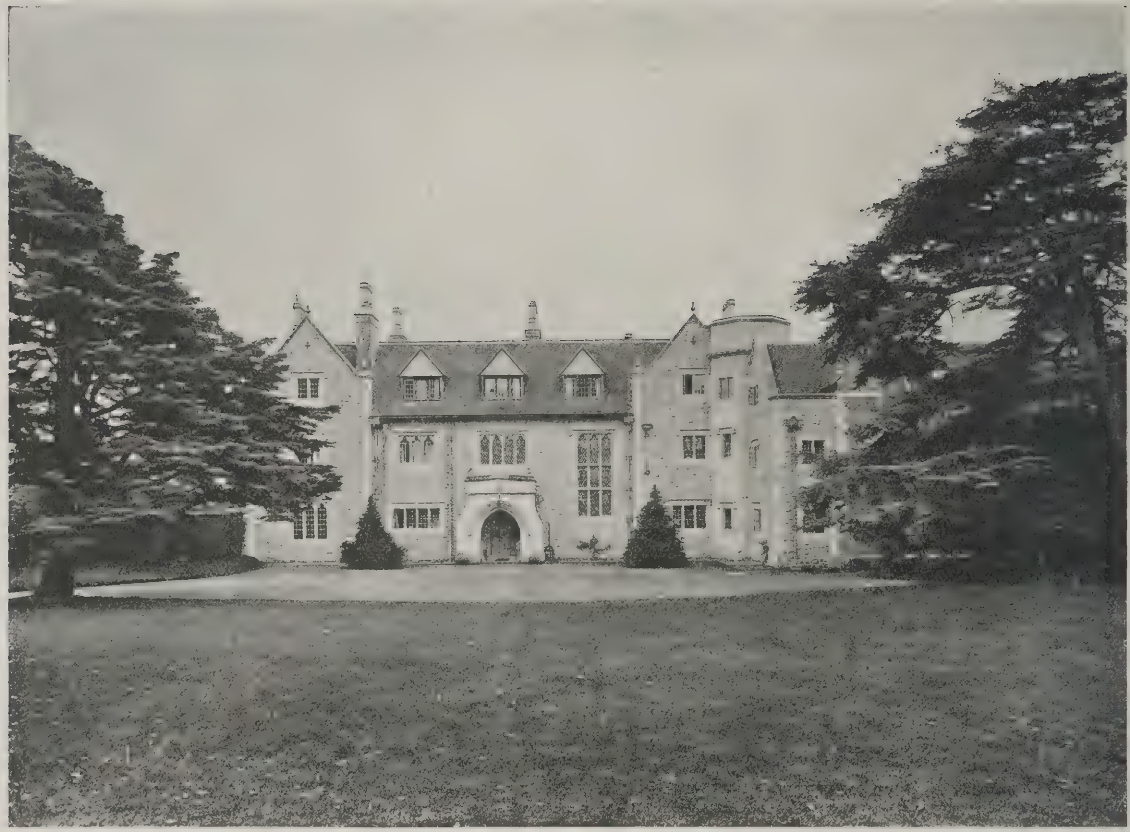
Notable features of the house are the fine oakwork, much of which is carved, the stained-glass panes in the bay window of the living-room, and the stone canopy fireplace, having the trusses carved in grotesque figures and on the upper part heraldic bosses and fabulous animals, in the dining-hall. The fine carved oak panelling is mostly fifteenth- and sixteenth-century English work, and in several of the rooms there are some fine specimens of Italian and Flemish carving.

The first floor is approached from the hall by a fine wide oak staircase, with carved spandrels and banisters terminating in the upper hall from which open the principal bedrooms. All the most important rooms of the house face south and overlook the terrace and the sunk garden. The dining-hall is carried up two stories, and the gallery situated at the end of the room is approached from the staircase landing at first-floor level.

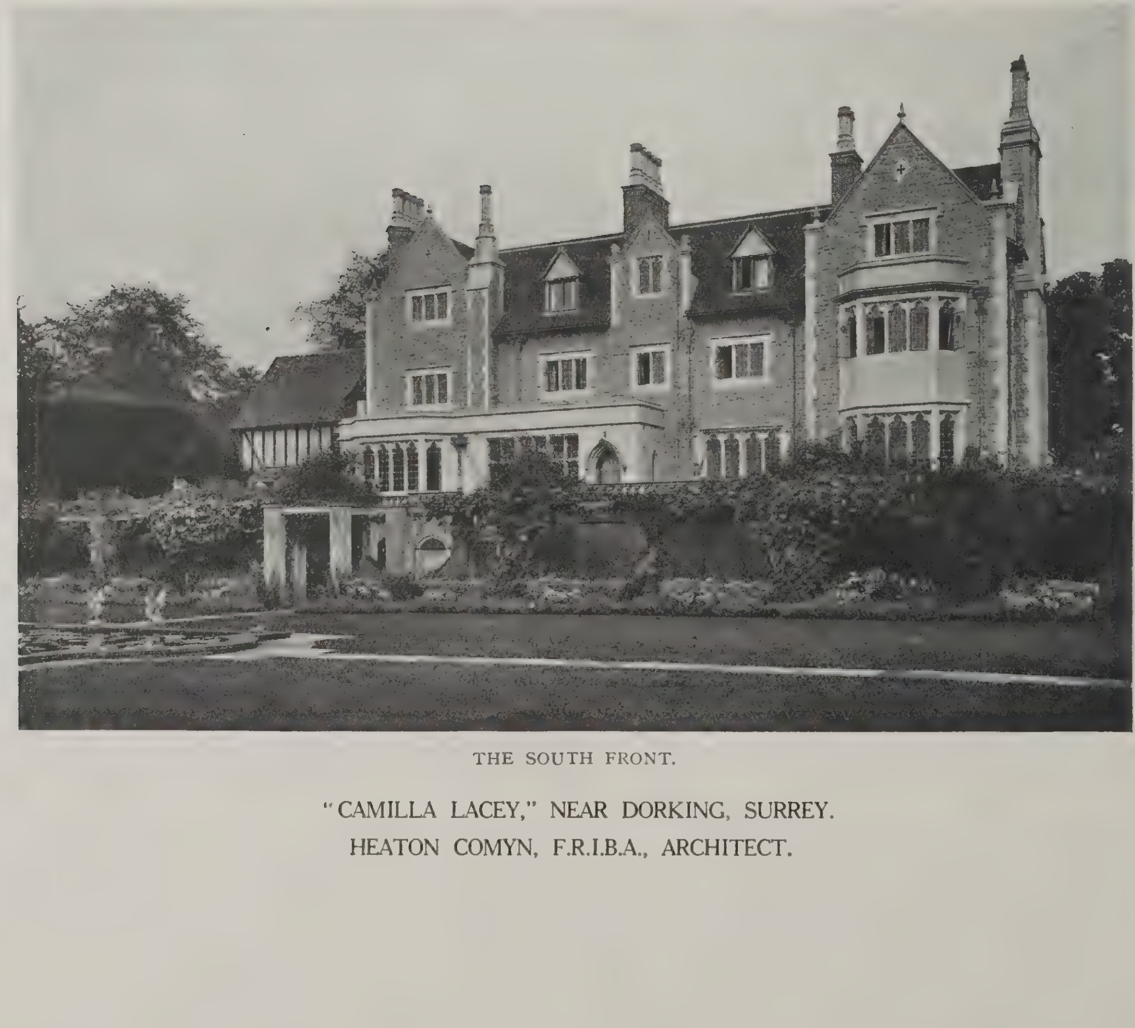
The house is fitted with every modern convenience and labour-saving device. Central heating and electric light have been installed throughout, and there are "Magicoal" electric fires in the reception and principal bedrooms. Surrounding the house are gardens laid out in a very attractive manner.

The old-world grounds form an attractive feature of the property and are disposed in a wide gravel terrace running the entire length of the house on the south side. The parkland and pastures extending to about 62 acres are studded with fine specimen trees, and provide some of the best feeding land in the county. Other attractive features are a rock-garden with lily ponds, and tennis and croquet lawns.

Messrs. Trollope and Colls, Ltd., of London and Dorking, were the general contractors, and the sub-contractors were as follows: Wenham and Fowler, of Croydon (central heating and lead glazing); Ames and Finnis (roof tiling); Shanks & Co. (sanitary fittings); Art Pavements and Decorations, Ltd. (bathroom floors); Berry's Electric, Ltd. (electric fires); and T. Crowther and Son (oak panelling, stone carving, fireplaces, furniture, ornamental plaster ceiling in living-room, ornamental lead rain-water heads and pipes, and stained glass panels). A considerable portion of Messrs. T. Crowther and Son's work was carried out from the direct instructions of the owner.

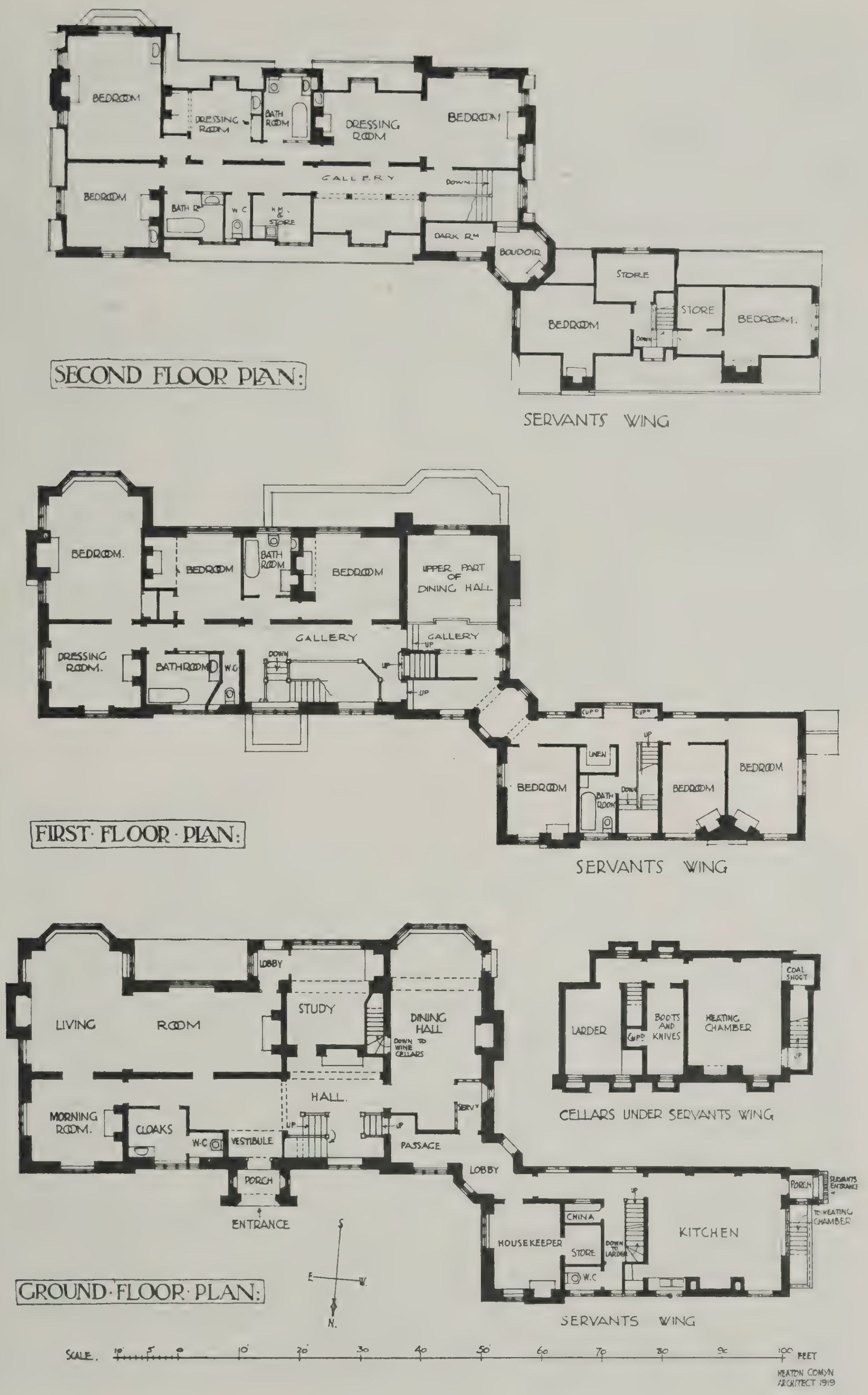


THE NORTH FRONT.

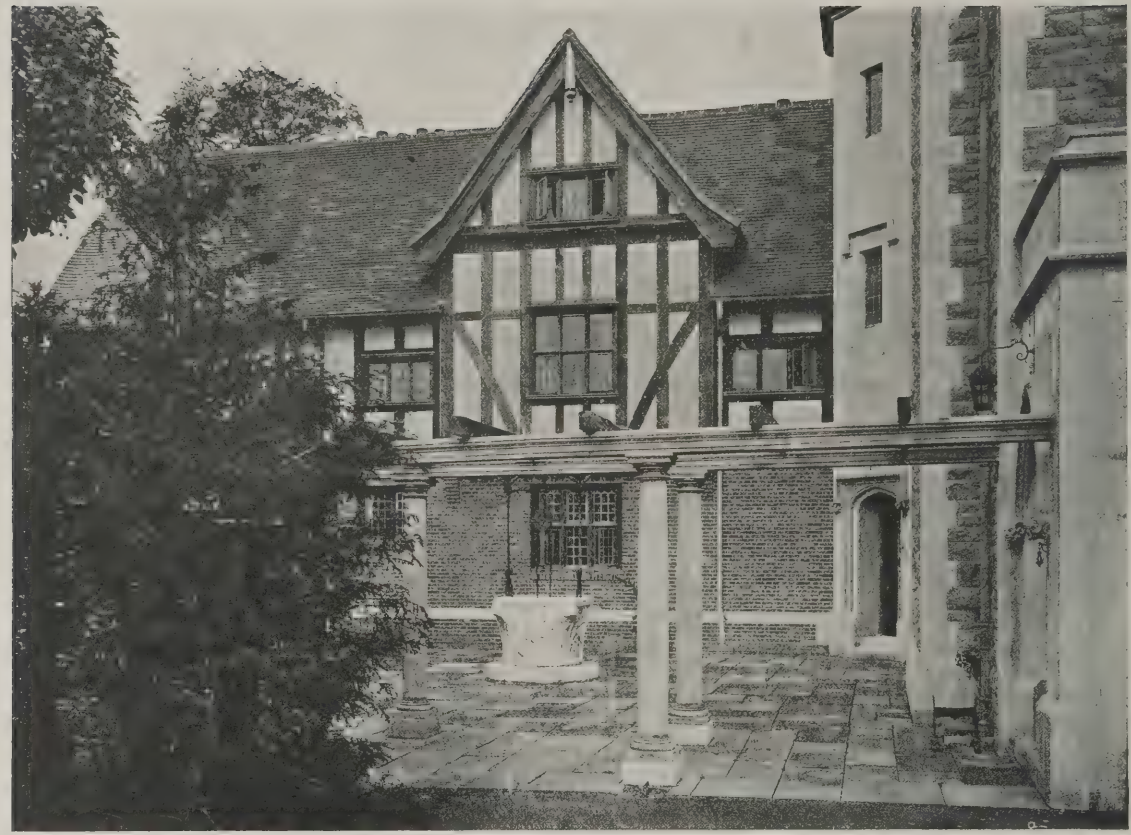


THE SOUTH FRONT.

"CAMILLA LACEY," NEAR DORKING, SURREY.
HEATON COMYN, F.R.I.B.A., ARCHITECT.

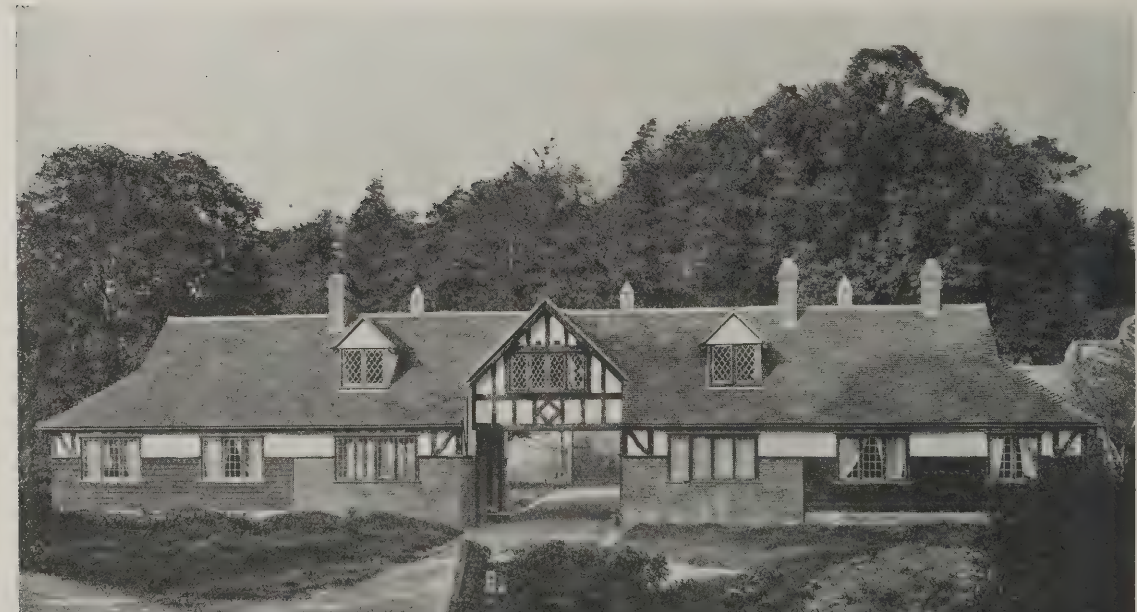


PLANS OF "CAMILLA LACEY," NEAR DORKING, SURREY.
HEATON COMYN, F.R.I.B.A., ARCHITECT.



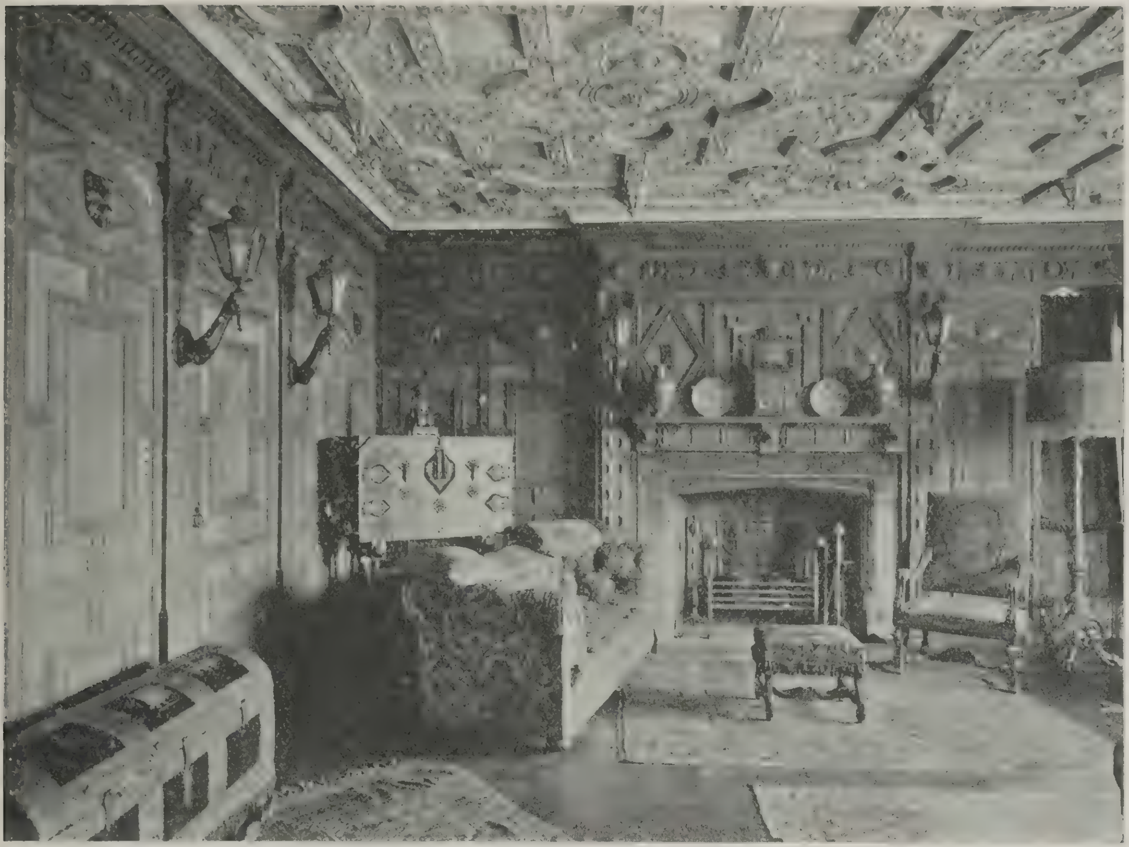
THE COURTYARD.

HEATON COMYN, F.R.I.B.A., ARCHITECT.

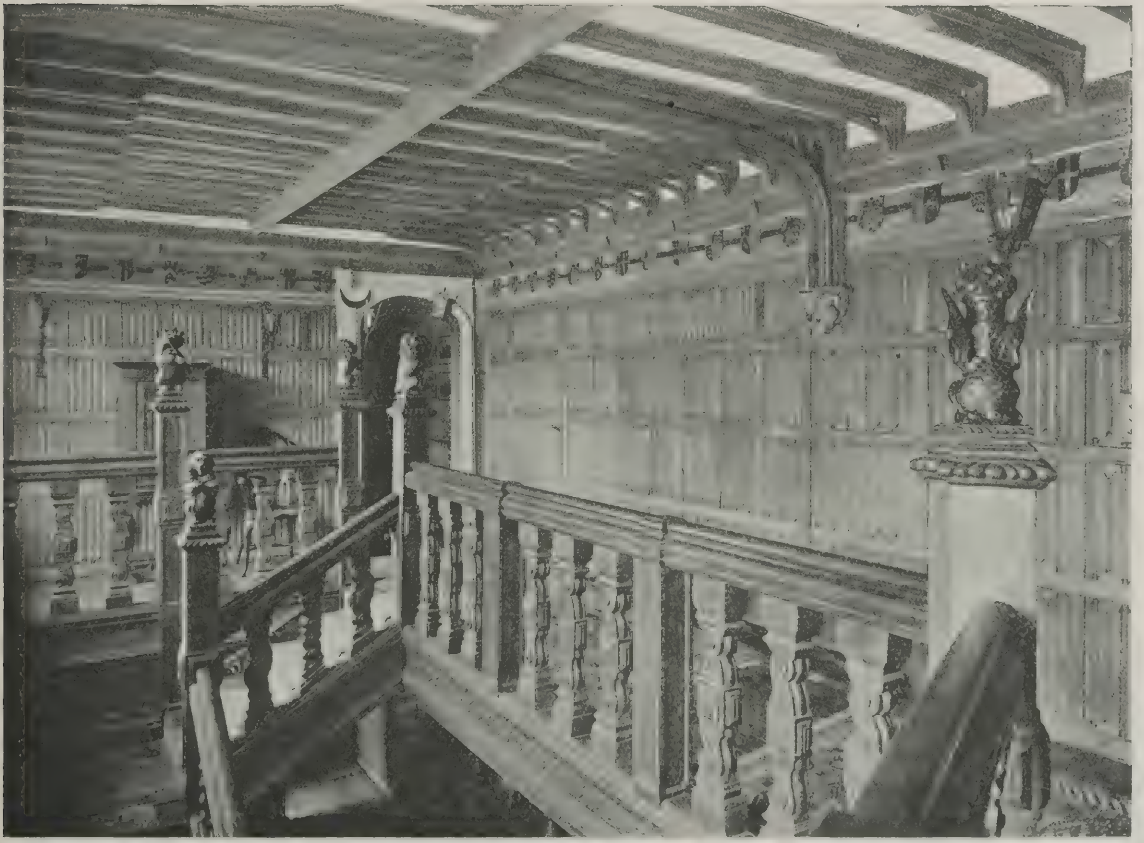


THE CHAUFFEUR'S COTTAGE AND GARAGE.

"CAMILLA LACEY," NEAR DORKING, SURREY.

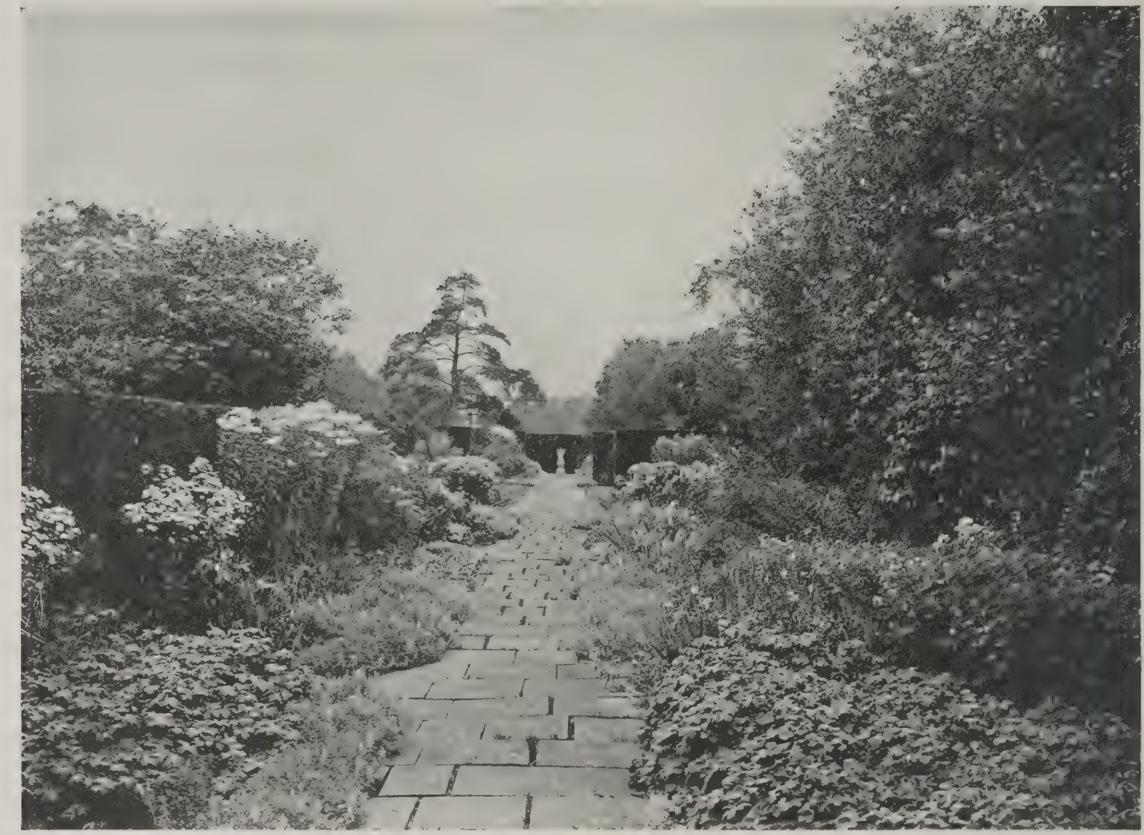


THE DRAWING-ROOM

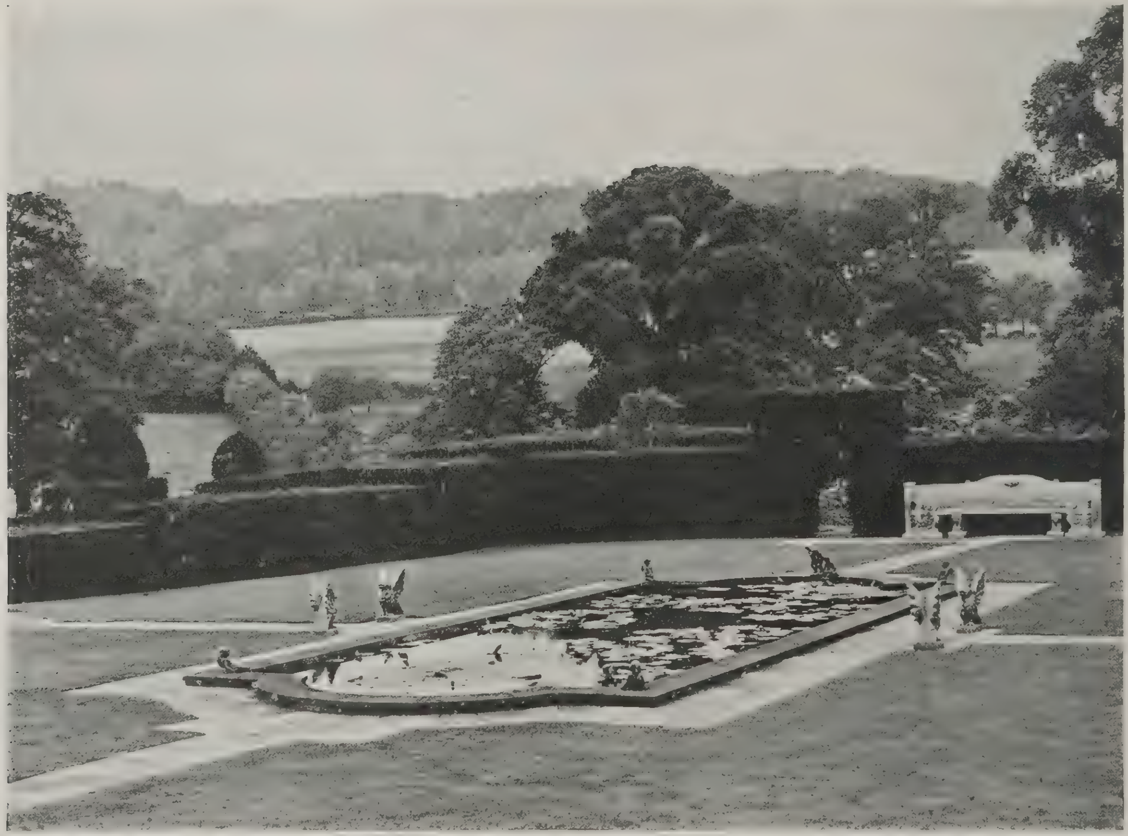


THE UPPER HALL

"CAMILLA LACEY," NEAR DORKING, SURREY
HEATON COMYN, F.R.I.B.A., ARCHITECT.



IN THE GROUNDS.



A VIEW FROM THE GARDEN.

"CAMILLA LACEY,' NEAR DORKING, SURREY.

The British School at Rome

The Aim of its Scholarships

NO prize that is open to the archi-
tectural student carries with it
more fame and prestige than the
ome Scholarship; and no other prize
ers such valuable opportunities for
hitectural study. It is the blue
and of the architectural year, and
tunate, indeed, is the man who wins it.
prospective candidates for the honour,
rticularly, the following account of
e scholarships of the Rome School
tracted from a booklet by Mr. Evelyn
aw, M.V.O., the hon. general secretary,
d recently published by the Faculties)
ll be of considerable interest.

It is not generally known that the
itish School at Rome was founded
marily as a school of archæology in
01 by a body of scholars and archæo-
gists under the inspiration of the late
ofessor Henry Pelham, President of
inity College, Oxford. Its activities were
voted to the study of antiquity, but it
s established on a broad enough basis
make it a valuable bureau of informa-
n for students of art travelling in Italy.

It was not, however, until 1911 that
movement was set on foot to reconsti-
te the school, with the view to bringing
o it fresh elements representative of
e Fine Arts in order that practising
dents of architecture, sculpture, and
inting, wishing to further their studies
Italy, might enjoy such facilities as
re offered by the American, French,
d other foreign academies in Rome.

This movement owed its inception to
e Royal Commissioners of 1851, who,
der the chairmanship of Viscount
her, in 1910 decided to extend their
stem of research scholarships, which
d proved beneficial to science and its
plications, so as to include provision
the study of the Fine Arts.

With the aid and advice of eminent
tists, the Commissioners were enabled
lay down the main lines of a system
of travelling scholarships which were designed especially for the encouragement of monumental art, and which, like the prizes awarded by the French Academy of Arts and analogous bodies in America and Spain, were to be made tenable in Rome, as the city whose traditions and atmosphere offered to art students generally more advantages for final training than any other city in the world.

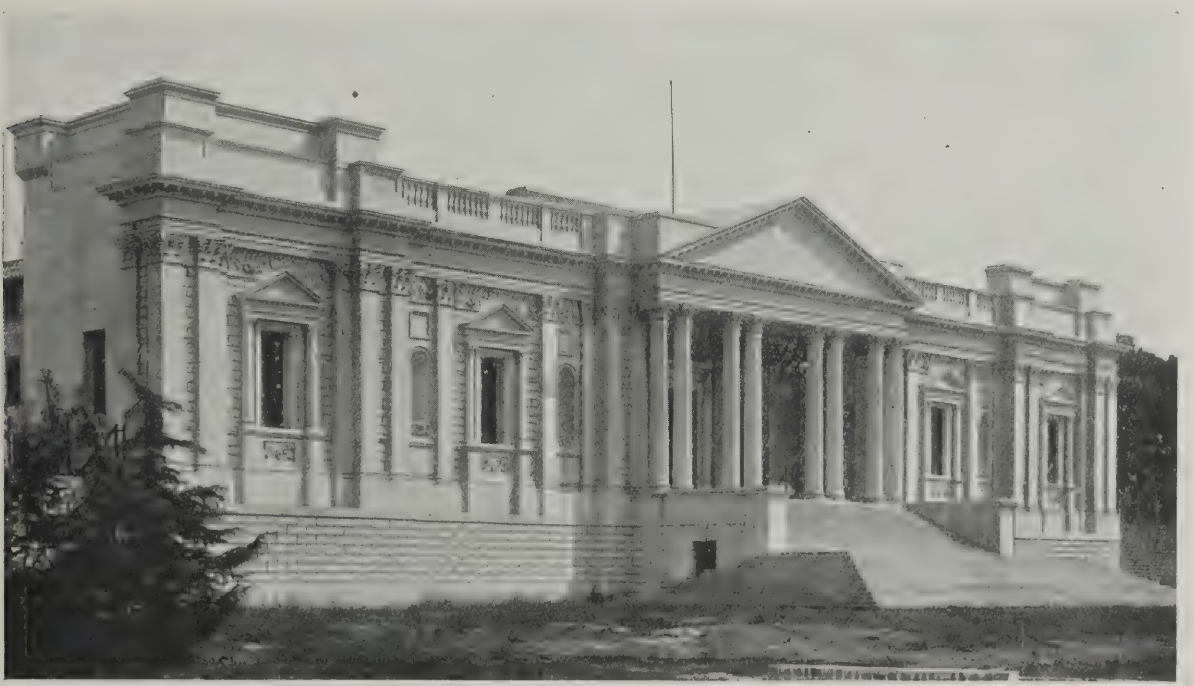
Negotiations had hardly been opened with the Committee of the School of Archæology in Rome, with the view of ascertaining to what extent that body would be able to assist the travelling scholars, when the Commissioners received an unexpected offer from the Municipality of Rome of a site on the outskirts of the Villa Borghese for the purpose of an English educational institution. It was difficult to refuse an offer which presented at once a chance of finding accommodation and supervision for the scholars, and an opportunity to secure for the nation greater educational facilities for its most promising students of Art and Letters. The offer, with its conditions as to the structure to be erected on the site, was promptly accepted, and the Commissioners set about the organization of a National Academy of Arts, which was to embrace the existing School of Archæology, History and Letters, and a new department devoted to the study and practice of the Fine Arts.

In the early days of these negotiations the Commissioners received the support of a few eminent artists, among whom were the late academicians, Edwin Austin Abbey and Sir Thomas Brock. But the importance of the scheme, as it developed, called for something more than personal support; and so the Commissioners sought, and in due course obtained, the co-operation of the principal professional bodies concerned, reserving, however, to themselves the direction and control of things in the desire to set up an institution that would be free from sectional control and thoroughly representative of all the interests affected.

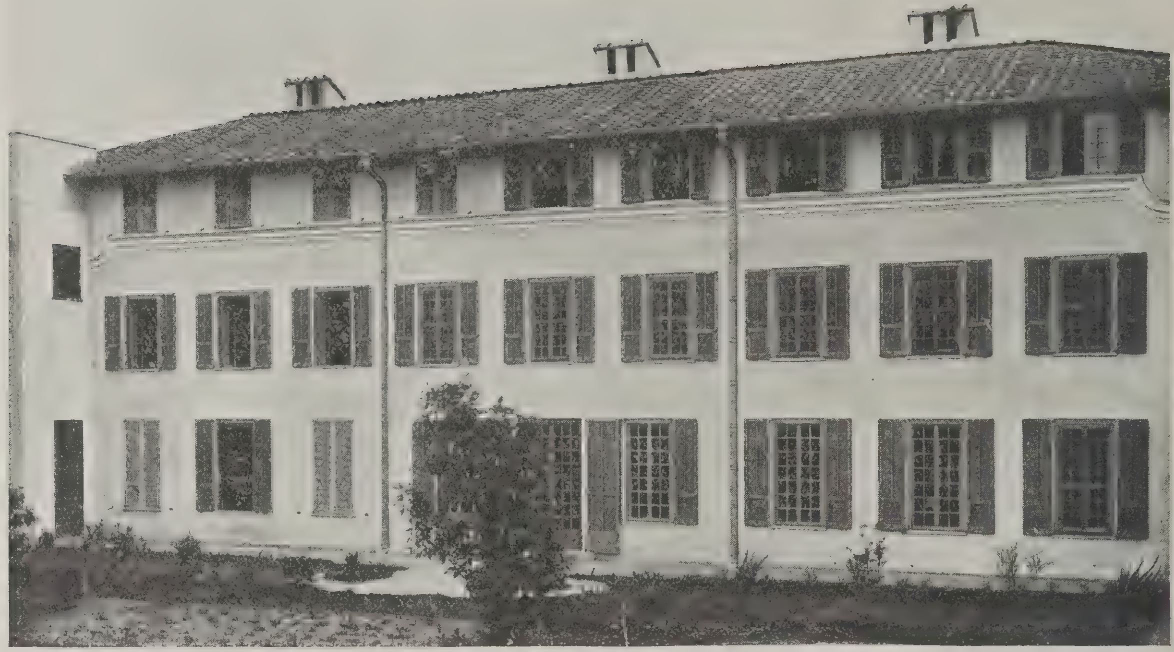
The result of these proceedings was made public in November 1911, and by June of the following year a Royal Charter of Incorporation was granted to the school, conferring upon the new organization the power to recreate and maintain in Rome a national institution for the study and practice of the Fine Arts, and for the study and investigation of the archæology, literature, and history of Rome and Italy at every period.

Under the Charter the general management of the school is in the hands of a council and executive committee, and the direction and control of the archæological and artistic interests are entrusted to five faculties representing (*a*) archæology, history, and letters; (*b*) architecture, (*c*) painting; (*d*) sculpture; (*e*) engraving. The school itself is under the immediate supervision of a resident director; and the building, which occupies a beautiful position in the Valle Giulia, overlooking the gardens of the Villa Borghese, provides both working and living accommodation for the students who are fortunate enough to gain admission.

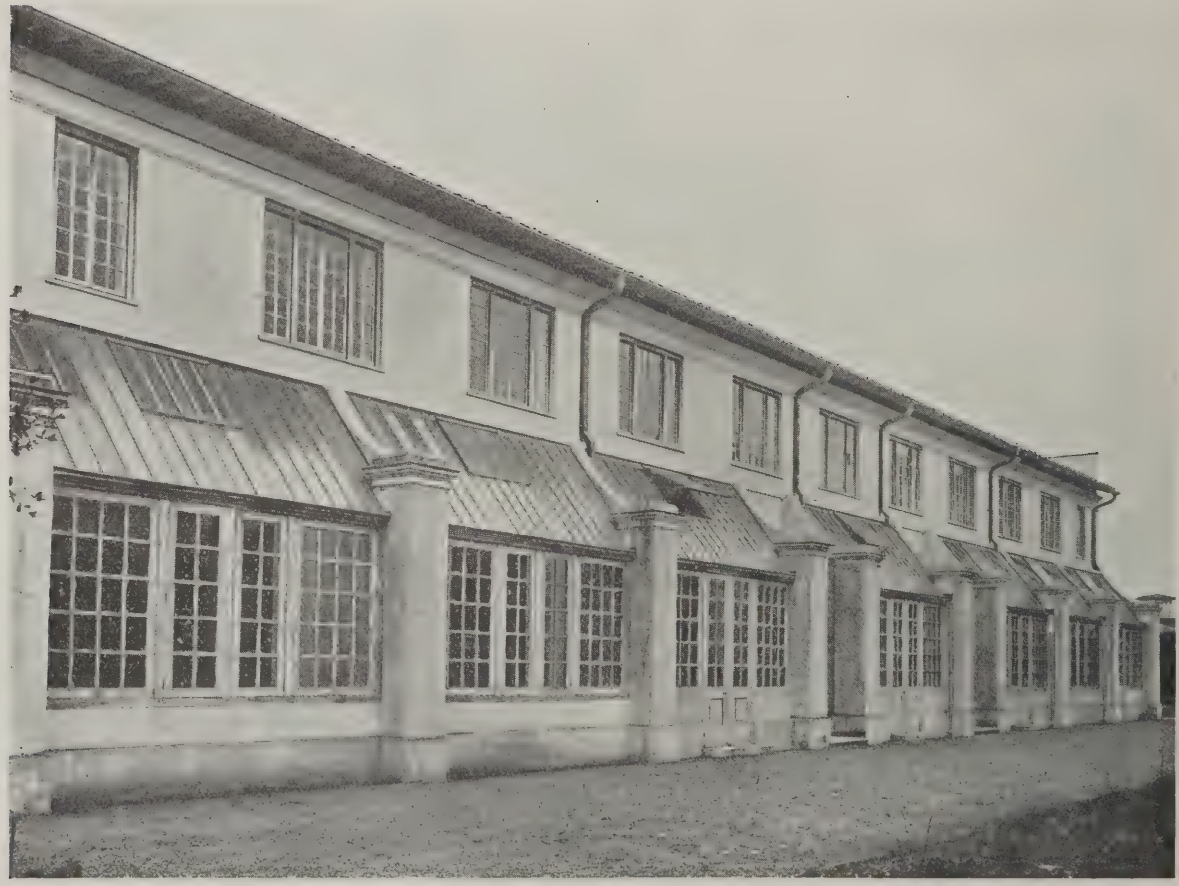
Although the school undoubtedly gives exceptional advantages to a few chosen scholars in search of knowledge and inspiration amid the august surroundings of the capital of the ancient world, its chief aim is to promote the advanced study of the arts and to assist in raising the standard of art education throughout the Empire. As the Grand Prix de Rome has helped to make the Ecole des Beaux-Arts in Paris the foremost art school in the world, and as the national competitions instituted by the American Academy in Rome have undoubtedly increased the efficiency of universities and art schools in America, so it is



THE ENTRANCE FRONT. SIR EDWIN L. LUTYENS, R.A., F.R.I.B.A., ARCHITECT



THE GARDEN FRONT.



THE STUDIOS OF THE EDWIN AUSTIN ABBEY WING

THE BRITISH SCHOOL AT ROME.

lieved the British School at Rome will ve an impetus to artistic training roughout the Empire, and will enable udents of art schools not only to com-te with their fellow students, but with e picked students of other institutions.

The scheme of scholarships to be held / students of art at the British School Rome was framed with the intention at the holders should be enabled to mplete their education by a term of udy and residence in Rome. Thus, it as hoped, they would acquire an en-rged culture and a wider outlook rough acquaintance with the monu-ents, collections, and associations of the lace. It is not asked or desired that ome scholars should become simple pyists. But if a student fails to give share of his interest and attention to his rroundings in Rome, he is not thought be doing his part to carry out the urpose of the endowment, of which he is njoying the benefit. The great objects r which the school was founded can only e realized through its influence on the ind and art of the individual. Scholars re, therefore, urgently advised to take e fullest advantage of the opportunities fforded them by the inestimable privi-ege of residing in a city and country ich in historic memories and artistic radition. The association with students f other arts should be counted not the ast of these opportunities. A proper se of the literary equipment of the school ts library, the lectures, and demonstra-ions given by the staff and students) hould equally be sought. Such oppor-unities can be turned to profit at this eriod of a student's training, and are not kely to occur again at any time in his areer.

In the Fine Arts Section a Rome Scholarship is offered for annual competition among British subjects in each of the following branches of art: architecture, sculpture, decorative painting, and engraving. These scholarships, which are administered by the Art Faculties of the school, are of the value of £250 per annum, and are tenable for three years. An additional studentship is offered annually by the R.I.B.A. to the student or associate of the Institute who passes next in order of merit to the candidate placed first in the competition for the Rome Scholarship in Architecture.

This, the Jarvis Studentship, is of the same value as the Rome Scholarship, but is tenable for two instead of three years. The age limit in the architecture and painting competitions is twenty-seven. In the sculpture and engraving sections it is at present thirty.

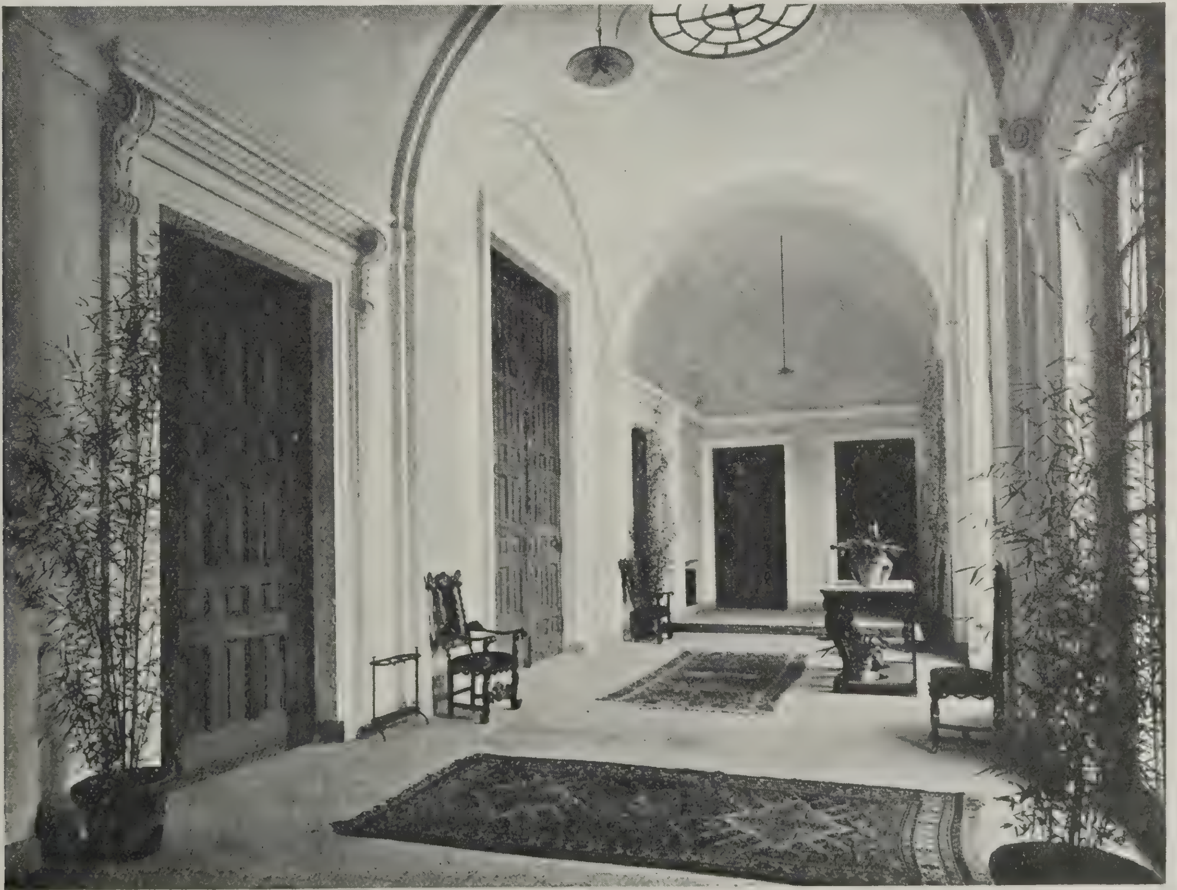
A further post-graduate scholarship, namely, the Bernard Webb Studentship, which is worth not less than £250 per annum and is tenable for one year, is offered by a special committee of the school for the encouragement of the historical and critical study of architecture. It is open to bona fide students of architecture not exceeding thirty-two years of age who have been members of the Architectural Association for not less than four years.

The Faculty of Archæology, History, and Letters administers at present only one studentship, awarded by the Gilchrist Trust, which is of the value of £75 and tenable for not less than five months in one session. The award is made by selection, and the age limit is at present thirty years. The Pelham Studentship, value £100, is awarded by the University of Oxford, and is tenable for one year at the school. The holders of other university research scholarships and prizes may, by arrangement with the faculty, be granted the full or partial privileges of a scholar.

The syllabus and list of studies drawn up for the Rome and Jarvis scholars in architecture are contained in a special memorandum issued by the Faculty of Architecture. The course of study is so arranged as to make it possible for the architect, at the end of his scholarship period, to submit the results of his studies in a complete set of drawings showing the restoration of some important ancient building. The faculty encourage associative work in design problems undertaken with the painters and sculptors. The Rome scholar is allowed to spend his third year, and the Jarvis student six months of his second year, away from Rome.

The sculptor is not called upon to produce to the Faculty any plastic work until the end of his second year in Rome. Like the painter he spends his first year in acquiring a greater knowledge of his art and in generally preparing himself for the work of his second and third years, in which he is required to execute in plaster a figure and a relief or group life size. The Faculty reserve the right to retain a cast of each work. Evidence of the sculptor's collaboration in design with students of other Faculties is always welcome.

Engraving students are asked to produce each year, in addition to studies in black and white and colour, at least three complete plates in any one of the methods of engraving. The engravers are expected to continue their studies from the nude and to follow the Faculty's recommendation as regards general training.



THE ENTRANCE HALL OF THE BRITISH SCHOOL AT ROME
SIR EDWIN L. LUTYENS, R.A., F.R.I.B.A., ARCHITECT

How to Look at Architecture

Professor Reilly's Lecture at Manchester

BOTH the Manchester Society of Architects and the Manchester Branch of the Institute of Builders have been collecting funds to help to found a Chair of Architecture at the University. Hitherto funds for the school of architecture have been provided jointly by the University and the Corporation, but this arrangement has come to an end, and the school is now under the sole control of the University. Both architects and builders have felt that it is not enough to teach architects, but that the general public must be enlightened as well. With this latter object in view lectures are being given in the lecture theatre, which is being lent by the University for the purpose.

For the past two years the lectures have been provided by the joint efforts of the Manchester Society of Architects and the Institute of Builders, but this year the Manchester Royal Institution has joined with the architects and builders, and the first of this session's lectures was provided by the Royal Institution, and given by Professor C. H. Reilly, F.R.I.B.A. Mr. T. D. Barlow was chairman, and briefly introduced the lecturer.

The subject was "How to Look at Architecture," and a large audience found very evident pleasure in following the lecturer through a great number of lantern slides, depicting most of the famous buildings of the world, ancient and modern, while he analyzed the architectural qualities which have given them their renown. According to the "Manchester Guardian," Professor Reilly, in the course of his lecture, said that architecture was the one art which could turn this very material civilization of ours into something spiritual and beautiful. The changes could be achieved by very simple means—an alteration of dimensions which did not involve the expenditure of great sums of money. A good building was often differentiated from a bad building by a few inches or a few feet.

The Greeks understood this best. They realized that in proportion lay the secret of interpreting the soul. By slightly altering the length, breadth, height, and every part of a building, so they might make the kind of building which appealed to the imagination of all the ages which lifted man from a kind of creeping creature to a creature for whose abilities there was no limit. Anything that could be done to increase the popular appeal of architecture was tremendously worth while, and he congratulated Manchester on the attempts which were now being made in the city to bring back architecture to the public, or, rather, to bring back the public to architecture.

In all the great ages of art there was a great popular sentiment behind it. It was so in the fifth century in Greece, when architecture was chosen as the symbol of all the great aspirations of the Greek race, when great buildings on the Acropolis were built as memorials of a war that had saved civilization. There was a popular critical opinion behind and acting as a check upon the exuberance of design during the Renaissance in Italy. In our own Georgian period we had a very rigid taste. It belonged to one class of society rather than to all. No one could call himself a gentleman in the days of Horace Walpole who could not express an opinion upon the proportions of the buildings which were then being erected. This opinion existed in some countries to-day.

In America, which was sometimes regarded as a crude place, where crude ideas flourished, architecture, as the sign of a great civilization, was an art that prospered most.

As showing the want of popular interest in architecture in England Professor Reilly expressed a doubt whether any average citizen could mention the name of a single great architect working in England to-day. "And yet," he remarked, "we have had the streets of Liverpool blocked by people anxious to see a beautiful girl. I am not quarrelling with that. The Greeks would have done it. What I should like to see would be the same enthusiasm and excitement shown when the scaffolding is removed from a beautiful new building."

How should they look at architecture? It should be looked at like the product of any other art. They should allow it to move them like a picture. A great building had this curious faculty, that it made an immediate appeal to the imagination. It should cause the heart to leap and a lump to rise in the throat just as any other authentic work of art did. Architecture was not a remote art demanding great knowledge for its appreciation. It was a homely art answering practical needs. It reflected the thoughts of the times, and regard for our honour with posterity alone should prompt us to build beautifully.

A New Sports Pavilion at Teddington

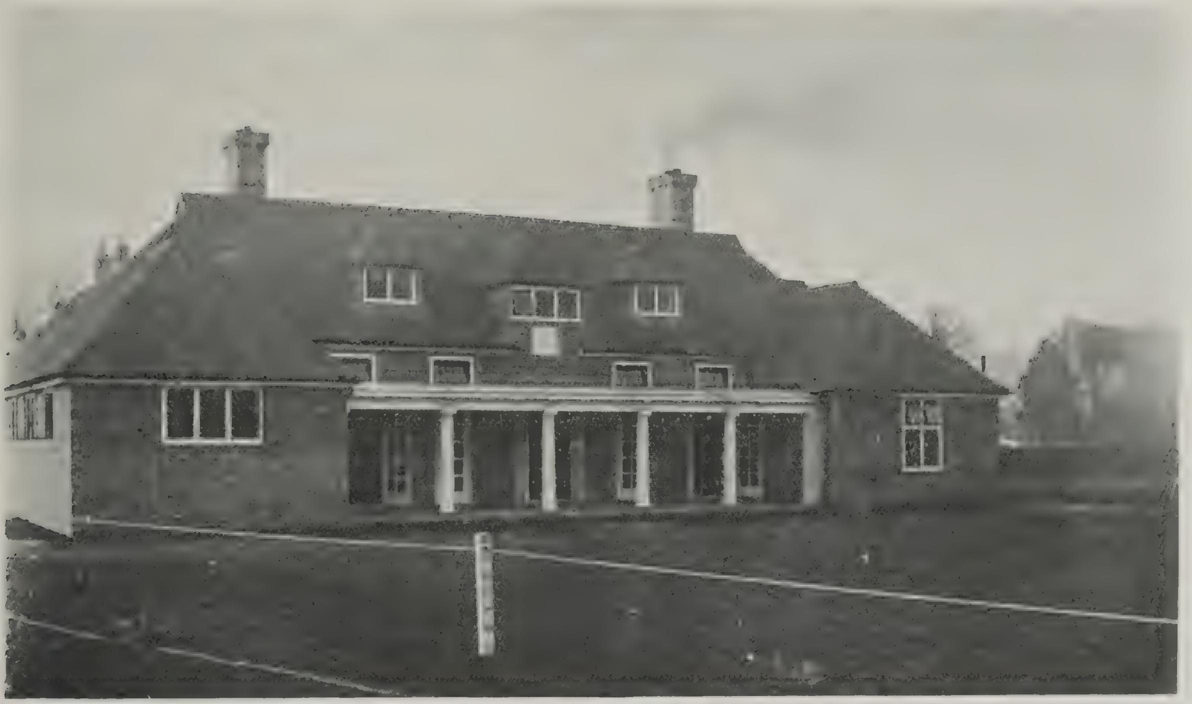
C. WESTCOTT REEVES, F.S.I., and STANLEY P. SCHOOLING, A.R.I.B.A., Architects

THIS pavilion has been erected from the designs of Messrs. C. Westcott Reeves, F.S.I., and Stanley P. Schooling, A.R.I.B.A., architects, for the Old Merchant Taylors' Sports Club on their new ground at Teddington. The ground and pavilion form a part of the Merchant Taylors' School War Memorial, and were opened last month by the Lord Chancellor, the Right Hon. Viscount Cave, G.C.M.G., who, at the same time, unveiled a memorial in the pavilion. This latter memorial, which is inscribed with the names of more than 300 Old Boys who fell in the war, takes the form of a fireplace in the tea-room. Centrally over the fireplace is the school's coat-of-arms, and the name panels are on either side. The arms and panels have been executed in English oak, and the coat-of-arms is carved in bold relief and emblazoned to the design of the architects. The pavilion provides accommodation for two teams and their visitors, and has been planned to admit of future extension. It is faced with multi-coloured red bricks, is fitted with standard metal windows, and the roof is covered with hand-made sand-faced tiles. Ample washing arrangements are provided and two large pools are sunk in the floor of the bathroom. A tea-room, 40 ft. by 20 ft., is the central feature of the plan, with a verandah facing the cricket ground. The kitchen is placed at one end of the tea-room, while immediately over is a self-contained flat for the resident groundsman.

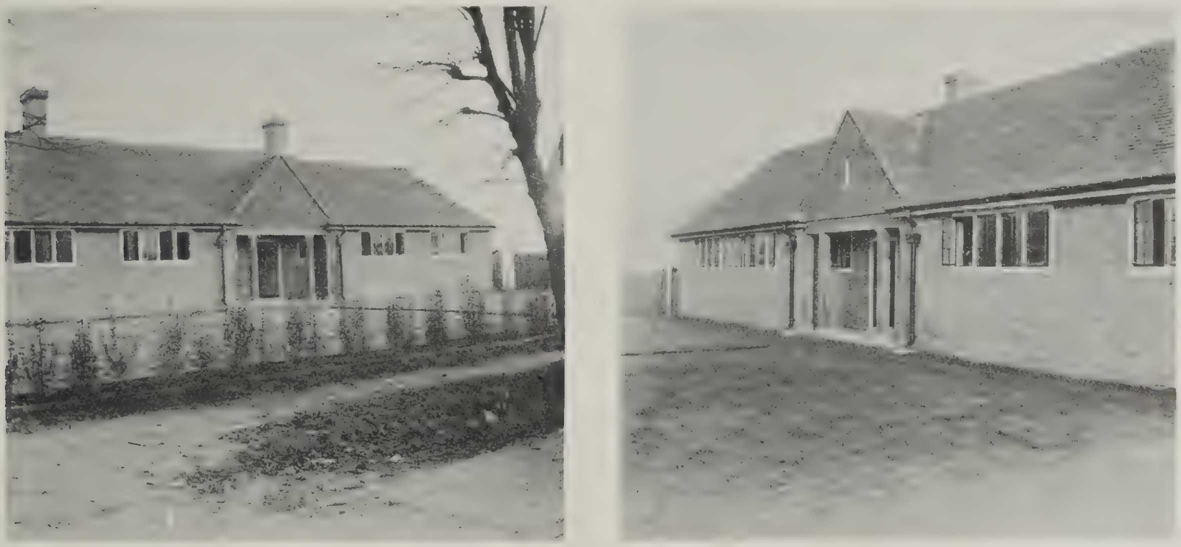
Architecturally the pavilion makes a very effective composition, the veranda, with its well-proportioned colonnade, tying the two wings together, besides serving the very practical purpose of an open shelter and a possible extension of the tea-room. The entrance front, which is rather more simply composed, forms an effective contrast.

The general contractors were Messrs. Walter Gladding & Co., the sub-contractors being B. Finch & Co., Ltd. (heating and hot water supply); Jesse King & Co. (plasterwork); William Brown and Son, Redhill (multi-coloured red facing bricks); S. and E. Collier, Ltd., Reading (hand-made sand-faced roofing tiles); W. F. Baker & Co., Ltd., Newport, Mon. (standard metal windows). The arms of the school and the panels were executed by Messrs. W. Aumonier and Sons.

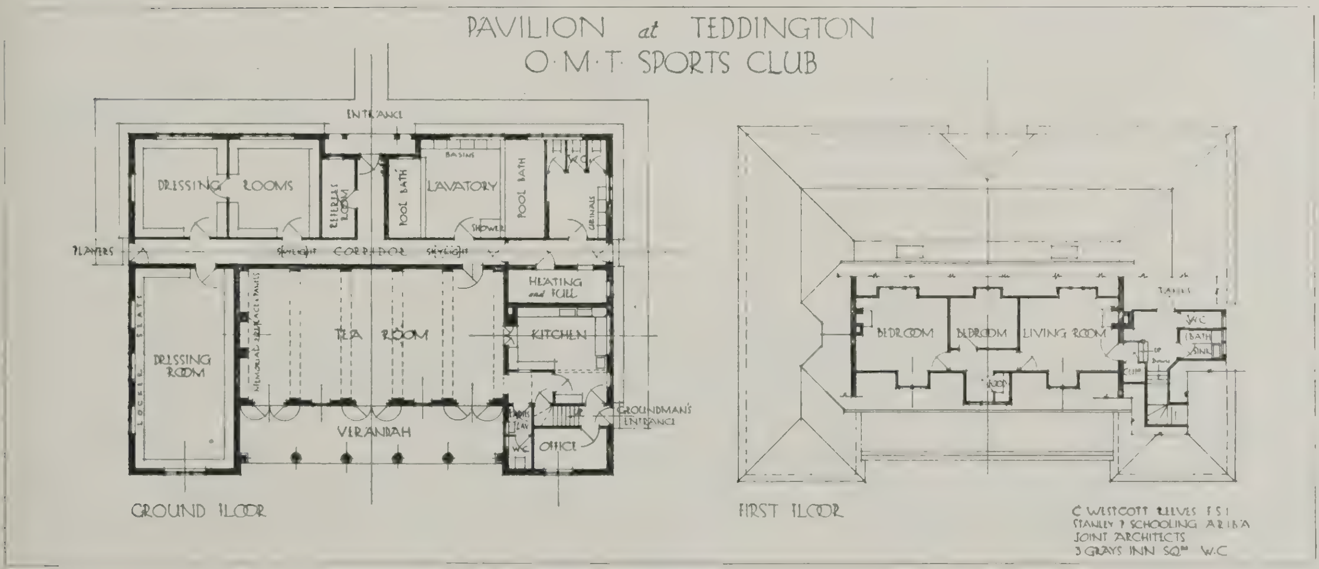
Mr. C. Westcott Reeves acted as consulting surveyor for the levelling and turfing of the ground, which was carried out by Messrs. W. H. Gaze and Sons, Ltd., Kingston-on-Thames



A VIEW FROM THE SPORTS GROUND.



TWO VIEWS OF THE ENTRANCE FRONT.



PLANS.

THE NEW PAVILION AT TEDDINGTON FOR THE OLD MERCHANT TAYLORS SPORTS CLUB.
C. WESTCOTT REEVES, F.S.I., AND STANLEY P. SCHOOLING, A.R.I.B.A., ARCHITECTS.

Strengthening the Forth Bridge

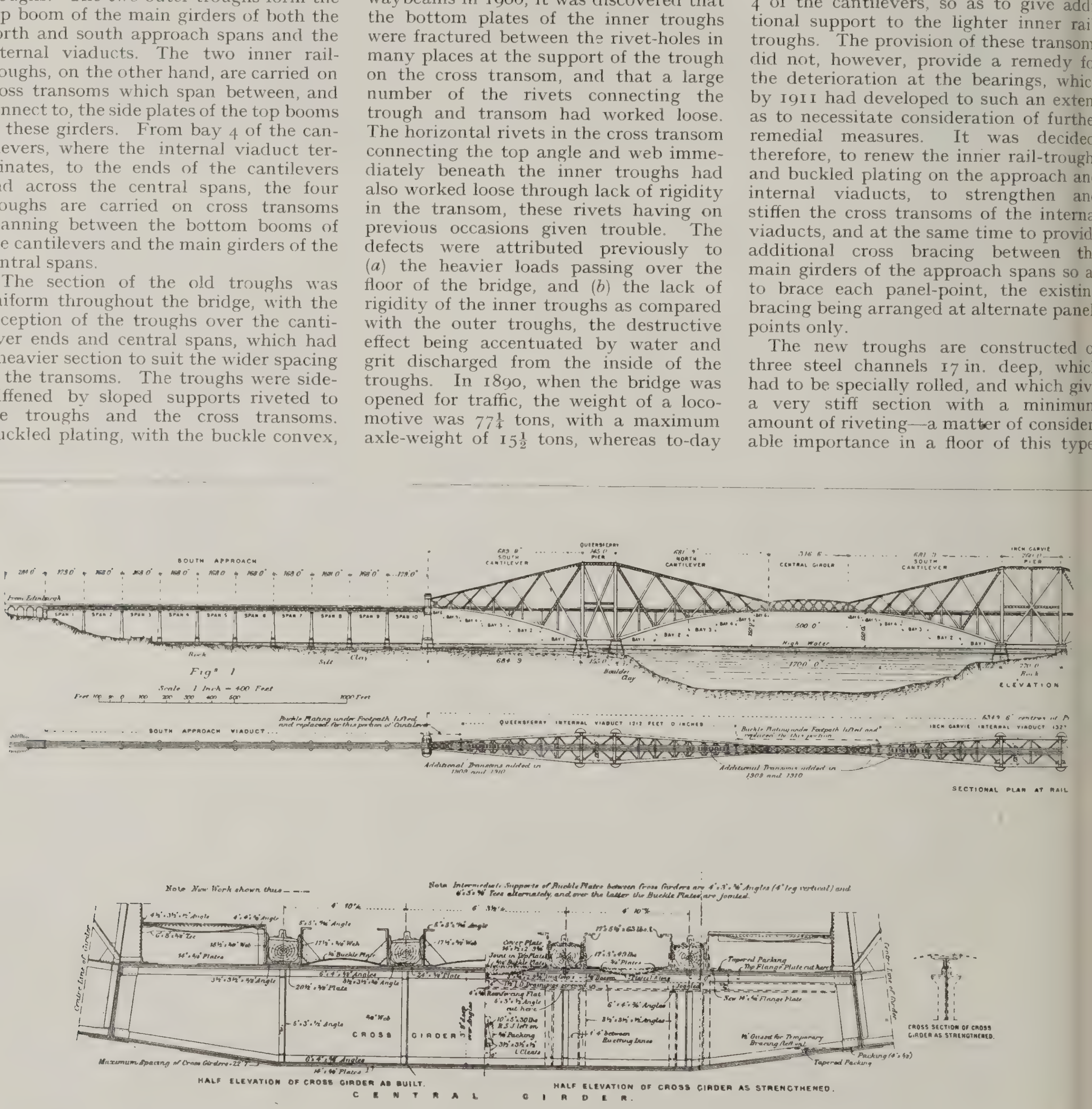
MR. WILLIAM ALEXANDER FRASER, M.Inst.C.E., in reading a paper on the "Strengthening of the Floor, etc., of the Forth Bridge" before the Institution of Civil Engineers, gave a description of the renewal of the inner rail-troughs and the buckled plating of the floor of the bridge, the strengthening of the cross transoms of the internal viaducts, and the provision of additional cross bracing between the main girders of the approach spans. He said that the rails which form the up and down lines on the bridge are carried on timber waybeams, laid in four continuous steel troughs. The two outer troughs form the top boom of the main girders of both the north and south approach spans and the internal viaducts. The two inner rail-troughs, on the other hand, are carried on cross transoms which span between, and connect to, the side plates of the top booms of these girders. From bay 4 of the cantilevers, where the internal viaduct terminates, to the ends of the cantilevers and across the central spans, the four troughs are carried on cross transoms spanning between the bottom booms of the cantilevers and the main girders of the central spans.

The section of the old troughs was uniform throughout the bridge, with the exception of the troughs over the cantilever ends and central spans, which had a heavier section to suit the wider spacing of the transoms. The troughs were side-stiffened by sloped supports riveted to the troughs and the cross transoms. Buckled plating, with the buckle convex, closed the floor between the troughs, the plates being riveted to the lower flanges of the troughs. The cross transoms are of ordinary plate-web construction, 12 in. deep in the internal viaducts and 24 in. and 47½ in. maximum depth in the approach viaducts and central girder spans respectively. The internal viaduct transoms, unlike the others, have a central support. The maximum spacing of the transoms ranged from 7 ft. in the approach viaducts to 15 ft. and 22½ ft. in the internal viaducts and central spans respectively.

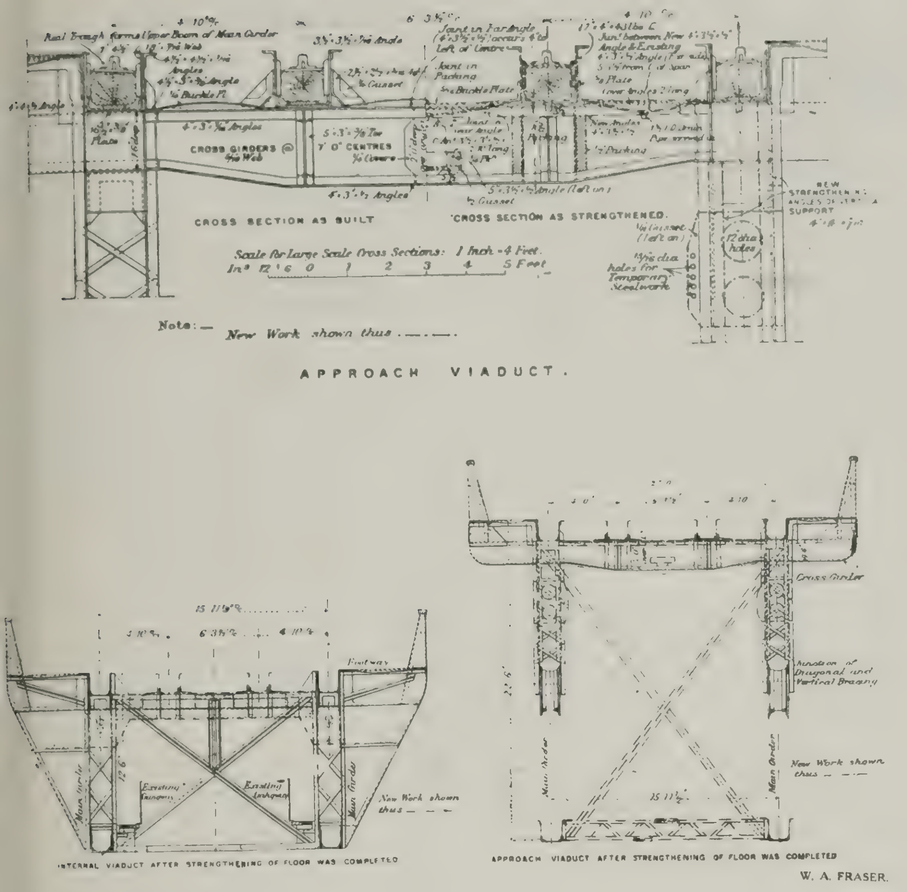
In the course of renewing the timber waybeams in 1906, it was discovered that the bottom plates of the inner troughs were fractured between the rivet-holes in many places at the support of the trough on the cross transom, and that a large number of the rivets connecting the trough and transom had worked loose. The horizontal rivets in the cross transom connecting the top angle and web immediately beneath the inner troughs had also worked loose through lack of rigidity in the transom, these rivets having on previous occasions given trouble. The defects were attributed previously to (*a*) the heavier loads passing over the floor of the bridge, and (*b*) the lack of rigidity of the inner troughs as compared with the outer troughs, the destructive effect being accentuated by water and grit discharged from the inside of the troughs. In 1890, when the bridge was opened for traffic, the weight of a locomotive was 77¼ tons, with a maximum axle-weight of 15½ tons, whereas to-day these weights amount to 119¾ and 20 tor respectively.

Before the new waybeams were placec all the loose rivets were cut out; the frac tured bottom plates were reinforced wit covers placed inside the troughs, and ne rivets were inserted. In 1908, while th renewal of the timber waybeams wa still in progress, it was evident that th repairs were not likely to prove satisfac tory, as a large number of the new rivet had again worked loose. In 1909 it wa decided as an experimental measure t insert an additional cross transom be tween the existing transoms at bays 3 an 4 of the cantilevers, so as to give add tional support to the lighter inner rai troughs. The provision of these transom did not, however, provide a remedy fc the deterioration at the bearings, whic by 1911 had developed to such an exten as to necessitate consideration of furthe remedial measures. It was decidec therefore, to renew the inner rail-trough and buckled plating on the approach an internal viaducts, to strengthen an stiffen the cross transoms of the interna viaducts, and at the same time to provid additional cross bracing between th main girders of the approach spans so a to brace each panel-point, the existin bracing being arranged at alternate panel points only.

The new troughs are constructed c three steel channels 17 in. deep, whic had to be specially rolled, and which giv a very stiff section with a minimun amount of riveting—a matter of consider able importance in a floor of this type


SOUTH APPROACH
From Edinburgh
SPAN 1
SPAN 2
SPAN 3
SPAN 4
SPAN 5
SPAN 6
SPAN 7
SPAN 8
SPAN 9
SPAN 10
SOUTH CANTILEVER
QUEENSFERRY PIER
NORTH CANTILEVER
CENTRAL GIRDER
SOUTH CANTILEVER
INCH GARVIE PIER
BAY 1
BAY 2
BAY 3
BAY 4
500 0'
High Water
1700 0"
Rock
Silt
Clay
Boulder Clay
Fig 1
Scale 1 Inch = 400 Feet
1000 Feet
ELEVATION
SOUTH APPROACH VIADUCT
QUEENSFERRY INTERNAL VIADUCT 1212 FEET 0 INCHES
INCH GARVIE INTERNAL VIADUCT
Buckle Plating under Footpath lifted and replaced for this portion of Cantilever
Additional Transoms added in 1908 and 1910
SECTIONAL PLAN AT RAIL
Note New Work shown thus
Note Intermediate Supports of Buckle Plates between Cross Girders are 4"×3"×⅜" Angles (4" leg vertical) and 6"×3"×⅜" Tees alternately, and over the latter the Buckle Plates are jointed.
Centre Line of Girder
Buckle Plate
Cover Plate
Tapered Packing
Top Flange Plate cut here
New 14"×⅝" Flange Plate
CROSS GIRDER
Maximum Spacing of Cross Girders 22' 7"
HALF ELEVATION OF CROSS GIRDER AS BUILT.
HALF ELEVATION OF CROSS GIRDER AS STRENGTHENED.
CENTRAL GIRDER.
CROSS SECTION OF CROSS GIRDER AS STRENGTHENED.

ELEVATIONS AND SECTIONS OF HALF OF THE BRIDGE AND OF THE CENTRAL GIRDER.


Cross section as built
Cross section as strengthened
Cross girders @ 7' 0" centres
Scale for Large Scale Cross Sections: 1 Inch = 4 Feet.
Note:— New Work shown thus .—.—.
APPROACH VIADUCT.
New strengthening support
Main Girder
Cross Girder
New Work shown thus
INTERNAL VIADUCT AFTER STRENGTHENING OF FLOOR WAS COMPLETED
APPROACH VIADUCT AFTER STRENGTHENING OF FLOOR WAS COMPLETED
W. A. FRASER.

DETAILS OF APPROACH AND INTERNAL VIADUCTS.

o prevent the percolation of water from e inside of the troughs, a close rivettch was adopted, the edges of the bottom annel being caulked. The stresses in e new troughs were calculated on the sis of the latest axle-loading, assuming e troughs to be continuous, and adoptg a modified unit stress of 4 tons per . in. The section-modulus of the iginal troughs for spans up to 15 ft. was o units as against 137 units in the new oughs, and for the larger spans 184 units against 197 units. The old type of oped lateral support, the riveting of hich gave considerable trouble, was discarded in favour of a flat right-angled support which, after experiment, was found to be sufficient and which enabled an efficient connection to be made between the trough and transom without the necessity of riveting the trough and transom directly. This was important in view of the trouble experienced with the rivets connecting the old troughs to the transoms, and was a decided improvement from a maintenance point of view, as in future repairs could be carried out without disturbing the permanent way, which was impossible under the old arrangement.

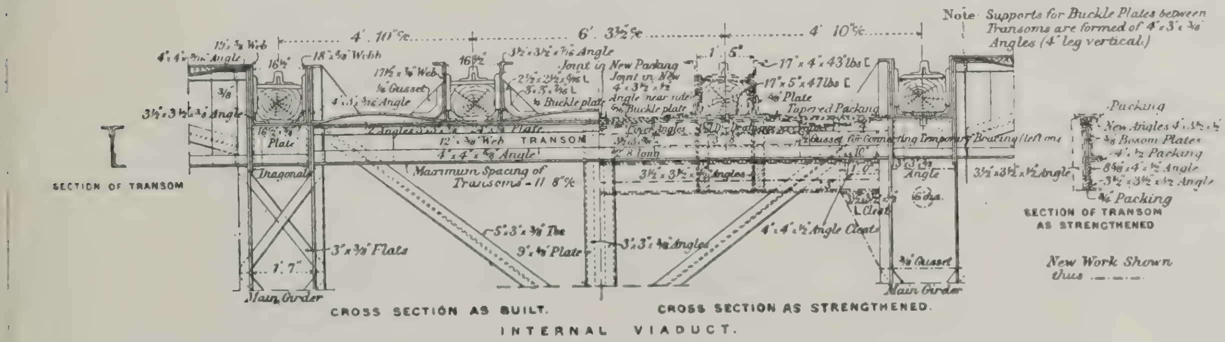
The strengthening of the internal viaduct transoms and the reduction of shear on the web rivets have been effected by increasing the depth of the transoms by means of additional angles riveted to the lower flange and by providing heavy bosom plates on each side of the web immediately below the inner troughs. The section-modulus of the original transom was 35·3 units, while that of the stiffened transom is 87·4 units.

The new buckled plates between the troughs are riveted to the bottom flange of the troughs as before, but the curve of the buckle is reversed. This alteration was made with the object of throwing all debris and surface water to the centre of the plates, instead of to the sides as formerly, difficulty having been experienced in keeping the junction of the floor-plate and the bottom flange of the trough in a satisfactory condition, owing to lodgment of debris and water there.

The work was carried out by means of timber platforms hung from the main girders. The renewal of the troughs and work in connection therewith was done on Sundays, the remainder of the work, which did not interfere with the running-lines, being carried out in stages during the week. On Sundays it was necessary to retain one line for traffic, and for this purpose a fully-equipped electric tablet system of single-line working was installed. The up and down lines were closed on alternate Sundays, the troughs in both lines for one section being completed before the work on another section was commenced. An extensive system of temporary horizontal bracing was adopted so that the old floor plates could be cut out and the rivets could be removed during the week, without materially impairing the rigidity of the viaduct under traffic conditions.

The work, the greater part of which was carried out under war conditions, was commenced in May, 1914, and was completed in September, 1920, the number of troughs laid being 340, occupying 145 Sundays.

The approximate weight of old steelwork removed from the bridge was 2,400 tons, and the weight of new steelwork used was 3,212 tons. The net cost of the work, exclusive of the cost of the work in lifting and replacing the timber waybeams, rails, etc., was £147,299. The contractors for the renewal of the steelwork were Messrs. Sir William Arrol & Co.



THE FORTH BRIDGE: SECTION THROUGH THE INTERNAL VIADUCT.

Economy in Roof Construction

WHICH type of roof is the most economical to use for spans of from 12 ft. to 15 ft. and from 20 ft. to 23 ft., with no intermediate support? This question has arisen out of the hints for counteracting the weaknesses of collar roofs, given by Mr. Edwin Gunn, A.R.I.B.A., in our issue for October 18, and the further suggestions made by Mr. W. B. Hopkins, A.R.I.B.A., in our issue for November 8.

The question is raised by "Architect," who writes: "Mr. Hopkins' suggestions for strengthening collar roofs appear only too sound, but in what class of work nowadays does one have the money to spend in the expensive construction necessarily entailed in such a roof?

"Surely for a 14 ft. span it is most extravagant to use one 11 × 6 in. beam, and four 7 × 5 in. purlins, exclusive of upper purlins, etc. I should be interested to see what in your opinion you consider the soundest and most economical type of roof showing the scantlings and joints such as would be used in everyday practice for spans of from 12 ft. to 15 ft. and from 20 ft. to 23 ft. respectively. . . ."

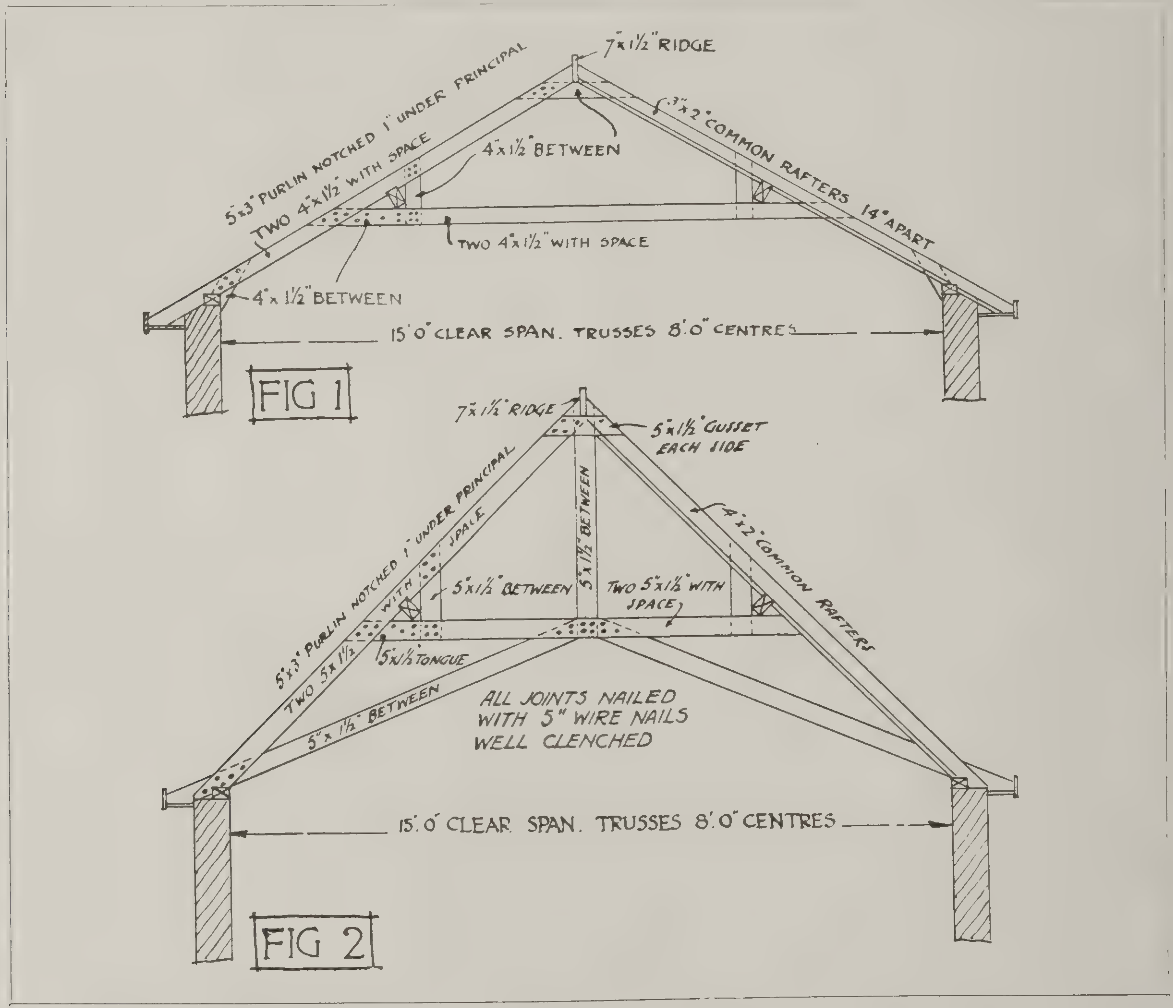
Mr. A. Ewart Aston, to whom we submitted the query raised by "Architect," says: Your correspondent's request for suggestions as to roofing buildings of 12 to 15 and 20 to 23 ft. span is extremely vague, inasmuch as he gives no idea whatever as to (1) the pitch of the roof, which fixes the length of rafter; (2) the roofing material, which is necessary for gauging the strengths of the timbers and joints; (3) the shape of the underside, which fixes the line of tie-beam or collar-beam, and (4) whether there is to be a plastered ceiling, which will require stiffness as well as strength in the lower members. A further factor in some buildings would be whether and how much the timber structure is to be seen.

There has certainly been a tendency in the past to use timbers of a much heavier scantling than necessary — probably originating in the ease of obtaining it large and the desire to avoid spending time in cutting it smaller. Elaborate joints have been evolved to hold these heavy timbers together, but none of them can ever be as strong as the members themselves; in consequence we frequently find in old buildings that the very weight of the roof members is pulling away the joints and thus causing a thrust upon the walls. Structurally, of course, the joints must always be the weakest link, and given a strong enough joint there is no real reason why the roof members should not be reduced so that they are no weaker than their necessary fixings.

I consider an extension of Mr. Gunn's suggestion for collar roofs, that is dou ling the rafter at intervals and fixing th collar between, can be applied to ma forms of truss, and in practice I ha found that there is very great strength this "sandwich" construction, provide that careful thought is given to the pos tions of the various members and obtaining a large "fixing area" whe they cross. I am all in favour of the naile joint as against the bolted one, as scarce any fibres are cut by the nails, and t act of clenching gives a decided grip the joint.

The making of a series of these truss is remarkably cheap as there are "joiner's joints" to make, and when o truss has been carefully set out and fixe together, the others may be made after another above it. The trusses extremely light for handling and erecti —it will hardly be realized that the truss in figures 1 and 2 weigh less than 120 and 200 lb. respectively.

A pardonable economy in a straight of roofing is to save two common raft over every principal by placing the purl on the *underside* of the principal raft This is a very difficult matter with so construction, but I think it will be agre that as shown in the accompanying figu it is no detriment to the strength of structure.



ROOF TRUSSES FOR A PITCH OF 30 DEGREES AND 45 DEGREES RESPECTIVELY.

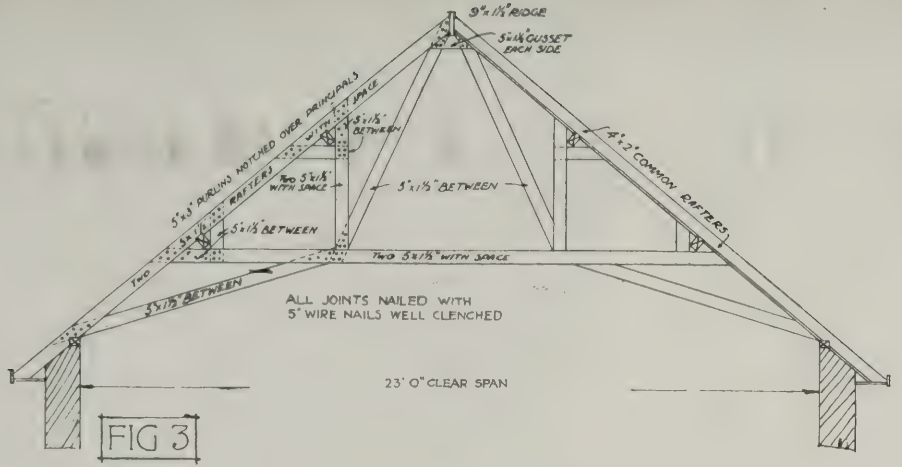


FIG 3

A TRUSS FOR A PITCH OF $\frac{5}{12}$ INCH.

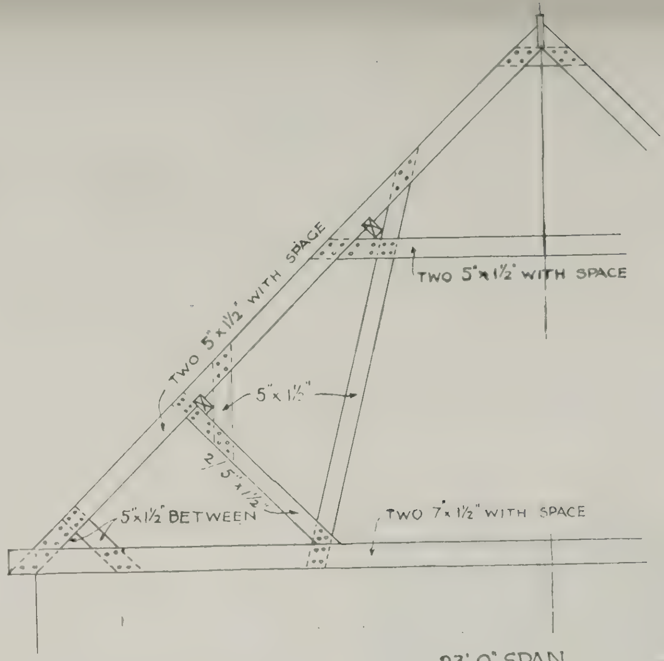


FIG 5.

A QUEEN POST "SANDWICH" TRUSS.

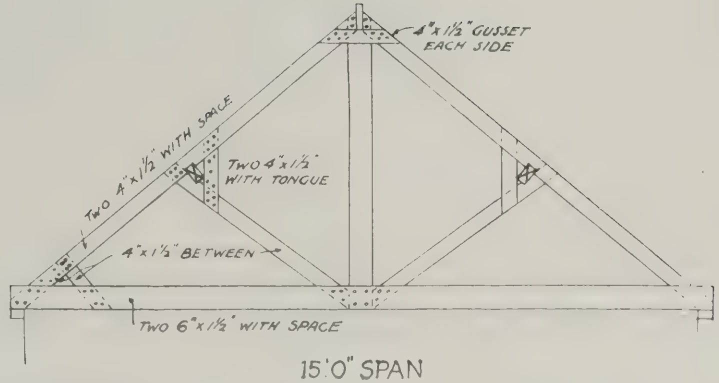


FIG 4.

A KING POST 'SANDWICH" TRUSS.

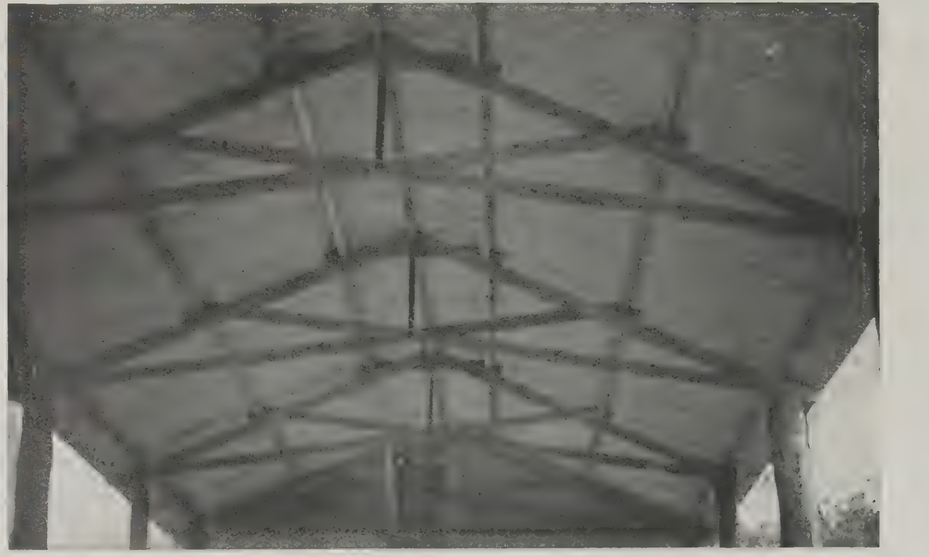


FIG. 6. A ROOF FOR A SPAN OF 18 FEET.

ECONOMY IN ROOF CONSTRUCTION.

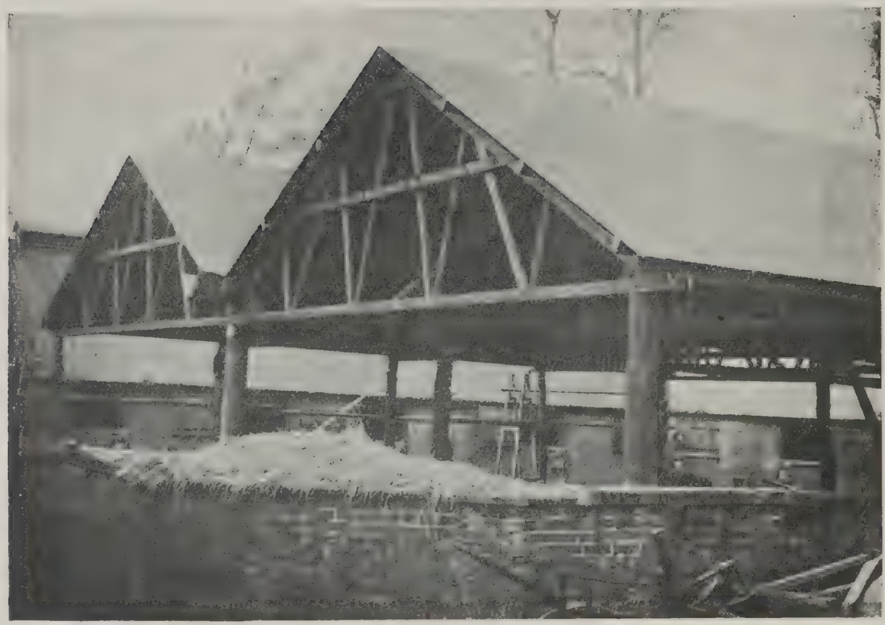


FIG. 7. TWO ROOF TRUSSES, EACH WITH 27 FT. SPAN.

Figure 1 is a design for 15 ft. span at 30 deg. pitch, and is suitable for a slated roof, either open to the ridge or ceiled on the collar line. The common rafters have only a 4 ft. 3 in. bearing, and lie flat on the centre purlin. The hip rafters may be 7 in. × $1\frac{1}{2}$ in. as the ridge, and no half truss is necessary at the hipped end.

Figure 2 is drawn for a 45 deg. pitch, and is suitable for a somewhat heavier roof covering than Fig. 1. The collar being higher, additional ties are provided to the foot of the truss, and 4×2 in. common rafters are used. As shown, it can be used as an open roof or with the ties only left exposed.

I have drawn Fig. 3 for a $\frac{5}{12}$ in. pitch with two intermediate purlins between the plate and the ridge. Although looking elaborate, in reality the construction is extremely simple, being composed entirely of $5 \times 1\frac{1}{2}$ in. singles spiked between $5 \times 1\frac{1}{2}$ in. doubles. To support the hipped end either a half truss in the centre or part trusses in the lines of the upper purlins would be necessary. The hips could be $9 \times 1\frac{1}{2}$ in. For an open or partly-open roof this enables small scantlings to be used. Alternatively a truss similar to Fig. 2 can be used, but built of $6 \times 1\frac{1}{2}$ in. material supporting one 6×4 in. intermediate purlin, but as the clear bearing of common rafters would be 7 ft. 6 in., they must either be spaced proportionately closer or a heavier section used.

For roofs with the ceiling at plate level an ordinary king post or queen post form is probably simplest, but even here the sandwich construction may be used with advantage, as shown in Figs. 4 and 5.

For buildings of a semi-permanent character this "sandwich" construction is invaluable owing to the rapidity with which it can be built and the ease of handling and erection. Three photographs are shown. Fig. 6 is a Dutch barn, 18 ft. span, with trusses built of 4×1 in. at 10 ft. centres. Fig. 7 is a covered yard, with two 27 ft. spans, built up from $4 \times 1\frac{1}{2}$ in. scantling, and trusses 11 ft. centres. The cowhouse in Fig. 8 is roofed with corrugated iron and lined with boarding. The trusses are 10 ft. 6 in. centres, and built from $4 \times 1\frac{1}{2}$ in., the posts being three thicknesses of $6 \times 1\frac{1}{2}$ in.

The British Empire Exhibition

All the engineering and electrical trade exhibits at the British Empire Exhibition are being organized by the British Engineers' Association and the British Electrical and Allied Manufacturers' Association. The following gentlemen are serving on the General Committee nominated by the B.E.A. for the shipbuilding, marine, mechanical, and general engineering section :—

Mr. Harry Allcard, M.I.Mech.E. (Easterbrook, Allcard and Co., Ltd., Penistone Road, Sheffield).
Mr. Harry Allcock (W. T. Glover & Co., Ltd., Trafford Park, Manchester).
Mr. S. E. Alley (Chislehurst, Kent).
Col. O. C. Armstrong, D.S.O. (London).
Mr. Duncan G. Bailey, O.B.E., M.I.Mech.E. (Chapelthorpe, near Wakefield).
Mr. Herbert Ballard (Purley).
Mr. Stanley J. Benham (Benham and Sons, Ltd., London).
Mr. Claude T. Berthon (Pott, Cassels and Williamson, Motherwell, N.B.).
Mr. R. A. Blakeborough (J. Blakeborough and Sons, Ltd., Brighouse, Yorks).
Mr. J. D. Brunton (Messrs. Bruntons, Musselburgh, Scotland).
Mr. H. M. Butler (Kirkstall Forge Co., Ltd., near Leeds).
Lt.-Col. E. Kitson Clark (Airedale Foundry, Leeds).
Mr. Basil T. Courtney (Joshua Buckton & Co., Ltd., Leeds).
Col. Percy B. Crewe (London).
Mr. J. E. Durbishire (Hydraulic Engineering Co., Ltd., Chester).
Sir John Dewrance, K.B.E. (Dewrance & Co., London).
Mr. C. E. Douglas (Douglas and Grant, Kirkcaldy).
Sir Arthur M. D. Duckham, K.B.E., M.I.C.E. (London).
Mr. D. N. Dunlop (British Electrical and Allied Manufacturers' Association, London).
Mr. Fredk. C. Fairholme, A.M.Inst.C.E. (Thos. Firth and Sons, Ltd., Sheffield).
Mr. L. M. G. Fraser (W. F. Fraser and Sons, Dagenham, Essex).
Mr. Arnold Gamble (Retford).
Eng. Vice-Admiral Sir George G. Goodwin, K.C.B. (Carshalton, Surrey).
Mr. Nevile G. Gwyne, C.B.E. (Gwyne's Engineering Co., Ltd., London).
Mr. Wm. Hay Howden (Jas. Howden & Co., Ltd., Glasgow).
Mr. F. E. Howard (Hayward-Tyler & Co., Ltd., London).
Mr. Jas. H. Humphreys (Braithwaite & Co., Engineers, Ltd., London).
Mr. Arthur Jacob (British Aluminum Co., Ltd., London).
Mr. J. R. C. Kearns (H. W. Kearns & Co., Ltd., Broadheath, near Manchester).
Col. H. P. Lawson (Coles, Marchant and Morley, Ltd., Bradford).
Mr. Fredk. H. Livens, J.P. (Lincoln).
Mr. A. Ernest Owen (Sutton Coldfield).
Mr. Ernest W. Petter (London).
Mr. W. B. Richardson (Richardson, Tuer & Co., Ltd., Farnworth, near Bolton).
Mr. Robert S. Rowell (Westminster).
Capt. H. Riall Sankey, C.B., C.B.E. (London).
Sir Wilfred Stokes, K.B.E. (London).
Sir John E. Thornycroft, K.B.E., M.Inst.N.A. (London).
Lt.-Col. F. W. Turner (Ipswich).
Mr. Douglas Vickers, J.P., M.P. (London).
Mr. A. Vines (Evershed and Vignoles, Ltd., Chiswick).
Mr. Gilbert C. Vyle (Moseley).
Mr. Herbert J. Ward (J. and E. Hall, Ltd., London).
Brig.-Gen. C. H. Whittington, C.M.G., C.B.E. (Mather and Platt, Ltd., London).
Mr. E. Wilson (General Electric Co., Ltd., London).

Sir William Joynson-Hicks, Bart., M.P., who is making an inquiry on behalf of the Government into certain aspects of the British Empire Exhibition, has held a meeting at the Board of Trade with representatives of the Executive Council, the Management Committee, and the General Management of the Exhibition, together with the High Commissioners for the Dominions and India.

At this meeting plans were made as to the procedure to be adopted in connection with the inquiry, which will now proceed immediately.

The terms of reference governing the inquiry are as follows : To inquire into the following questions in connection with the British Empire Exhibition :—

(1) What steps are being taken to provide for full consultation with representatives of the Dominions and the Colonies in order to secure the use of

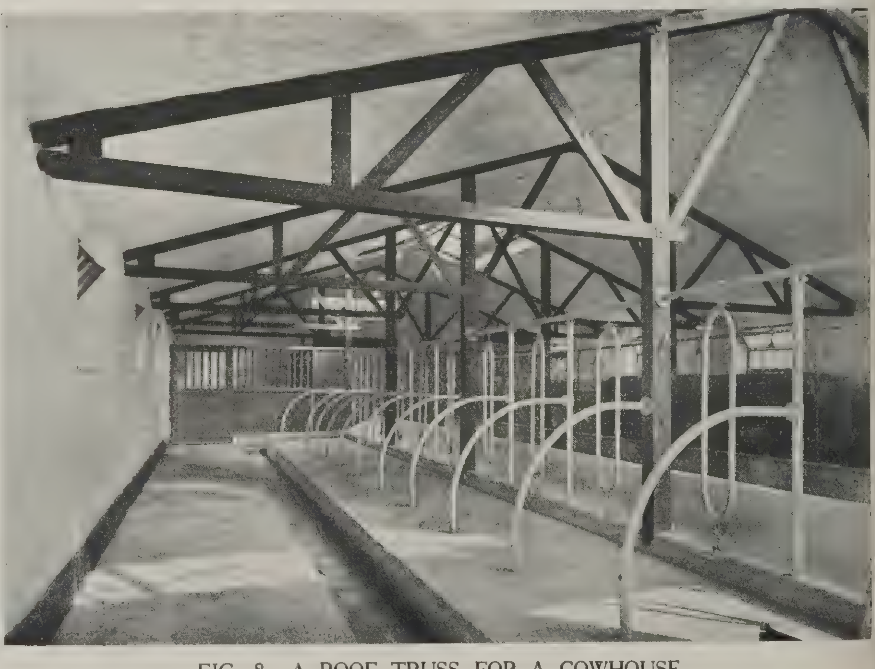


FIG. 8. A ROOF TRUSS FOR A COWHOUSE.

Imperial produce in connection with the exhibition.

(2) The granting of concessions for entertainments and amusements.

(3) The criticisms of certain members of the Publicity Committee as to the limited opportunities afforded to that committee to assist in the publicity work of the exhibition;

And to report thereon to the Colonial Office, the India Office, and the Board of Trade, and to the Executive Council, and also in this connection to consider and recommend whether any further steps can usefully be taken to strengthen the control of the Executive Council over the general conduct and administration of the exhibition.

Sir William Joynson-Hicks will be prepared to receive communications from any organizations or individuals who may desire to give evidence.

Mr. R. W. Dalton, His Majesty's Trade Commissioner in New Zealand, who is now in this country and will shortly proceed to Canada as His Majesty's Senior Trade Commissioner, will act as secretary, and communications in connection with the inquiry should be addressed to him at the Department of Overseas Trade, 35 Old Queen Street, Westminster, London, S.W.1.

Mr. John F. P. Rawlinson, K.C., M.P., has agreed to advise Sir William Joynson-Hicks in regard to any legal questions which may arise out of the investigation.

Parliamentary Notes

BY OUR SPECIAL REPRESENTATIVE.

Unemployment and Housing.

In the House of Commons Mr. T. Thomson asked the Chancellor of the Exchequer whether he could see his way to remove the restriction placed by the last Government on the making of grants by the Unemployment Grants Committee to local authorities for the purpose of building houses, in view of the fact that such houses no longer received the State assistance formerly provided by the Housing Act, 1919.

Mr. Baldwin replied that the matter had been carefully considered, and the Government had decided that the extension of this system of grants to house building would tend to check private enterprise, which was showing hopeful signs of development, and so do more harm than good. In any case such grants could have little effect in relieving unemployment in the building trade during the coming winter, and the Government considered that such relief could best be afforded by putting in hand works of repair and decoration. They were doing this in the buildings under their charge, and they trusted that local authorities and private owners would do all they could in the same direction.

The Regional Housing Staff.

In answer to Mr. Short, Major Boyd-Carpenter said that in 1920 there were fifty-seven inspectors and thirty sub-inspectors on the Regional Housing Staff of the Ministry of Health. To-day there were employed on similar work fourteen inspectors and no sub-inspectors.

Land for Housing.

Major Boyd-Carpenter informed Mr. M. Jones that the total area of land acquired in connection with housing schemes was approximately 48,800 acres. The total cost was £9,272,000, being an average of £190 per acre.

Slum Areas.

Replying to Mr. John Davison, who asked the total number of condemned insanitary and slum areas under the local authorities in England and Wales, and the total number of houses on such areas certified as unfit for human habitation but at present occupied, Major Boyd-Carpenter, Parliamentary Secretary to the Ministry of Labour, said that according to a survey made by local authorities in 1919 official representations under the Housing Act, 1890, had been made in respect of 855 areas containing 28,511 houses and a population of 142,857. Information was not available as to the last point in the question.

Unemployed Building Operatives.

Sir M. Barlow, Minister of Labour, informed Lt.-Col. Dalrymple White that on November 20 the Employment Exchange registers included 56,502 building trade operatives in skilled occupations, and 74,406 in unskilled occupations. In certain of the skilled branches of the building industry there was no large amount of unemployed labour, but rather the reverse.

State-aided Housing Schemes.

Sir M. Barlow, Minister of Labour, informed Major Kelly in the House of Commons that local authorities were fully empowered under the Housing Acts to borrow money for the carrying out of housing schemes, subject to the sanction of the Minister of Health. Such sanction was readily granted for satisfactory schemes. There was, generally speaking, no difficulty at present in raising capital for this purpose. The Public Works Loan Commissioners would consider applications from local authorities whose rateable value did not exceed £200,000. The rate of interest on loans made by the Commissioners for housing was at present five per cent. The large local authorities could generally make their own arrangements for borrowing on at least as favourable terms, and, in addition, they might borrow through the Public Works Loan Commissioners one-half the money raised in their areas by the sale of National Savings Certificates.

Glasgow House Shortage.

Mr. Buchanan asked the First Commissioner of Works, as representing the Secretary for Scotland, if he was aware that the City of Glasgow required 57,000 new houses, and that in that city the number of houses condemned as unfit for human habitation was 13,000; and what steps would he take to urge and help the local authority to solve both problems.

Sir J. Baird replied that the Secretary for Scotland was aware of the estimates on which the figures given were based. As regarded the last part of the question, the provision to be made under the State-aided housing scheme included the building of 4,854 houses by the corporation, 102 houses by public utility societies, and 142 by private enterprise. It was understood that the corporation were also preparing a slum clearance scheme in respect of which, if approved, they would be entitled to participate in the annual State grant of £30,000 earmarked for this purpose. The question of giving further assistance by the State to enable local authorities to deal with the housing problem was at present engaging the attention of the Government.

Grants to Private Enterprise.

Answering Mr. A. Herbert, who asked if the grant for houses built under the scheme of the late Minister of Health could be given to builders who have exceeded the regulations and have built houses on a more generous scale than that dictated by the late Minister of Health, Sir M. Barlow said that the Minister of Health was unable to authorize the payment of the Grant under Section 1 of the Housing (Additional Powers) Act, 1919, in cases where the houses did not comply with the published regulations.

Mr. Sitch asked whether the Ministry of Health was pressing local authorities who had building sites not built on to dispose of them.

Sir M. Barlow replied that no general instructions as to disposal of land had been issued, but local authorities had been asked to give the matter special consideration where it appeared that disposal on advantageous terms could be effected.

Parliament rose on Friday, December 15, until Tuesday, February 13.

Recreative Areas

Mr. W. Haywood, F.R.I.B.A., in a lecture at Birmingham University said: The town plan is a complex of highly specialized subdivisions, of which the systematic provision of recreative areas is not the least in importance. For more than thirty years this aspect of civic improvement has been developed in the United States, where "park systems" have been made a groundwork for schemes of municipal recreation designed to bring physical and mental fitness to every member of the community.

Recreation on this scale makes a demand upon the town plan which will be better understood from analysis of a typical "park system." This consists of: (1) Park reservations on the borders of the city (comparable with the Lickey Hills or Sutton Park, near Birmingham); (2) parks of 60 to 200 acres in the suburbs of the town; (3) parkways or boulevards of from 120 to 400 ft. wide, which link the parks together, and which, although traffic routes, are given a park-like character; (4) neighbourhood centres, if possible at one-mile intervals, each with an area of from 10 to 20 acres; and (5) children's playgrounds (which may be as small as 2 acres) at half-mile intervals.

The neighbourhood centres referred to are used intensively. Workers during the day are accommodated by an elaborate system of artificial lighting which permits all but the larger ball games to be played at night, so that the equipment available is often used consecutively for fourteen hours each day. In the development and administration of these games areas, the fundamental point of view is, that park facilities should be brought to the people, and not people to the parks; also that school accommodation should be utilized to its limit and that the development of the "system" should progress with the growth of the city.

Fashion and Form

MR. E. BERTRAM KIRBY, F.R.I.B.A., in reading a paper on "Fashion and Form" before the Liverpool Architectural Society (Incorporated), gave the personal views of a practising architect on the general character and tendency of the type of design which is prevalent at the present day. He said: The main point of this address is to suggest that it is not only excusable, but necessary that every architect and, more especially, every student of architecture should deliberately cultivate his own unfettered and uninspired opinions on the art he professes and aspires to practise. I submit that it is equally important that he should dare to make himself articulate, since it is chiefly by free and open discussion that the inherent truth or falsity of his views and prejudices can be tested. Although I quite sincerely believe in my own point of view, I feel disposed to beg that you will not agree with me, provided that your disagreement is sincere and founded on your own convictions, and not on someone else's, however authoritative. By all means "let us all praise famous men," but on no account should any of us immolate our own individuality on the altar of their worship. Such an oblation is simply artistic suicide.

It may save a little misunderstanding if I explain that I am dealing with architecture solely as an art and without reference to its business aspect. Also that when I use the word "classic," I am not confining it to the architecture of the ancients, but also to what the French term "the high Renaissance" and its modern interpretation.

I think one is safe in saying that the almost universal method of expression in the architecture of this country to-day consists of variations in the classic style, or, rather, a particular rendering of that style. I do not propose to search for an exact definition of the aspect of the classic tradition to which I refer, as it is perfectly familiar to you all. It lies between the obsolete pedantry of Stuart and Revett and the robustious extravagances of the later Renaissance. Its purpose is apparently to achieve harmony between orthodox classic forms and the material requirements of our own day, and, consequently, is easily distinguished from the work of the great classic architects of the nineteenth century who produced such excellent designs and such highly uncomfortable buildings.

In itself, *qua* architecture, it has attained a very high level. The average achievement in building design compares very favourably with any period since the Renaissance, and the architectural education of to-day is—within the scope it prescribes for itself—incomparably superior to that of former times. Well it may be, in view of the immense amount of information which is at the disposal of every architectural student.

This form of architectural expression has steadied and been standardized into a uniformity to which the exceptions grow beautifully less. It is usually adaptable to most of our modern requirements, its æsthetic excellence is hardly to be questioned, it is respectable and reasonable, its prophets and protagonists do not permit its virtues to be challenged, and it has the unquestioning adherence of the vast majority of the architectural profession. In fact, one may well be convinced that out of the welter and chaos of conflicting styles diverging down every by-road and cul-de-sac, we have at length emerged on to the great high road down which with progressive grandeur and increasing efficiency we shall, like John Brown's soul, go marching on. It is, in fact, claimed by many authorities that on these lines alone can the art of architecture pursue its logical and satisfactory development.

It might seem that the mere statement of such a thesis is sufficiently convincing to dispose of any question. I am, however, convinced that this is not the case, and propose to submit to you my reasons for this opinion. I am not suggesting that the classic tradition will ever die or that I, for one, would not sincerely deplore such a catastrophe even were it possible. But I submit that instead of humbly following the greatest of all architectural traditions in those instances where it can be the appropriate vehicle for the expression of our individual purpose, we are tending to subordinate it to the service of a cult which shows signs of degenerating into a kind of religious fanaticism of so dogmatic a character that any departure from it is regarded as heresy. I suggest that, especially in this country, any attempt to confine the broad stream of architectural development within the comparatively narrow limits of any selected channel is an offence against the mother of the arts, and tends to divert the understanding and sympathy of the public from the very thing to which it is designed to direct them. I am glad to believe that in this city the principal architectural instructor takes, in theory at least, a broader view.

It is mainly this tendency that I am criticizing, and if incidentally I decline to credit the classic style with all the virtues which are claimed for it, it is not because I dislike or oppose it, but because I esteem it as perhaps the highest form of architecture, and desire it to occupy its appropriate place. But its appropriate function is not that of a juggernaut beneath whose triumphant progress other forms of architectural expression are to lie crushed and obliterated.

I believe it has been seriously suggested that architecture might properly be practised on the lines of a syndicate. In fact, it is actually done. It is, however, a point of view I find difficulty in discussing, as, frankly, I do not understand it.

If art is not the self-expression of the individual, what is it? I mean self-expression which reflects the character and aspiration of the author, the language of his soul, so to speak. It is surely a thousand times better that he should express himself, however unsatisfactory the result, than exhibit an expurgated translation of another's mind. However that may be, the fact remains that the former is art, whether good art or bad, whereas the latter is not art at all, and its contribution is neither more nor less valuable than a crib to the classics. Compare such a state of affairs with any other art and the contrast is obvious. Of course, a student trained on these lines may become a great architect. The fire of genius is not easily quenched. If so, his expansion and the realization of his own identity must be deferred until a time when the mind is naturally less expansive and his vision more blurred by other influences.

We are told that this is the age of reason, and that the modern forms of classic architecture are its only adequate expression. Assuming for the sake of argument the latter proposition to be true, it may be interesting to analyze the former. Personally, I cannot admit that this age can claim a predominance of reason. If it is the age of anything in particular, I should describe it as the age of hysteria. At the best it is the age of successful experiment, but it may be argued that we are peculiarly unreasonable in the conclusions we draw from our discoveries. The ages at which pure reason, i.e., metaphysics, attained its highest development were the time of Aristotle and Plato and the thirteenth century, which curiously enough synchronize with the prime of the only two original forms of architecture, in comparison with which every other is bastard and derivative.

But, in any case, an appeal to reason alone, especially in matters of art, does not carry us very far. The average man is influenced far more frequently and profoundly by his habits and emotions than by his reason, especially the Englishman.

It is all very well talking about educating the public. It is true much requires to be done in that line up to a point, but though the public are ready to acquire information they are not prepared to change their inherent tastes at the bidding of an architectural clique. I used the word "tastes," I might more truly have said "needs." I am certain that if we are to capture the interest and sympathy of the British public we must feed them on something a shade more romantic—at any rate, for a change. Otherwise it is like a perpetual diet of beefsteak with consequent indigestion.

I do not believe that the architecture of the seventeenth and eighteenth centuries in its more formal aspects truly reflected the essential character of the people. In a highly artificial age it was a foreign importation by a still more artificial and affected aristocracy, mainly designed for their own aggrandisement. Its ultimate assimilation into our architectural history was accomplished by its submission to our national impress, and by the assumption of characteristic features which its progenitors would hardly have recognized.

If students were trained more as architects and less as propagandists, and were allowed the scope to express themselves more naturally, they could be depended upon to give their countrymen the architecture they require and understand. The problem of the education of the public would then be solved automatically.

It is merely a platitude to remark that particular architectural forms do not usually survive longer than a generation. Styles, however, in their broader sense are considerably more enduring. My contention is that even the fundamental styles move not progressively, but like st other forms of human development, cycles, and are far more affected by e wind of fashion than we care to admit. lo not believe that the tiller of the ship architecture is set straight for any en port, try as we may there is always slight cant on it, and our ultimate stination, if any, to say nothing of our urse, remains uncertain.

If one cursorily reviews the architecral history of the last century, one arts with the pure classic form subseently deteriorating into the stereoped dullness which we see in the old ndon suburbs. Then came the Gothic evival with its fanaticisms and misplication of form to requirements. is was followed by the school of rman Shaw, which, having revived the e-classic domestic architecture of England, ran quickly through practically the ole gamut of the Renaissance, finishing th a somewhat exaggerated Queen ne type. In later years this has come increasingly purer and more fined, with a marked reversion to eek forms rather than Roman. This ries of changes approximates very sely to a microcosm of the architecral history of Europe since the fall of the Roman Empire, so that there is some evidence for suspecting that it represents the normal cycle of change. If that should be so the time is almost ripe for the astonishing spectacle of another Gothic revival. I do not think that such a thing could happen on any scale in this country, since I see no purpose it could reasonably fulfil (except, of course, ecclesiastical), provided that the conditions of life remain roughly as they are.

I trust I shall not be accused of attempting to fan the ashes of the war of the styles. In my opinion there need and should be no war. My point is that the complex and diverse temperaments of nations and individuals should be free to express themselves in whatever manner they feel to be appropriate. It may be urged that if the hidden forces of my nature demand expression in the form of a Saracenic cinema, which, by the way, sounds rather attractive, and if I can find anyone who is fool enough to pay for it, there is nothing to prevent it with the possible exception of the municipal authorities. This is perfectly true, but what would be the result? So long as the tide of architectural design runs solely in one direction I should be merely a mutineer affecting a singularity which, however satisfactory to my subconscious self, would not contribute anything to architecture as a whole.

But what if the tide turns as, for the reasons previously mentioned, I think it may? Then there follows a split in the camp and consequent conflict resulting in chaos. That large number of architects who possess no personal convictions, but subsist on the bits, politely termed *motifs*, which they snatch from the great man's table, will hungrily pounce on any new manifestation of form. What, then, is the remedy? I suggest that it lies in the hands of those who are responsible for the training of architects that they should not negatively tolerate, but positively teach how to use sanely and suitably those other forms of architectural expression which, without such training, are so constantly misused and misapplied. Variety, not only of treatment, but even of style, does not necessarily imply chaos. The unity of diversity can be the most delightful and satisfactory of all, as most people realize who know the City of Brussels as contrasted with, say, Berlin, which has only achieved uniformity and consequent dullness.

The Law of Building Outside London

MR. A. N. C. SHELLEY, M.A., of H.M. Ministry of Health, read a paper on the above subject before e R.I.B.A. last week. We give a few the points made by the lecturer.

I have chosen "building law" rather an "by-laws with respect to buildgs" for my title, because by-laws are t by any means the only method of ntrol exercised by the provincial local thority. In addition there are regutions which are not the same as by-laws.

It is as well that everyone concerned ith building should grasp the distincn between these various methods of ntrol, and it is essential for those to do who are seeking to reform the present stem. Let me explain it briefly. arliament says that you shall not build living-room above a privy or two ck-to-back houses; these are direct actments, and a local authority has concern but to enforce them. Then says that you shall not bring your ilding in front of a certain line without e local authority's consent: or that if ur private streets are not to the local thority's satisfaction they can require u to make them up; these are *ad hoc* scretions vested in the local authority. gain, the communication of your house ain with the sewer is controlled by regulations," fixed in advance, and so ffering from an *ad hoc* discretion, but t the same as by-laws, as you will see a moment.

The by-laws in which you are interted are local laws made by a town uncil, urban, or rural district council, d have no validity unless confirmed by central authority, originally the Home cretary, then from 1871 to 1919 the cal Government Board, and now the inister of Health. And not only must by-law be confirmed, it has two other atures which are worth remembering. s making must be advertised in the cality, and it must be open to public spection for a month before the Minister can legally confirm it. These requirements sound formal, but they have corollaries of the first importance.

An Act of Parliament is inherently static, and for controlling a progressive art in the public interest you do not want a static code of law.

In by-laws it is simple—you have four classes—those with no by-laws, those with the fullest code, and two classes in between. The local authority itself says which code it wishes to apply, and the central department, comparing its circumstances with those of other districts determines whether those circumstances justify such strong measures as the local authority desires.

There can be no doubt, looking to the history and form of the governing Acts of Parliament, that one of the objects of having these matters controlled by bylaws has been to secure definiteness in the requirements imposed. Discretionary powers such as were given in the Act of 1848 must lead to far greater varieties than any possible system of by-laws, and the Local Government Board—whose office was staffed in early days by men familiar with both the definite and the discretionary systems — always looked upon certainty as the primary object to be secured. In a Circular Letter of 1877 they laid it down (and they were incessantly repeating the same doctrine) that a person who has to obey the law is entitled to claim a statement, as precise as circumstances warrant, of the requirements which he must obey.

On this subject I commend paragraphs 50 to 58 of the Departmental Committee's Report to the notice of those persons who like to speak of the need for some "appeal against by-laws," whatever that may be. This is a phrase constantly used, but possessing no particular meaning and, therefore, very dangerous. It may mean at least two things which are quite distinct.

This Report, the only attempt made in this country to set out in coherent shape the law, the history, and the practice of the control of building by local authorities is little known, but its study is essential to an understanding of the English law of building and to the framing of a system for the future. If I may summarize it in a few sentences I should do so thus :—

1. The system adopted in 1858 and since maintained by which the local authorities who have to enforce the law are also to make the law, has on the whole worked well. No case has been made out for scrapping the authorities or the system.
2. Experience since 1875 has revealed various gaps and possibilities of overlapping which ought to be set right.
3. Experience has in particular shown that building law, like every other invention of the human mind, grows old and needs renewal. With the progress of invention that law may grow obsolescent quickly, and it is essential that a central authority in close touch with professional opinion, and in a position to study the practice and requirements of the country as a whole, should be enabled to revoke local laws which have become oppressive.
4. Parliament recognized this in 1909, but the enactment has proved to be so badly drawn as to be unworkable in practice.

If this section could be brought up to date and made to work, a large part of the difficulty which now exists would vanish.

These are the four main points. The Committee made twenty-three recommendations, and some are of more weight than others. Let me conclude by saying that, as far as the central department is concerned, what we want is more co-operation between architects, local authorities, and ourselves.

A vote of thanks to Mr. Shelley was moved by Mr. W. E. Hart, Town Clerk of Sheffield, and seconded by Major Harry Barnes, F.R.I.B.A.

Law Reports

Question under a Housing Scheme

Williams & Co. v. *Curd.*

Nov. 29. Official Referees' Court.
Before Mr. G. A. Scott.

The tiling of certain houses at Shoreham-on-Sea, Sussex, as part of the District Council's housing scheme, was the subject of an action in which Messrs. John Williams & Co., of Dinorwick Slate Wharf, Rotherhithe, S.E., claimed from Mr. Ernest Harry Curd, builder, of Shoreham, £115 balance of charges for tiling eight houses and damages for breach of contract.

The plaintiffs' case was that they contracted with the defendant to tile sixteen houses, but they were only allowed to do eight; the defendant denied that there was any contract in writing, and alleged bad workmanship, which made him refuse to allow plaintiffs to complete the job. He further pleaded that if there was any contract it only related to four houses.

The work was commenced on May 18 of last year and completed on September 14, when some of the tiles for the remaining eight houses remained on the site. The plaintiffs' contention was that Mr. Curd repented of his contract for the reason that he thought he could get the second eight houses done more cheaply by someone else. He asked plaintiffs if they could not do the work more cheaply, and when they replied in the negative he set about, said plaintiffs' counsel, trying to discover small defects, but the defects of which he complained could have been set right for a five-pound note.

The plaintiffs having called evidence in support of their claim, the defendant, in the course of his evidence, denied that he had entered into any contract with regard to the sixteen houses.

Mr. James Latham, employed by the local authority as clerk of the works for the Shoreham district housing scheme, said that part of his duty was to superintend and inspect the buildings, and he found the tiling done by the plaintiffs so badly done that he had to condemn it. He called Mr. Curd's attention to the defects, and told him he could not pass the work until they were remedied.

The Official Referee, in giving judgment, said he did not feel he would be justified in finding that there had been an approved contract for the sixteen houses. The burden of proof was on the plaintiffs, and they had failed to establish the contract for the sixteen houses. Under all the circumstances the plaintiffs could only recover £57 15s. 7d., and judgment would be for that amount, without costs.

Building Scheme. Question of Covenants

Kelly v. *Barrett.*

Dec. 1. Chancery Division.
Before Mr. Justice Russell.

Mr. C. J. Mathew, K.C., moved on behalf of the plaintiff, Mr. Edward Kelly, for an interim injunction to restrain Lady Elizabeth Florence Barrett from carrying on Nos. 40 and 42 Fitzjohn Avenue, Hampstead, as a nursing home or for any purpose other than that of a private dwelling-house in contravention of the provisions of the estate's building scheme.

Mr. Courthope Wilson, K.C., for the defendant, contended that the whole character of the neighbourhood had changed, and that with the knowledge and acquiescence of the plaintiff the scope of the scheme had been altered. When she purchased her houses in 1920 they were in a deplorable condition and an eyesore, and she spent £2,000 on the drains, footpaths, etc. She claimed that what she had done had greatly improved the value of the houses on the estate, which had very much deteriorated during the last seven or eight years. With regard to the restrictive covenants, she carried on a high-class nursing home, where people of the professional class who were unable to pay heavy fees were attended to at reduced prices. It was not advertised, there was no name-plate, and the nurses were not allowed to go out in uniform. To the knowledge and with the acquiescence of the plaintiff, there were several doctors, a Baptist training college, two schools, and a studio on the estate, which had been used for other than residential purposes for many years.

Mr. C. J. Mathew replied that the schools were outside the estate, and that he did not regard the doctors or the studio as breaches of the covenants. He denied that the neighbourhood had deteriorated.

His Lordship said that Mr. Courthope Wilson had made out a case for trial and there would be no order on the motion, except that the costs be costs in the action.

Mr. Courthope Wilson said that the home would be carried on as quietly as possible meanwhile.

Builders' Claim

Chadleigh v. *Dimon.*

Dec. 11 and 12. Official Referees' Court.
Before Mr. G. A. Scott.

This was an action by Messrs. Chadleigh Bros., builders, of 96 Shepherd's Bush Road, Hammersmith, against Mr. Christy Dimon, to recover £158 10s. for repairs and alterations of his house 205 The Grove, Hammersmith.

The defendant, according to plaintiffs' counsel, disputed the claim on the ground that some of the work had not been properly done, that the charges were excessive, and that there was a contract to carry out the work for £50. There was, said counsel, nothing in writing nor was there any estimate, and the work was done at a time when it was extremely difficult to get any work done. The defendant, it was true, asked for an estimate, but Mr. Jarrett, the plaintiffs' foreman, declined to give any, but stated casually that he thought the work would cost from £85 to £100, and it was under these circumstances that the work proceeded. From time to time the defendant gave orders for extras, which amounted in all to about £48. It was true that defendant impressed upon plaintiffs' representative that the extra work was to be done as cheaply as possible, and it w so done. Until the bill was sent in t defendant made no complaint of t quality of the work. The house w an old one, and the sanitary authoriti had made an order relative to alteratio in the drainage, etc., and that work w included. It was put in hand in Ju and completed in August, and the defen ant went into possession soon after co pletion, and his complaints were ma after the demand for payment and threat of action. The job was booked a time job from beginning to end, and t profits worked out at 15 per cent. of t overhead charges. The local authoriti raised no complaint as to the charact of the work, and the evidence of a su veyor would prove that it was proper done.

Evidence was called on both sides, t taking of which occupied nearly two day relating to the circumstances und which the arrangement between t parties was made and the character the work done.

The Referee, in giving judgment, sa the order to do the repairs was placed a time when building operations were mo difficult, both wages and materials havi reached their limit. Not only were wor men claiming high wages, but they we not doing the work they had done befo for their wages. Therefore, every o engaged in building operations had feeling, when the bills were presented, th they were being charged too much, a he had consequently had the disagreeab task of going into cases where builde were said to have charged too muc He looked at this case from that poi of view. There was in it a question fact as to the basis under which t builders undertook to do the work. seemed that Mr. Jarrett had made quotation of from £80 to £100, and doubt he explained the work he propos to do for that amount. Had the matt stopped there he would have had hesitation in holding that plaintiffs we bound to carry out the work for a fix sum of £100 approximately. But it d not stop there, because when Jarre reported that the plaintiffs would do t work, the defendant said that £50 wou be his limit, and it was said that Jarre had said without the consent of t plaintiffs that he was willing to do t work. Defendant said that was a co tract to do work which could not possib be done for that sum. He (the Refere could not accept that as the basis up which the work was done. That bei so, and there being no special barga he had to consider what was a fair pr to be paid. Accepting the basis of t arrangement as being that the pr should be approximately £100, he fix the amount at £110, but that would clude some of the items which plainti had charged as extras. He thought t builders were entitled to £8 for extras. against that he had to set off some the matters complained of by defenda As a result he reduced the plainti claim to £105, for which amount he ga judgment for plaintiffs, with costs of t counter-claim.

Current Prices of Materials

NDON PRICES.—The following information is intended to serve as a guide only, and should be confirmed by Trade inquiry. The Labour Rates are se current at the time of issue and are the Union Rates The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

CAVATOR AND CONCRETOR.

cavator, 1s. 3d. per hour.
bourer, 1s. 3d. per hour.
vvy, 1s. 3d. per hour.
nberman, 1s. 5d. per hour.
affolder, 1s. 4d. per hour.
atchman, 6s. 6d. per shift.

oken brick or stone, 2 in., 12s. per yd.
ames ballast, 14s. per yd.
gravel, 19s. per yd.
sand, 17s. per yd.
ashed sand, 19s. per yd.
reened ballast or gravel, add 10 per cent. per yd.
nker, breeze, etc., prices according to locality.
rtland cement, 76s. per ton.
as lime, 48s. per ton.
cks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.
ansport hire per day :
Cart and horse, 22s.
3-ton motor lorry, £4.
Steam lorry, 5-ton, £4 10s.
Trailer, 20s.
Steam roller, £4 5s.
Water cart, 25s.

Excavating and throwing out in ordinary earth not exceeding 6 ft. deep basis price 3s. 4d. per yd. cube.
Exceeding 6 ft., but under 12 ft., add 25 per cent.
In stiff clay, add 50 per cent.
In underpinning, add 120 per cent.
In rock, including blasting, add 225 per cent.
If basketed out, add 80 per cent. to 150 per cent.
Headings, including timbering, add 400 per cent.
Return, fill, and ram, ordinary earth, 3s. 9d. per yd.
Spread and level, including wheeling, 3s. 6d. per yd.
Planking, 5d. per ft. sup.
Do. over 10 ft. deep, add for each 5 ft. depth 40 per cent.
Hardcore, 2 in. ring, filled and rammed 4 in. thick, 2s. 9d. per yd. sup.
Do. 6 in. thick, 3s. 8d. per yd. sup.
Puddling, 30s. per yd. cube.
Cement concrete, 4-2-1, 48s. per yd. cube.
Do. 6-2-1, 39s. per yd. cube.
Do. in upper floors, add 15 per cent.
Do. in ferro-concrete work, add 20 per cent.
Do. in underpinning, add 60 per cent.
Lias lime concrete, 36s. per yd. cube.
Breeze concrete, 30s. per yd. cube.
Do. in lintols, etc., 2s. 3d. per ft. cube.

RAINER.

bourer, 1s. 3d. per hour.
mberman, 1s. 5d. per hour.
icklayer, 1s. 8d. per hour.
umber, 1s. 8½d. per hour.
atchman, 6s. 6d. per shift.

oneware pipes, tested quality, 4-in. 1s. 10d., 6-in. 3s. 4d., 9-in. 5s. 3d. per yd.
st iron pipes, coated, 9-ft. lengths, 4-in. 5s. 9d., 6-in. 8s. 9d. per yd.
rtland cement and sand, see "Excavator" above.
ad for caulking, 35s. per cwt.
skin, 9d. per lb.

Stoneware drains, jointed in cement, tested pipes, 4 in., 2s. 9d., 6 in. 4s., 9 in. 5s. 3d. per ft.
Cast-iron drains, jointed in lead, 4 in. 10s. 6d., 6 in. 15s. per ft.
Note.—These prices include digging and filling for normal depths, and are average prices.
Fittings in Stoneware and Iron according to type. *See* Trade Lists.

RICKLAYER.

icklayer, 1s. 8d. per hour.
bourer, 1s. 3d. per hour.
affolder, 1s. 4d. per hour.

ndon stocks, 82s. per M.
ettons, 61s. per M.
affordshire blue, 202s. per M.
rebricks, 2½ in., 225s. per M.
azed salt, white, and ivory stretchers, £24 per M.
. headers, £23 10s. per M.
lours, extra, 110s. per M.
conds, less, £1 per M.
ment and sand, see "Excavator" above.
me, grey stone, 61s. per ton.
xed lime mortar, 25s. per yd.
mp course, in rolls of 4½ in. 3s. 9d. per roll.
9 in. 6s., 14 in. 7s. 6d., 18 in. 9s. per roll.

Brickwork in stone lime mortar, Flettons, or equal £35 per rod.
Do. in cement do., £38 per rod.
Do. in stocks, add 25 per cent. per rod.
Do. in blues, add 120 per cent. per rod.
Do. circular on plan, add 12½ per cent. per rod.
Facings, half Brick fair, 1½d. per ft. sup. extra.
Do. picked Flettons, 2d. per ft. sup. extra.
Do. picked stocks, 1½d. per ft. sup. extra.
Do. salt, white or ivory glazed, 5s. 6d. per ft. sup. extra.
Tuck pointing, 1s. per ft. sup. extra.
Weather pointing, 2d. per ft. sup. extra.
Granolithic and Cement paving, 1 in. 3s. 6d. per yd. sup.
Do. 1½ in., 4s. 3d. per yd. sup.
Do. 2 in., 5s. 0d. per yd. sup.
Fixing only damp course, ex rolls, 1½d. per ft. sup.
Asphalt, damp course, ½ in., 9s. 6d. per yd. sup.
Do. vertical, 13s. 0d. per yd. sup.
Slate damp course, 1s. 3d. per ft. sup.
Asphalt Roofing (Mastic) in two thicknesses, ¾ in., 8s. 6d. per yd.
Skirting, 6 in., 1s.
2½ in. Breeze Partition Blocks, set in Cement, 6s. 3d. per yd. sup.
3 in. do. do. 8s.

ASON (INCLUDING SLATE).

son, 1s. 8d. per hour.
. fixer, 1s. 9d. per hour.
bourer, 1s. 3d. per hour.
affolder, 1s. 4d. per hour.

rtland stone :
Whitbed, 4s. 9½d. per ft. cube.
Basebed, 4s. 10½d. per ft. cube.
th stone, 3s. 3d. per ft. cube.
Usual trade extras for large blocks.

Hoisting and setting stone, 2s. 0d. per ft. cube.
Do. for every 10 ft. above 30 ft., add 15 per cent.
Plain face Portland basis, 2s. 6d. per ft. sup.
Do. circular, 3s. 8d. per ft. sup.
Sunk face, 3s. 4d. per ft. sup.
Do. circular, 4s. 0d. per ft. sup.
Joints, arch, 2s. 0d. per ft. sup.
Do. sunk, 2s. 1d. per ft. sup.
Do. do. circular, 3s. 8d. per ft. sup.
Circular-circular work, 18s. 0d. per ft. sup.
Plain moulding, straight, per inch of girth, 10½d. per ft. run.
Do. circular, do. 1s. 2d. per ft. run.
Half sawing, 1s. 1d. per ft. sup.
Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

MASON—continued.

York paving, av. 2½ in. 10s. 0d. per yd. super.
York templates sawn, per ft. cube, 14s.
Slate shelves, rubbed, 1 in., 2s. 3d. per ft. sup.
Cement and sand, see "Excavator," etc., above.

Do. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
Do. for Chilmark, 5 per cent.
Setting 1 in. slate shelving in cement, 7d. per ft. sup.
Rubbed round nosing to do., 8d. per ft. lin.
York steps, rubbed T. & R., 33s. ft. cub. fixed.
York Sills W. & T. 36s. ft. cub. fixed.

SLATING AND TILING.

Slater, 1s. 7d. per hour.
Tiler, 1s. 7d. per hour.
Scaffolder, 1s. 4d. per hour.
Labourer, 1s. 3d. per hour.
N.B.—Tiling is often "Piecework"

Slates, 1st quality, per M. :
Portmadoc Ladies £18, Countess £39, Duchess £47.

Clips, lead, 4½d. per lb.
Clips, copper, 2s. 4d. per lb.
Nails, compo, 30s. per cwt.
Nails, copper, 2s. 3d. per lb.
Cement and sand, see "Excavator," etc., above.
Handmade tiles, 170s. per M.
Machine-made tiles, 155s. per M.
Westmorland slates, large, 240s. per ton, Peggies 185s. per ton.

Slating, 3 in. gauge, compo nails, Portmadoc or equal :
Ladies 93s., Countess 105s., Duchess 110s. 0d. per square.
Westmorland, in diminishing courses, 140s. per square.
Cornish do., 128s. per square.
Add, if vertical, 10s. per square approx.
Add, if with copper nails, 7½ per cent. per square approx.
Double course at eaves, 1s. 3d. per ft. approx.
Tiling, 4 in. guage, 5th course nailed, in hand-made tiles, average 125s. per square.
Do., machine-made do., 115s. per square.
Vertical Tiling, including pointing, add 30s. per sq.
Fixing lead soakers, 9d. per dozen.
Stripping old slates and stacking for re-use, and clearing away surplus and rubbish, 8s. 6d. per sq.
Labour only in laying slates, but including nails, 18s. 6d. per sq.
See Sundries for Asbestos Tiling.

CARPENTER AND JOINER.

Carpenter, 1s. 8d. per hour.
Joiner, 1s. 8d. per hour.
Labourer, 1s. 3d. per hour.

Timber, average prices at Docks, London Standard.

Scandinavian, etc. (equal to 2nds) :
7 × 3, £25 per std. to 11 × 4, £36 per std.
Memel or Equal.
Slightly less than foregoing.
Flooring P.E., 1-in., 25s. per sq.
Do. T. and G., 1 in. 25s. per sq.
Planed Boards, 1 in. × 11 in. £46 per std.
Wainscot oak, 2s. 9d. per ft. sup. of 1 in.
Mahogany, 2s. 6d. per ft. sup. of 1 in.
Do. Cuba, 3s. 9d. per ft. sup. of 1 in.
Teak, 3s. per ft. sup. of 1 in.

Fir fixed in wall plates, lintels, sleepers, etc., 6s. 3d. per ft. cube.
Do. framed in floors, roofs, etc., 8s. per ft. cube.
Do., framed in trusses, etc., including ironwork, 9s. 6d. per ft. cube.
Pitch pine, add 33⅓ per cent.
Fixing only boarding in floors, roofs, etc., 15s. 0d. per sq.
Sarking felt laid, 1 ply 1s. 6d., 3-ply 1s. 8d. per yd.
Centering for concrete, etc., including horsing and striking, 65s. per sq.
Slate battening, 21s. per sq.
1 in. deal gutter board on firring, 90s. per sq.
1¾ in. moulded casements in 4 sqs., glazing beads and hung, 2s. 10d. per ft. sup.
2 in. do. do., 3s. 0d. per ft. sup.
Deal cased frames, oak sills, 2 in. D.H. sashes, brass-faced pullies, etc., 4s. 3d. per ft. sup.
Doors, 4 pan. sq. b.s., 2 in. 2s. 10d. per ft. sup.
Do. do. do., 1½ in. 2s. 9d. per ft. sup.
Do. do., moulded b.s., 2 in. 3s. 3d. per ft. sup.
Do. do. do., 1½ in. 2s. 10d. per ft. sup.
If in oak multiply 6 times.
If in mahogany multiply 6 times.
If in teak multiply 7 times.
Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, 1 in. 14s. 0d., 1¼ in. 16s. 0d. per yd. sup., average.
Do. do., 1¼ in. Maple blocks, 19s. 6d.
Staircase work, deal :
1 in. riser, 1¼ in. tread, fixed, 3s. 6d. per ft. sup., 2 in. deal strings, fixed, 3s. 9d. per ft. sup.

PLUMBER AND RAIN-WATER GOODS.

Plumber, 1s. 8½d. per hour
Mate or labourer, 1s. 3d. per hour.

Lead, milled sheet, 36s. per cwt.
Do. drawn pipes, 36s. 6d. per cwt.
Do. soil pipe, 39s. per cwt.
Do. scrap, 20s. per cwt.
Copper, sheet, 2s. 4d. per lb.
Solder, plumbers, 10d. per lb.
Do. fine, 1s. per lb.
Cast-iron pipes, etc. :
L.C.C. soil, 3 in. 5s. 6d., 4 in. 6s. 11d. per yd.
R.W.P., 2½ in. 3s. 3d., 3 in. 3s. 11d., 4 in. 5s. 2d. per yd.
Gutter, 4 in. H.R., 3s. 3d., 4 in. O.G., 4s. per yd.

Milled lead and labour in gutters, flashings, etc. 57s.
Lead pipe, fixed, including running joints bends, and tacks, ½ in., 1s. 6d. per ft.
Do., ¾ in., 1s. 10d. per ft.
Do., 1 in., 2s. 3d. per ft.
Do., 1¼ in., 2s. 10d. per ft.
Lead waste or soil, fixed as above, complete, 2½ in. 4s. 3d. per ft.
Do., 3 in., 5s. 3d. per ft.
Do., 4 in., 6s. per ft.
Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½ in., 2s. per ft.
Do., 3 in., 2s. 4d. per ft.
Do., 4 in., 2s. 8d. per ft.
Cast-iron H.R. gutter, fixed, with all clips, etc. 4 in., 2s. 4d. per ft.
Do., O.G., 4 in., 3s. per ft.
Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4 in., 6s. 6d. per ft.
Do., 3 in., 5s. 6d. per ft.
Fixing only :
W.C. pans and all joints, P. or S., and including joints to water waste preventers, 41s. 0d. each.
Baths only, with all joints, 37s.
Lavatory basins only, with all joints on brackets, 28s. each.

LABOUR RATES AND MATERIAL PRICES.

MEASURED WORK PRICES.

GLAZIER.

Glazier, 1s. 7½d. per hour.
Glass : 4th in crates :
  Clear, 21 oz. 5½d., 26 oz. 6⅝d.
Cathedral white, 5½d. per ft.
  Polished Plate, British ¼ in., up to 2 ft. sup. 2s. 0d., 3 ft. sup. 2s. 6d., 7 ft. sup. 4s., 25 ft. sup. 4s. 0d., 100 ft. sup. 5s. 0d.
  Rough plate, $\frac{3}{16}$ in., 4⅞d., ¼ in. 6½d. per ft.
Linseed oil putty, 17s. per cwt.

Glazing in putty, clear sheet, 21 oz. 10d., 26 oz. 11d.
Glazing in beads, 21 oz. 1s. 0d., 26 oz. 1s. 3d. per ft.
Patent glazing in rough plate, normal span, 1s. 7½d. to 2s. 0d. per ft.
Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 3s. 6d., and up, per ft. sup.
Glazing only, polished plate, 6d. to 7½d. per ft., according to size.

PLASTERER.

Plasterer, 1s. 8d. per hour.
Labourer, 1s. 3d. per hour.

Chalk lime, 63s. per ton.
Hair, 25s. per cwt.
Sand and cement, see "Excavator," etc., above.
Lime putty, 3s. 9d. per cwt.
Hair mortar, 28s. per yd.
Fine stuff, 35s. per yd.
Sawn laths, 4s. per bdl.
Keene's cement, 93s. per ton.
Sirapite, 70s. per ton.
Do. fine, 70s. 6d. per ton.
Plaster, 73s. per ton.
Do. fine, 74s. per ton.
Thistle plaster, 69s. per ton.
Lath nails, 5d. per lb.

Lathing with sawn laths, 1s. 5d. per yd.
Metal lathing, 1s. 10d. per yd.
Floating in Portland, 1 to 3, for tiling or wood-block, ¾ in., 2s. 6d. per yd.
Do., vertical, 2s. 10d. per yd.
Render, on brickwork, 1 to 3, 2s. 6d. per yd.
Render in Portland and set in fine stuff. 3s. per yd.
Render, float, and set, trowelled, 2s. 9d. per yd.
Render and set in Sirapite, 2s. 6d. per yd.
Do., in Thistle plaster, 2s. 6d. per yd.
Extra, if on but not including lathing, any of foregoing, 5½d. per yd.
Extra, if on ceilings, 7d. per yd.
Angles, rounded Keene's on Portland, 6d. per ft. lin.
Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin.
White glazed tiling set in Portland and jointed in Parian, 33s. per yd.
Fibrous plaster slabs, 2s. per yd.

DECORATOR.

Painter, 1s. 7d. per hour.
Labourer, 1s. 3d. per hour.
French polisher, 1s. 10d. per hour.
Paperhanger, 1s. 8d. per hour.

Genuine white lead, 55s. per cwt.
Linseed oil, raw, 4s. 9d. per gall.
Do. boiled, 5s. 2d. per gall.
Turpentine, 6s. 4d. per gall.
Liquid driers, 13s. per gall.
Knotting, 35s. per gall.
Distemper, washable, in ordinary colours, 53s. per cwt. and up.
Double size, 4s. 6d. per firkin.
Pumice stone, 7d. per lb.
Varnish, hard oak, 14s. per gall. and up.
Gold Leaf (Transferable), 2s. 4d. per book.

Lime whiting 6d. per yd. sup.
Wash, stop, and whiten, 7d. per yd. sup.
Do., and 2 coats distemper with proprietary distemper, 1s. 0d. per yd. sup.
Knot, stop, and prime 6d. per yd. sup.
Plain painting, including mouldings, and on plaster or joinery, 1st coat, 11d. per yd. sup.
Do., subsequent coats, 9d. per yd. sup.
Do., enamel coat, 1s. 3d. per yd. sup.
Brush, grain, and 2 coats varnish, 3s. 9d. per yd. sup.
Figured do. do., 5s. 6d. per yd. sup.
French polishing, 1s. 6d. per ft. sup.
Stripping old paper and preparing, 1s. 6d. per piece.
Hanging paper, ordinary, 1s. 9d. per piece.
Do., fine, 2s. 3d. and upwards per piece.
Varnishing paper, 1 coat, 10s. per piece.
Canvas, strained and fixed, 2s. 9d. per yd. sup.
Varnishing, hard oak, 1st coat, 1s. 3d. yd. sup.
Do., each subsequent coat, 1s. per yd. sup.

LABOUR RATES AND MATERIAL PRICES.

MEASURED WORK PRICES.

DECORATOR—continued.

Varnish copal, 20s. per gall. and up.
Do. Flat, 20s. per gall.
Do. Paper, 17s. per gall.
French polish, 29s. per gall.
Ready mixed paints, 12s. per gall. and up.

STEELWORK, SMITHWORK. etc.

Smith, Weekly Rate = 1s. 9¾d. per hour.
Mate, Do. 1s. 3d.
Erector, 1s. 9½d. per hour.
Fitter, 1s. 9½d. per hour.
Labourer, 1s. 3d. per hour.

Mild steel in British standard sections, £14 10s. per ton.
Sheet steel :
  Flat sheets, black, £28 per ton.
  Do. Galvd., £32 per ton.
Corrugated sheets, galvd., £28 per ton.
Driving screws, galvd., 2s. 10d. per grs.
Washers,galvd.,1s.10d. per grs.
Bolts and nuts, 45s. per cwt. and up.

Mild steel in trusses, etc., erected, £29 per ton.
Do., in small sections as reinforcement, £20 p ton.
Do., in compounds, £21 per ton.
Do., in bar or rod reinforcement, £22 per ton.
Wrot. iron in chimney bars, etc., including buildi in, 45s. per cwt.
Do., in light railings and balusters, 50s. per cwt.
Fixing only corrugated sheeting, including washe and driving screws, 2s. per yd.

SUNDRIES.

Fibre or wood pulp boardings, 3½d. per ft. sup.
Plaster Board, 1s. 9d. per yd. sup.
Asbestos sheeting, $\frac{5}{32}$ in., grey flat, 3s. 0d. per yd. sup.
Do. corrugated, 5s. 0d. per yd. sup.
Asbestos composition.
  Flooring :
Metal casements for wood frames, domestic sizes, 2s. per ft. sup.
Do. in metal frames, 2s. 3d. per ft. sup.
Asbestos cement slates or tiles, $\frac{5}{32}$ in. punched per M. grey £20, red£22.
Waterproofing compounds for cement.

Fibre boardings, fixed on, but not including stu or grounds, 6d. per ft. sup.
Plaster Board, fixed as last, 2s. 6d. per yd. sup.
Asbestos sheeting, fixed as last, flat, 3s. 9d. p yd. sup.
Do. do., corrugated, 5s. 10d. per yd. sup.
Laid in two coats, average ¾ in. thick, in plain colou 10s. 0d. per yd. sup. Do. ½ in. thick, suitab for domestic work unpolished , 7s. 6d. per yd
Hanging only metal casements in, but not includi wood frames, 2s. 9d. each.
Building in metal casement frames 6d. per ft. sup
Asbestos slating or tiling on, but not includi battens, or boards, plain " diamond " per squa grey 57s. 6d., red 62s. 6d.
Add about 75 per cent. to 100 per cent. to the co of cement used.

PLYWOOD.

3 m/m Alder 2¼d. per ft. sup.
4½ m/m Amer. White 3¾d. per ft. sup.
5 m/m Figured Ash 5d. per ft. sup.
4½ m/m 3rd Quality, Composite Birch 1½d. per ft. sup.

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CONTRACTS OPEN

Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING.

July 6.—**DRILL HALL. Rhosllanerchrugog.**—Erection of a drill hall and miniature range at Rhosllanerchrugog, for the Denbighshire T.A. Association. Apply Captain G. Griffith, O.B.E., Post Office Lane, Denbigh.

July 6.—**CONVERSION. Crewe.**—Conversion of two shops into laides' and gentlemen's conveniences at Hill Street, for the Corporation. The successful tenderer will be required to execute a contract to be prepared by the Town Clerk. Apply Mr. L. St. G. Wilkinson, M.Sc., A.M.I.C.E., Borough Engineer and Surveyor, Municipal Buildings, Crewe. Deposit £2 2s.

July 6.—**RENOVATION. Luton.**—External and internal renovation of certain borough schools during the school vacation, for the Luton Education Committee. Apply Borough Engineer, 1 Cheapside, Luton.

July 6.—**HOUSES. Southend-on-Sea.**—Erection and completion of blocks of six and blocks of four houses (eight blocks in all being required, making a total of 38 houses) and incidental works in connection therewith at the Sutton Road site, Southend-on-Sea, for the Corporation. Apply Borough Engineer (Mr. R. H. Dyer), Municipal Buildings, Southend-on-Sea. Deposit £3 3s.

July 6.—**REPAIRS. Tooting.**—Repairs and redecorations to the church and chapel, &c., at the Lambeth Cemetery, Blackshaw Road, Tooting, S.W.17, for the Lambeth Borough Council. Apply Mr. H. E. Anderson, C.E., Borough Engineer.

July 6.—**LIBRARY FITTINGS. Tottenham.**—Certain fittings in connection with the installation of the open-access system at their central library, for the Tottenham District Council. Apply Engineer to the Council, Town Hall, Tottenham, N.15. Deposit 10s. 6d.

July 7.—**ALTERATIONS. Southampton.**—Alterations to 20 Carlton Crescent for a proposed ex-Service men's club. Apply Messrs. Hair and Bird, Architects, 23 Portland Terrace, Southampton.

July 7.—**KIOSK. London.**—Erection of a refreshment kiosk in St. James's Park, London. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

July 7.—**SCHOOL. Faringdon.**—Erection of new Council school for 120 children at Faringdon, for the Berkshire Education Committee. Apply Mr. W. C. F. Anderson, Education Secretary, Shire Hall, Reading. Deposit £1.

July 7.—**REPAIRS. Figheldean.**—Repairs to Figheldean Bridge, for the Roads and Bridges Committee of the Wilts County Council. Apply County Surveyor, County Offices, Trowbridge.

July 10.—**RENOVATION. Bridgwater.**—Internal renovation of the following buildings, for the Borough Education Authority, viz. : Albert Street Council School; master's house, Eastover Council School; Eastover Parochial School; Girls' and Infants' C. E. School, Mount Street; and West Street C.E. School. Apply Borough Surveyor, Municipal Buildings, Bridgwater.

July 10.—**COTTAGES. Sealand.**—Erection of four cottages at Waterloo Farm, Sealand, near Chester, for the Corporation of Wallasey. Apply Mr. G. Livsey, Town Clerk, Town Hall, Wallasey. Deposit £1 1s.

July 10.—**BATHS. Oxford.**—Erection of a building and the fitting up of same as district public baths, to be built on land in the rear of Greyfriars House, Paradise Street, Oxford, for the Corporation. Apply Office of the City Estates Surveyor, Town Hall, Oxford.

July 11.—**ALTERATION. Hertford.**—Alteration of the fire station, &c., Mill Road, Hertford, for the Corporation. Apply Office of the Borough Surveyor and Engineer, The Castle, Hertford.

July 11.—**HOUSES. Ireland.**—Erection of 20 houses in blocks of two each, to be built of concrete blocks, on site at rear of Auburn Villas, Dargle Road, Bray, together with the necessary paths, fencing, water services, house drains, etc., for the Bray Urban District Council. Apply Mr. P. H. McCarthy, B.E., 39 Westmoreland Street, Dublin, or at Town Hall. Deposit of £2 2s.

July 11.—**URINAL. Easington.**—Erection of one brick urinal at Shotton Colliery, for the Easington Rural District Council. Apply Mr. F. W. Girven, Surveyor, Council Offices, Easington.

July 11.—**HOUSES. Uxbridge.**—Erection of seven blocks of four houses each and seven pairs of houses, and for new road and surface-water sewer, &c., forming part of the southern section of their Hillingdon Road housing scheme, Uxbridge, Middlesex, for the Uxbridge Urban District Council. Apply Mr. W. L. Eves, F.R.I.B.A., F.S.I., 54 High Street, Uxbridge. Deposit £3 3s.

July 12.—**EXTENSIONS. Stepney.**—Extensions and alterations to the Limehouse electricity generating station, Narrow Street, Limehouse, E.14, composed of steel framing and reinforced concrete, for the Stepney Borough Council. Rates of wages, &c., clauses to be observed. Apply Mr. B. J. Belsher, A.M.I.C.E., M.I.M.E.. Municipal Offices, Raine Street, Old Gravel Lane E.1. £5 Bank of England Note.

July 12.—**RENOVATIONS. Ilkley.**—Internal renovations and external painting at Ilkley, Ben Rhydding Council school. Apply Education Department, County Hall, Wakefield.

July 12.—**RENOVATION. Brixham.**—Renovation and recolouring of the Brixham Parish Church. Apply Sexton.

July 13.—**BUNGALOWS. Esh Winning.**—Erection of bungalows as follows : Eight bungalows at Esh Winning, 10 bungalows at Langley Park, 14 bungalows at Lanchester, for the Lanchester Rural District Council. Apply Mr. T. E. Taylor, L.R.I.B.A., Union Offices, Lanchester.

July 14.—**ALTERATIONS. Lowestoft.**—Alterations, improvements, and renovation of Victoria Road School, Lowestoft, for the Education Committee. Apply Borough Surveyor's Office, Town Hall, Lowestoft.

July 15.—**HOUSES. Denny.**—Excavator and brickwork, carpenter and joiner work, plumber, slater, and plaster and cement work, in the erection of 20 houses at the Anderson Street site, No. 3 (section 1), Denny, for the Town Council. Apply Messrs. James Strang and Wilson, Architects, Falkirk.

July 17.—**REPAIRS. Trowbridge.**—Carrying out works in repairs and renovations, &c., at various Council schools during the summer vacation, for the General Education Committee of the Wilts County Council. Apply Office of Mr. T. Walker, A.R.I.B.A., County Architect, County Offices, Trowbridge.

July 19.—**INSTITUTE. Caerwys.**—Erection of the Caerwys War Memorial Institute in the village of Caerwys. Apply Mr. Ll. Jones, Hon. Secretary, Hill Crest, Caerwys, Flintshire. Deposit £1 1s.

July 20.—**ALTERATIONS. London.**—Structural alterations to sub-station, Grafton Road, N.W., for the St. Pancras Borough Council. Apply 57 Pratt Street, N.W.1. Deposit £2.

July 24.—**REBUILDING. Weymouth.**—For pulling down and rebuilding No. 16 Saint Thomas Street, Weymouth, for Messrs. V. H. Bennett & Co. Apply Mr. A. J. Bennett, C.E., Architect and Surveyor, Gloucester Street, Weymouth.

ELECTRICAL.

July 10.—**METERS. Cheadle.**—Supply of alternating current meters (2½ to 20 amperes) and maximum demand indicators (3 hectowatts to 5 kilowatts), for the Cheadle and Gatley Urban District Council. Apply Mr. C. H. Wordingham, C.B.E., M.I.C.E., 11 Mosley Street, Manchester, or 7 Victoria Street, Westminster London, S.W.1. Deposit 10s. 6d. each specification.

July 10.—**TRANSFORMERS. Wimbledon.**—Supply, delivery and erection of four 1,000-k.v.a. 10,000/2,000 volt transformers, for the Corporation. Apply Mr. A. E. McKenzie, M.I.E.E., Borough Electrical Engineer, Electricity Works, Durnsford Road, Wimbledon, S.W.19.

July 12.—**TURBO-ALTERNATORS. Torquay.**—Supply, delivery and erection of one 3,000-kw. turbo-alternator and condensing plant, for the Corporation. Apply Mr. H. F. G. Woods, Borough Electrical Engineer and Manager, Electricity Offices, Town Hall, Torquay. Deposit £2 2s.

July 12.—**SWITCHBOARD. Navan.**—Section A—D.C. main switchboard: section B—D.C. generators: section C—overhead mains, including erection: section D—direct coupled oil engine set : section E—house service meters and fuses, public lighting fittings and brackets, lamps, insulated, aerial and lead-covered cables, insulating material, insulators, leading-in tubes, wall spikes, &c., for the Navan Urban District Council. Apply Mr. J. J. Woods, Clones, Co. Monaghan. Deposit of £2 2s. for sections A, B, C and D.

July 14.—**LAMPS. London.**—Supply of metallic filament lamps, for the Bombay, Baroda and Central India Railway Co. Apply 91 Petty France, Westminster, S.W.1. Deposit 10s. each.

July 14. **SUB-STATION EQUIPMENT. Connah's Quay.**—Supply, delivery and erection of sub-station equipment, overhead and underground mains, public lighting, and consumers' services, for the Urban District Council. Apply Mr. A. J. Leigh, 122 The Albany, Old Hall Street, Liverpool. Deposit £3 3s.

July 15.—**ELECTRIC WIRING. Epsom.**—(1) Installation of electric wiring of the buildings, motor telephones, &c.; (2) supply and fixing of overhead electrical conductive and main cables, switchboards, &c.; (3) installation of laundry plant; (4) installation of kitchen plant; (5) installation of bakery plant, at the Eleventh Mental Hospital, Epsom, Surrey, now in course of erection. Apply Asylums Engineer to the Council, Gloucester House, 19 Charing Cross Road, W.C.2, upon payment to the Cashier of the Council at the County Hall, Spring Gardens, S.W.1, of £5 each for 1 and 2, and £2 for 3, 4, and 5.

July 17.—**TURBO-GENERATOR. Gravesend.**—(A) 5,000-kw. turbo-generator: (B) condensing plant: (C) switchgear: (D) mains) (E) artesian well: (F) automatic stokers. Apply Mr. C. F. McInnes, M.I.E.E., Borough Electrical Engineer, Electricity Works, Suffolk Road, Gravesend. Deposit £2 2s.

July 26.—**TELEGRAPH APPARATUS. Australia**—Supply of telegraph and/or telephone apparatus, testing instruments and protective apparatus (schedule 734), for the Deputy Postmaster-General, Perth, Western Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

August 1.—**ELECTRICALLY DRIVEN SEWAG PUMPS. Dublin.**—Supply and erection of two se of electrically driven sewage pumps, each capable dealing with 18,000,000 gallons per diem, together wi auxiliary works, for their Ringsend pumping station the City of Dublin, for the Corporation. Apply M M. J. Buckley, 28 Castle Street, Dublin, and Mr. J. Alford, 11 Victoria Street, Westminster, London, S.W. Deposit £5 5s. (crossed cheque only).

August 9.—**TELEPHONE, &c., APPARATU Perth.**—Tenders are invited by the Postmaster-General Department, Perth, Australia, for the supply and d livery of telephone and telegraph apparatus, testi instruments and protective apparatus. (Schedu No. W. A. 734), Apply Inquiry Office of the Departme of Overseas Trade, 35 Old Queen Street, London, S.W.1

ENGINEERING

July 6.—**WEIGHBRIDGES. Bradford.**—Supp and erection at the gasworks of two 20-ton weighbridge with platforms 18 ft. by 8 ft., for motor traffic, for t Gas Committee. The contract will be let subject to t fair contracts clauses of the Corporation. Apply M N. L. Fleming, Town Clerk, Town Hall, Bradford.

July 7.—**CYLINDRICAL BUFFERS. India.** Supply of 1,300 wrought-iron cylindrical buffers, 8 cases for cylindrical buffers, 300 hook ends for drawba and 100 screwed ends for drawbars. Apply Directo General, India Store Department, Belvedere Road, Lan beth, S.E.1.

July 8.—**EXCAVATION. Mortlake.**—Executi of works of excavation, levelling, etc., at Palewell Co mon, Mortlake, for the Barnes Urban District Counc Apply Mr. G. B. Tomes, A.M.I.C.E., Engineer and Su veyor, Council House, High Street, Mortlake, S.W.14.

July 8.—**WEIGHBRIDGE. Ramsgate.**—Supplyi and erecting at their gasworks, Boundary Road, Ram gate, one 15-ton weighbridge, for the Gas and Wat Committee. Apply Gas and Water Offices, Ramsgate.

July 8.—**DISTRIBUTORS. Macclesfield.**—Su ply and erection at their Butley sewage disposal wor of four revolving distributors for their existing 120 diameter filters, for the Corporation. Apply Mr. J. Edmondson, Sewage Manager, Prestbury, near Maccl field.

July 10.—**MECHANICAL STOKERS. Ilford.** Supply, delivery, and erection of mechanical stokers two marine dryback boilers, for the Ilford Urban Distr Council. Apply Mr. A. H. Shaw, Electricity Worl Ley Street, Ilford.

July 10.—**CONVERTING PLANT. Kirkcaldy.** For the following, for the Town Council : Specificati No. 2—Converting plant. Apply Messrs. Kennedy a Donkin, 17 Victoria Street, Westminster, S.W.1. I posit £2 2s. (cheque, postal, or money order).

July 10.—**VERTICAL RETORTS. Tipton.** Installation of vertical retorts, capacity 750,000 cu feet per day, for the Gas Committee. Apply Engineer the Gasworks.

July 11.—**TRANSMISSION LINE TOWER Lyttleton.**—Supply and delivery ex. ship's slin Lyttleton, New Zealand, of eight galvanized steel tra mission line towers complete with cross-arms, stubs, a all accessories, in connection with the Lake Colerid electric supply scheme. Apply Department of Overs Trade (Room 49), 35 Old Queen Street, Westminst S.W.1.

July 11.—**WHEELS AND AXLES. Edinburgh.** Supply and delivery of wheels and axles for 80 elect cars, for the Tramway Department. Apply Tramwa Manager, 2 St. James Square, Edinburgh.

July 13.—**WASHING MACHINE. Uxbridge.** Supply of a rotary washing machine of about 200 sh capacity for their Institution at Hillingdon, near U bridge, for the Guardians of Uxbridge Union. Price include delivery into the laundry at the Institutio Apply Master of the Institution.

July 14.—**SEWAGE WORKS. Haslingden.** Construction of detritus tanks, carriers, storm tan buildings, and other works at their sewage works Ewood Bridge, Lancashire, for the Haslingden, Rawt stall, and Bacup Outfall Sewerage Board. Apply Mr. Midgley Taylor, of Messrs. J. Taylor and Sons, 36 V toria Street, Westminster, S.W.1. Deposit £5 (cheq only).

July 17.—**BRIDGE. Shrewsbury.**—The Corpor tion of Shrewsbury invites tenders from public wor contractors experienced in the erection of mason bridges for the reconstruction of the English Bridge. T works include the taking down and rebuilding of t existing masonry in order to reduce the gradient a widen the structure, together with the improvement the approaches, &c. Apply Mr. A. W. Ward, A.M.I.C. Borough Surveyor, Guildhall, Shrewsbury, accompani by a bank note for £50.

July 17.—**STEEL AND IRON STAIRS. Glasgo**—Steel and iron stairs, railings, ladders, gates, runwa &c., required in connection with the extension of t Municipal Buildings, for the Corporation. Apply Mess Watson, Salmond and Gray, 242 West George Stre Glasgow.

August 1.—**UNDERFRAMES. Siam.**—Supply 25 underframes for bogie carriages, for the Departme of State Railways. Apply Messrs. C. P. Sandberg, Grosvenor Gardens, London, S.W.1.

(*Continued on page* xxvi.)

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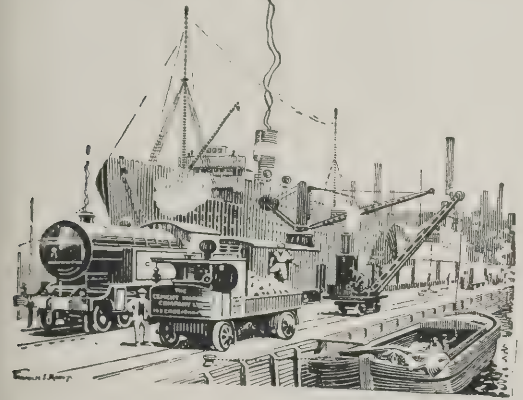

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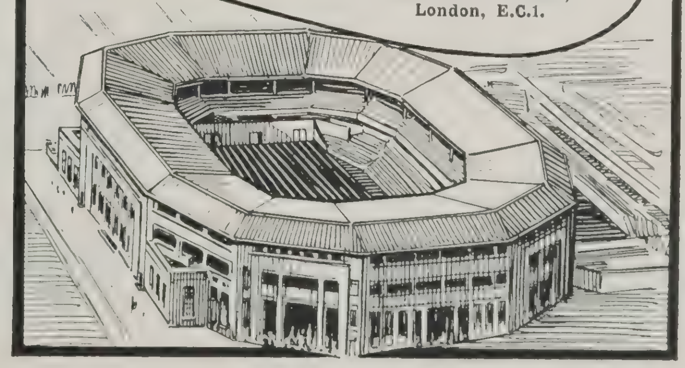

August 2.—**MOTOR LORRIES. Buenos Aires.**—Supply of fifteen 5,000 kilog. motor lorries, twenty 2,000 kilog. motor lorries, and twenty-five 5,000 kilog. trailers. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

August 16. — **PIPING. Buenos Aires.** — 8,000 tons of cast-iron piping. Apply Department of Overseas Trade, 35 Old Queen Street, S.W.

August 25.—**STEEL CASTINGS. Johannesburg.**—Supply at Zwartkopjes pumping station, Selborne Siding No. 114, of 38 steel castings, 456 phosphor-bronze valves, and other materials for the inverted vertical marine-type pumping engines of that station. (Contract 229). Apply Department of Overseas Trade (Room 50a), 35 Old Queen Street, S.W.1.

October 1.—**BRIDGE SUPERSTRUCTURES. Bangkok.**—Supply of superstructures of steel railway bridges, B.E.2465, for the Siam State Railways. Apply Messrs. C. P. Sandberg, 40 Grosvenor Gardens, London, S.W.1.

PAINTING.

July 6.—**PAINTING. Darlington.**—Painting of the outside of Feetham's Infirmary, Darlington, for the Guardians. Apply the Institution.

July 6.—**RENOVATION. Luton.**—External and internal renovation of certain borough schools during the school vacation, for the Luton Education Committee. Apply Borough Engineer, 1 Cheapside, Luton.

July 8.—**PAINTING. Worthing.**—Painting and distempering work at the elementary schools, for the Education Committee. Apply Architect to the Education Committee, Municipal Offices, Tudor Lodge, Chapel Road, Worthing.

July 8.—**PAINTING. Eastry.**—Painting and decorating the Isolation Hospital, Eastry, for the Eastry Rural District Council. Apply Mr. F. A. Cloke, Clerk, 51 Strand Street, Sandwich.

July 8.—**PAINTING. Newton Abbot.**—Painting, etc., of 13 Union Street, Newton Abbot, for the Newton Urban District Council. Apply Mr. C. D. White, Surveyor, Town Hall, Newton Abbot.

July 10.—**REDECORATING. Wrexham.**—Redecorating of the Alexandra and St. Mary's schools, for the Wrexham Education Committee. Apply Borough Engineer's Office, Willow Road.

July 10.—**PAINTING. Uppermill.**—Painting of the outside wood and ironwork of their houses at Moorland Terrace (10), Delph; Shaw View (10), Uppermill; Moorland Avenue (10), Dobcross; Weakey Old (25), Diggle; and Mechanics' Arms (4), Delph, for the Saddleworth Urban District Council. Separate tenders will be given for each block of houses. Apply Mr. E. Rowbotham, Clerk, Council Offices, Uppermill.

July 10.—**PAINTING. Morley.**—Painting the exterior of Peel Street Council Schools, for the Education Authority. Apply Mr. F. Turner, B.Sc., A.M.I.C.E., Borough Engineer, Town Hall, Morley.

July 10.—**COLOURING. Bradford.**—Colouring, &c., required at the various schools. Apply City Architect, Town Hall, Bradford. The contract will be let subject to the fair contracts clauses of the Corporation.

July 10.—**PAINTING. Chelmsford.**—Execution of works of painting and colour-washing at certain schools, for the Town Council. Apply Borough Engineer's Office.

July 10.—**PAINTING. Clitheroe.**—Painting and decorating at the elementary schools in the borough. Apply Mr. A. R. Bleazard, Borough Engineer, Church Street, Clitheroe.

July 11.—**PAINTING. Newport.**—Certain painting and repairs to schools at Carisbrooke, Chillerton, Cowes, East Cowes, Freshwater, Gatten and Lake, Godshill, Gurnard, Nettlestone, Newchurch, Niton, Northwood, Parkhurst, Ryde, St. Helens, Thorley, Wootten and Wroxall, for the Isle of Wight County Council. Apply Mr. S. R. Cocks, St. Thomas Street, Ryde.

July 11.—**PAINTING. Conisbrough.**—Painting the iron railings, seats, &c., at Coronation Park, Piggotts and Ivanhoe Park Recreation Grounds, Conisbrough; and for the painting of the chapel and other premises at the cemetery, Conisbrough. Apply Mr. H. Thirlwall, Surveyor, Council Offices, Conisbrough.

July 11.—**PAINTING. Walthamstow.**—Carrying out certain work of school renovations in painting, distempering, &c., to the interiors of the following schools for the Walthamstow Education Committee, viz. :—William Morris School, Mission Grove School and Joseph Barrett School. Apply Mr. H. Prosser, M.S.A., Architect to the Committee, 263 High Street, Walthamstow, E.17.

July 12.—**PAINTING. Driffield.**—Painting of the outside of the main body of the Poor Law Institution, 19 Bridlington Road, Driffield, for the Guardians. Apply Mr. G. Harker, Clerk, 17 Exchange Street, Driffield, by July 12.

July 12.—**PAINTING. Durham.**—Outside painting at the following county police stations: (1) Assize Courts, Durham; (2) Birtley; (3) Chester-le-Street; (4) Chopwell; (5) Constabulary Headquarters, Durham; (6) Coxhoe; (7) Felling-on-Tyne; (8) Fighting Cocks; (9) Middleton-in-Teesdale; (10) Washington, for the Durham County Council. Apply County Surveyor's Office, Shire Hall, Durham.

July 13.—**PAINTING. East Retford.**—Painting and decorating of Town Hall Buildings, for the Corporation. Apply Mr. R. E. Wilson, M.I.M.C.E., Borough Surveyor, Market Place, Retford, Notts.

July 14.—**PAINTING. Oldbury.**—Painting and decorating the following schools, for the Urban District Council: (1) Wesley School, Oldbury (interior and exterior); (2) Rounds Green School, Oldbury (interior and exterior); (3) Rood End School, Oldbury (interior and exterior); (4) National School, Oldbury (interior only). Apply Mr. R. Fletcher, A.M.I.C.E., Surveyor to the Education Committee, Public Buildings, Oldbury. Deposit £2.

July 14.—**PAINTING. Oldbury.**—Painting an decorating the public buildings, Oldbury, for the Urba District Council. Apply Mr. R. Fletcher, A.M.I.C.E. Engineer and Surveyor, Public Buildings, Oldbury Deposit £2.

July 20.—**PAINTING BRIDGES. Worcester.**—Cleaning and painting the ironwork of each of the following bridges, for the Worcestershire County Council, viz. Stourport, Holt Fleet, Upton-on-Severn. Apply M C. F. Gettings, M.I.C.E., 30 Foregate Street, Worceste

ROADS AND SEWERS.

July 6.—**REPAIRING. Edinburgh.**—Repairin and resurfacing with small whinstone metal and tar th carriage-traffic roads, and for restoring the footpath within the grounds of the Bangour Village Asylum, fo the Edinburgh District Board of Control. Apply M J. D. Gibson, Surveyor, 60 Frederick Street, Edinburgh.

July 10.—**RESURFACING. Aldershot.**—Resu facing of a portion of Station Road with creosoted de blocks on a reinforced concrete foundation, for th Town Council. Apply Surveyor's Office, Municip Buildings, Aldershot.

July 10.—**SEWER. Whitehaven.**—Construction about 250 yards of 9 in. stoneware pipe outfall sewe together with manholes, outfall tanks, circular bacteri filter, irrigation works, fencing, &c., and other wor connected therewith, at the sewage outfall work Thornhill housing scheme, Lowmill, near Egremont, f the Whitehaven Rural District Council. Apply Mr. W. Goode, Engineer to the Council, Union Hall, Whitehave Deposit £1 1s.

July 10.—**SEWERAGE WORKS. Wellington.**—Sewerage, comprising about 55 lineal yards of 36 i diameter C.I. sewer, 153 lineal yards of 36 in. diamet S.W. ditto, 288 lineal yards of 30 in. diameter ditto, 1 lineal yards of 21 in. diameter ditto. These sewers a in open cutting, 55 lin. yards being under the L.N.W. a G.W.R. joint main railway lines. 630 lineal yards concre inverts, 630 ditto concrete covers, 575 ditto raising wa of existing brick culvert sewer, and 55 ditto brick culve sewer, for the Wellington Urban District Council. T last-mentioned are nearly all under the main railro of the Joint Companies' line at Wellington, Salo Station. The contract includes all necessary timberin manholes, &c., and for the piloting of sewage during t progress of the works. Apply Mr. G. H. Connor, E gineer and Surveyor, Council Offices, Wellington, Salo Deposit £5 Bank of England Note.

July 11.—**SEWERAGE WORKS. Carlton.**—F the Lower Netherfield sewerage works comprising abo 1,000 yards of 2 in. air main, 450 yards 9 in. Hassal pipe sewers, ejector station, 6 in. rising main, taking- old sewers and reconnecting same to new sewers, co pressor foundations, manholes and appurtenant works, the Carlton Urban District Council. The sewers are open cutting, average depth 4 ft. 6 in., greatest dep 7 ft. Apply Mr. Austin H. Elliott, A.M.I.C.E., Survey and Engineer, Carlton, Nottingham. Deposit £4 4s.

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kf," not only in their laboratory, but
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ppage or fire from this cause are re-
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awings, and full particulars and prices
given of the many accessories. Full
d clear instructions, accompanied by
ıstrations, are embodied for the erec-
n of transmission bearings and for the
ting of split belt pulleys. The catalogue is full of valuable information, and should be in the possession of every manufacturer. Copies may be obtained from the head office and works of the company at Luton, Bedfordshire.

The Sentry Duplex No. 6.

The accompanying illustration shows a new and original design of hot-water boiler, called the Sentry Duplex No. 6, which has been specially produced by Messrs. Wood, Russell & Co. to meet a very definite and growing demand. While all large heating installations require a separate boiler for this duty alone, it is becoming more usual for a small hot-water heating system to be installed in moderate-sized houses, in which there is neither the room nor the labour available to operate two separate boilers for heating and domestic hot-water supply respectively. The alternative has been either to make the domestic supply subsidiary to the heating system and heated by a coil taken from the latter, or to work the radiators off the domestic supply boiler. By employing a Sentry Duplex No. 6 the makers claim that the user obtains all the advantages of a single fire, together with the following advantages :—

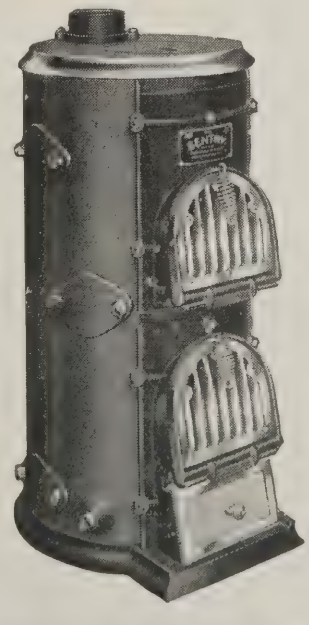
(1) A constant temperature is maintained in the heating system, irrespective of demands made on the domestic supply.

(2) The efficient domestic hot-water supply is direct from the boiler, and is of higher temperature than obtainable by an indirect method of heating.

(3) The heating system is entirely free from the sediment which in most localities collects in the domestic supply system.

(4) For summer work, the size of the boiler and the fire is reduced, so as to be commensurate with the demand made by the hot-water supply only.

(5) The heating system is kept charged through the hot-water supply system, and the employment and maintenance of a separate cistern and ball-valve is rendered entirely unnecessary.



SENTRY DUPLEX BOILER No. 6.

These results, it is claimed, are obtained by the special design of the Sentry Duplex No. 6, which is so constructed as to operate as two entirely separate boilers, which can be combined at will to operate as a single boiler. Externally, the Sentry Duplex No. 6 presents generally the appearance and embodies all the features of the "Sentry" boilers of the ordinary pattern—that is to say, the fire is always visible through large and well-protected mica windows, the boiler can be operated with an open fire if desired, the furnace doors are designed to act as trivets when open, and a large and efficient hot plate is always available for cooking. The Sentry Duplex No. 6 has a heating capacity sufficient for 125 sq. ft., and at the same time is claimed to supply seventy gallons of water at bath temperature per hour, with broken gas coke. Anthracite, or a mixture of coke and coal, can be used, and the boiler will also consume all the combustible domestic refuse. Owing to the arrangement of the smoke outlet and the pipe connections, the back of the boiler can be placed close up to a wall, and at the same time close to objects on both sides. This renders the Sentry Duplex No. 6 particularly suitable for installations where space is limited. Other special features claimed for the boiler are that the waterway extends below the firebars to allow any sediment to fall to the coolest part of the boiler, whence it can be easily removed through the cleaning covers conveniently placed for the purpose; that clean stoking is facilitated by a special fuel funnel provided free of charge with each boiler; and that the loose night hopper increases the fuel capacity and is useful if the boiler has to be left for over twelve hours. The address of the manufacturers is 36 Oxford Street, London, W.3.

Standardized Pipe Fittings.

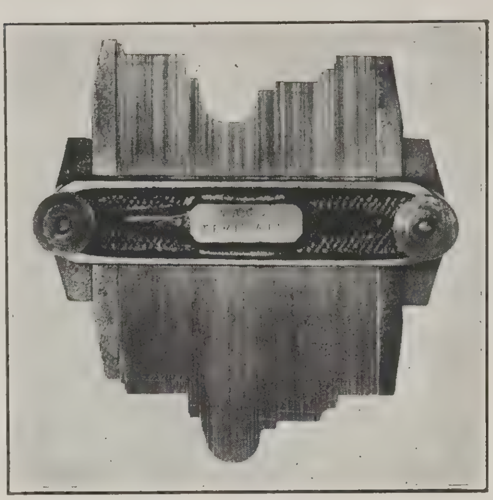
A new "Standard English Price List," No. 4a, 1922, has just been issued by Messrs. Crane-Bennett, Ltd., to cover the work, recently completed, of the British Engineering Standards Association on the standardization of malleable and soft cast-iron pipe fittings for gas, water, steam, oil, air, etc. The advent of these two British Standard Reports, which standardize the specifications of fittings in both ordinary and long sweep types, marks a step of great importance to heating and sanitary engineers, and in conjunction with the existing British specification on pipes should go a long way towards that ideal—the standardized pipe line. The importance of these two reports is emphasized by the official support indicated by the folllowing bodies being represented on the committee of standardization : War Office, H.M. Office of Works, R.I.B.A., Royal Sanitary Institute, British Waterworks Association, Institution of Heating and Ventilating Engineers, Institution of Water Engineers, Association of Railway Locomotive Engineers, National Association of Master Heating and Domestic Engineers, and various industrial and manufacturing organizations. The malleable and soft cast-iron pipe fittings illustrated in the list, which are included in the British Standard Reports are supplied to British Standard dimensions. All the designs shown embody all modern requirements and the latest improvements. Whether plain, banded, or cast-iron, the British standard fittings of the company have the same face to face measurement, length of thread, and internal dimension. All are full bore, and have a high factor of safety over the specified working-pressures. Copies of the list may be obtained on application to the company at their head office and warehouses, 45–51 Leman Street, London, E.1.

Gas in the Printing Trade.

In the current number of "A Thousand and One Uses for Gas" (No. 100), published by The British Commercial Gas Association, 30 Grosvenor Gardens, S.W., the illumination of printing works is dealt with in an interesting manner and is illustrated by a number of photographs taken in well-known establishments. Power and heating questions are touched upon, and particulars of recent special developments in the application of gas are also referred to. This issue and the previous one (No. 99) show what an important part gas plays in the production of printed matter, and should be read by all who are desirous of effecting improvements in efficiency and working conditions in the printing works, large or small. The booklet (6d. post free to the general public) will, we understand, be sent free of charge to those engaged in the printing industry who enclose a business card.

A Handy Template.

One of the greatest difficulties confronting the architect when measuring old or new buildings is that of securing correct profiles of mouldings, window openings, etc. By the usual method, which takes a great deal of time and requires much patience, it is often doubtful whether the accuracy of some particular profile can be guaranteed. All difficulties have now been overcome by the invention of a handy template, which will secure with the greatest accuracy and ease the shape of anything in a few moments. The machine, known as the "Maco" patent (adjustable) template, is a British patent and of British manufacture. It is composed of hundreds of very fine pieces of steel or brass, the thickness of each being .007 in. These are held in position by two cast-iron or aluminium clamps, secured by two thumbscrews and springs, by the tension of which the pieces of steel take the shape of anything they are pressed against. The accompanying illustration shows the template after a profile has been taken, and it will be seen that the impression—which, of course, must be absolutely correct—is obtained in both forms. After the impression has been plotted, the threads are simply pushed back level with the clamps, and the template is again ready for use. The template, which may be obtained from Mr. E. James Brown, of 12 Montserrat Road, Putney, S.W.15, is compact and convenient, and should be in the possession of all architects and draughtsmen.



THE "MACO" ADJUSTABLE TEMPLATE.

Shaftesbury Homes and "Arethusa" Training Ship

The ball which is to take place on July 14 at the Hyde Park Hotel in aid of the Shaftesbury Homes and "Arethusa" Training Ship will be under the following Royal and distinguished patronage:—H.R.H. the Duke of York, H.R.H. the Prince Henry, H.R.H. the Princess Royal H.R.H. the Princess Louise Duchess o Argyll, H.H. Princess Helena Victoria, His Excellency the French Ambassador, Lady Abbot Anderson, The Rt. Hon the Earl of Balfour, K.G., Rear Admiral the Hon. Sir H. G. Brand, K.C.M.G. C.B., C.V.O., Lady Brand, Mr. and Mrs F. H. Clayton, Commander and Mrs F. G. C. Coates, Mr. and Mrs. Howson F Devitt, the Rt. Hon. the Lord Dunsany the Lady Dunsany, the Viscountess Gort the Lady Malise Graham, Mr. and Mrs Percy Hargreaves, Mr. Cecil Harmsworth Vice-Admiral C. S. Hickley, C.B., M.V.O. Mrs. C. S. Hickley, the Dowager Countess of Jersey, Vice-Admiral Sir Roger Keyes K.C.B., K.C.V.O., D.S.O., Lady Keyes the Rev. and Mrs. N. A. Lash, the Rt Hon. Lord Lee of Fareham (the First Lord of the Admiralty), the Lady Lee o Fareham, the Countess of Longford, the Rt. Hon. H. Pike-Pease, P.C., M.P., Mrs H. Pike-Pease, Mr. and Mrs. Gervais Rentoul, Mr. and Mrs. G. H. Russell the Rt. Hon. the Earl of Shaftesbury, the Countess of Shaftesbury, the Mayor and Mayoress of Marylebone. The ball is being organized with the kind assistance of the Hyde Park Dance Club.

Tickets (which include continuous buffet supper, price £1 1s. each, or ten for £7 7s. 0d.) can be obtained on application to: The Secretaries, 164 Shaftesbury Avenue, W.C.2 (Regent 353) the Hon. Secretary, H.P.D.C., Mr E. R. B. Graham, 222 Strand, W.C.2 (City 7572); the Manager, Hyde Park Hotel, Knightsbridge, S.W.1 (Kensington 1320); Mr. H. H. Millett, 7 Brook Street, Hanover Square, W.1 (Mayfair 1032-3).

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Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING.

July 13.—**BUNGALOWS. Esh Winning.**—Erection of bungalows as follows: Eight bungalows at Esh Winning, 10 bungalows at Langley Park, 14 bungalows at Lanchester, for the Lanchester Rural District Council. Apply Mr. T. E. Taylor, L.R.I.B.A., Union Offices, Lanchester.

July 14.—**ALTERATIONS. Lowestoft.**—Alterations, improvements, and renovation of Victoria Road School, Lowestoft, for the Education Committee. Apply Borough Surveyor's Office, Town Hall, Lowestoft.

July 14.—**WALL. Bootle.**—For (a) taking down and rebuilding boundary wall at Gray Street School; (b) limewashing and tarring at the various schools in the borough; (c) alterations to lavatory arrangements at 69 Balliol Road, for the Education Committee. Apply Borough Surveyor's Office, Town Hall, Bootle.

July 14.—**REPAIRS. Llysfaen.**—General repairs and painting at (1) the Rectory, Llysfaen; (2) the Rectory, Llanfair-Talhaiarn; and (3) the Rectory, Llanrwst. Apply Mr. C. R. Griffith, Architect, 2 Post Office Lane, Denbigh.

July 14.—**RESLATING. Ellesmere.**—(1) reslating the south side of the roof and pointing the walls at the gables of the Nonconformist Chapel, and (2) pointing and repairing the brick and cement work and tarring the woodwork in the walls of the cemetery lodge. Apply Cemetery Lodge.

July 15.—**HOUSES. Denny.**—Excavator and brickwork, carpenter and joiner work, plumber, slater, and plaster and cement work, in the erection of 20 houses at the Anderson Street site, No. 3 (section 1), Denny, for the Town Council. Apply Messrs. James Strang and Wilson, Architects, Falkirk.

July 15.—**EXTENSION. Exeter.**—Extension of tramway depot, for the Town Council. Apply City Architect, 6 Southernhay West. Deposit £2.

July 15.—**REDECORATING. Shrewsbury.**—Redecorating and painting of the exterior of the Girls' High School, Murivance, Shrewsbury, for the Girls' Public Day School Trust, Ltd. Apply Head Mistress.

July 15.—**ALTERATIONS. Bournemouth.**—Alterations and additions to the Council School, Livingstone Road, Pokesdown, for the Education Committee. Apply Borough Engineer, Mr. F. P. Dolamore, Town Hall, Bournemouth.

July 17.—**REPAIRS. Trowbridge.**—Carrying out works in repairs and renovations, &c., at various Council schools during the summer vacation, for the General Education Committee of the Wilts County Council. Apply Office of Mr. T. Walker, A.R.I.B.A., County Architect, County Offices, Trowbridge.

July 17.—**ALTERATIONS. Dover.**—Alterations and additions to existing buildings at the River Recreation Ground, for the Corporation. Apply Borough Engineer's Office, Maison Dieu House.

July 17.—**SANATORIUM. Lochmaben.**—Following works in connection with erection of proposed sanatorium or hospital buildings near Lochmaben, for the Dumfries and Galloway Joint Sanatorium Board, viz.: (1) Excavator, brick, &c., works; (2) carpenter, joiner, glazier, and ironmongery works; (3) slater work; (4) plaster work, concrete floors, and roughcasting; (5) plumber work; and (6) formation of roads and drainage. Apply Mr. J. Robson, Clerk, County Buildings, Dumfries. Deposit £1 1s.

July 17.—**BUNGALOW. Perranwell.**—Erection and completion of a new bungalow at Perranwell. Apply Mr. A. J. Cornelius, F.S.A., Architect and Surveyor, Truro.

July 17.—**HOUSES. Birmingham.**—Erection of 64 houses in Croydon and Erdington Hall Roads, Wheelwright estate (contract No. 96), and for 27 houses in Churchill Road, Bordesley Green (contract No. 97), for the Public Works and Town Planning Committee. Forms of tender and conditions of contract will include the usual fair wages and conditions of labour clause. Apply Mr. H. H. Humphries, M.I.C.E., City Engineer and Surveyor, and Executive Officer for Housing Schemes, Council House, Birmingham. Deposit £2.

July 18.—**WATER CLOSETS. Leeds.**—Work required in the reconstruction of water closets and urinals at Primrose Hill Council School, for the Leeds Education Committee. Schedule of quantities may be obtained for (a) builders' work and (b) plumbers' work on application to the Architects' Section, Education Offices, Calverley Street, Leeds.

July 18.—**STONEWORK. Darlington.**—Supplying and erecting stonework for proposed bridge, New Road, Grange Road to Neasham Road, to be erected adjoining the South Park, Darlington, for the Corporation. Apply Borough Surveyor, Town Hall, Darlington.

July 18.—**IMPROVEMENTS. Ulverston.**—Improvements and rebuilding at Lane House Farm, Ulverston, for the exors. of the late J. Atkinson. Apply Messrs. J. W. Grundy and Son, F.R.I.B.A., Architects and Surveyors, Central Buildings, Ulverston.

July 19.—**ALTERATIONS. Carshalton.**—Alterations and additions to scullery of the nurses' messroom at Queen Mary's Hospital for Children, Carshalton, Surrey, for the Metropolitan Asylums Board. Apply Office of the Board, Embankment, E.C.4. Deposit £1.

July 19.—**POST OFFICE. Lynton.**—Erection of a new post office at Lynton, Devon. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s. (cheques payable to the Secretary).

July 19.—**INSTITUTE. Caerwys.**—Erection of the Caerwys War Memorial Institute in the village of Caerwys. Apply Mr. Ll. Jones, Hon. Secretary, Hill Crest, Caerwys, Flintshire. Deposit £1 1s.

July 20.—**CHURCH. Belfast.**—Erection of the Strand Presbyterian Church. Apply Messrs. W. H. Stephens and Sons, 13 Donegall Square North, Belfast.

July 20.—**DRILL HALL. Coedpoeth.**—Erection of a drill hall at Coedpoeth, for the Denbighshire Territorial Army Association. Apply Captain Gronwy Griffith, O.B.E., Architect, Denbigh.

July 20.—**ALTERATIONS. London.**—Structural alterations to sub-station, Grafton Road, N.W., for the St. Pancras Borough Council. Apply 57 Pratt Street, N.W.1. Deposit £2.

July 21.—**FARMHOUSE. West Putford.**—Erection of new farmhouse, West Putford Glebe, for the Devon County Council. Apply Mr. W. J. M. Thomasson, A.R.I.B.A., Architect for Small Holdings, 18 Cathedral Yard, Exeter.

July 21.—**POST OFFICE. Whitley Bay.**—The Commissioners of His Majesty's Works, &c., invite tenders from federated and associated builders only for erection of a new post office at Whitley Bay. Apply District Surveyor, H.M. Office of Works, 63 Westgate Road, Newcastle-on-Tyne. Bills of quantities and forms of tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit payment of £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

July 22.—**COTTAGE. Charing.**—Erection of a cottage at Brockton Farm, Charing, and Coombe Farm, Hawkinge, near Folkestone, for the Kent County Council. Apply County Land Agent, Sessions House, Maidstone.

July 22.—**HOUSES. Bridlington.**—Erection of 12 houses on the Postill's estate, Bridlington, to alternative designs in units of two or for the whole 12, for the Town Council. Apply Borough Engineer and Surveyor, 1 The Crescent, Bridlington. Deposit £3 3s.

July 24.—**REBUILDING. Weymouth.**—For pulling down and rebuilding No. 16 Saint Thomas Street, Weymouth, for Messrs. V. H. Bennett & Co. Apply Mr. A. J. Bennett, C.E., Architect and Surveyor, Gloucester Street, Weymouth.

July 24.—**SHELTERS. Wakefield.**—Supply of seven sectional wood shelters, for the West Riding Public Health and Housing Committee. Apply West Riding Architect, County Hall, Wakefield.

July 24.—**HOUSES. Bebington.**—Erection of 16 houses in Bebington Road, for the Bebington and Bromborough Urban District Council. Apply Office of the Surveyor, Council Offices, Lower Bebington. Deposit £2 2s.

July 24.—**LAVATORIES. Redruth.**—Erection of public lavatories in Cross Street, Redruth, for the Redruth Urban District Council. Apply Mr. T. F. King, Surveyor, 2 Station Hill, Redruth.

July 27.—**HOUSES. Saltney.**—Erection of 22 houses, type A, and, alternatively, 22 houses, type B, at Saltney, near Chester, for the Hawarden Rural District Council. The contract will be let as a whole. Apply Mr. F. Barrett, Surveyor's Office, Hawarden. Deposit £2 2s.

ELECTRICAL.

July 14.—**LAMPS. London.**—Supply of metallic filament lamps, for the Bombay, Baroda and Central India Railway Co. Apply 91 Petty France, Westminster, S.W.1. Deposit 10s. each.

July 14. **SUB-STATION EQUIPMENT. Connah's Quay.**—Supply, delivery and erection of substation equipment, overhead and underground mains, public lighting, and consumers' services, for the Urban District Council. Apply Mr. A. J. Leigh, 122 The Albany, Old Hall Street, Liverpool. Deposit £3 3s.

July 15.—**ELECTRIC WIRING. Epsom.**—(1) Installation of electric wiring of the buildings, motor telephones, &c.; (2) supply and fixing of overhead electrical conductive and main cables, switchboards, &c.; (3) installation of laundry plant; (4) installation of kitchen plant; (5) installation of bakery plant, at the Eleventh Mental Hospital, Epsom, Surrey, now in course of erection. Apply Asylums Engineer to the Council, Gloucester House, 19 Charing Cross Road, W.C.2, upon payment to the Cashier of the Council at the County Hall, Spring Gardens, S.W.1, of £5 each for 1 and 2, and £2 for 3, 4, and 5.

July 15.—**ELECTRIC LIGHTING. Cheadle.**—Electric lighting, heating, and power at the Council offices and outbuildings in Cheadle, Cheshire, for the Cheadle and Gatley Urban District Council. Apply Mr. J. H. Johnson, Clerk, Council Offices, Cheadle, Cheshire.

July 17.—**TURBO-GENERATOR. Gravesend.**—(A) 5,000-kw. turbo-generator: (B) condensing plant: (C) switchgear: (D) mains) (E) artesian well: (F) automatic stokers. Apply Mr. C. F. McInnes, M.I.E.E., Borough Electrical Engineer, Electricity Works, Suffolk Road, Gravesend. Deposit £2 2s.

July 24.—**SWITCHGEAR. Charlton.**—Supply, delivery, and erection of high-tension switchgear at the Central Repair Depot, Charlton, for the London County Council. Apply Clerk of the Council, County Hall, Westminster Bridge Road, S.E.1. Deposit £2.

July 26.—**TELEGRAPH APPARATUS. Australia**—Supply of telegraph and/or telephone apparatus, testing instruments and protective apparatus (schedule 734), for the Deputy Postmaster-General, Perth, Western Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

July 31.—**ELECTRIC LIFTS. Charlton.**—Manufacture, supply, delivery, erection, testing, and maintenance of four electric lifts for the Council's tramways central repair depot, Charlton, S.E., for the London County Council. Apply Clerk of the Council, County Hall, Westminster Bridge, S.E.1. Deposit £2.

ENGINEERING

July 13.—**WASHING MACHINE. Uxbridge.**—Supply of a rotary washing machine of about 200 shirt capacity for their Institution at Hillingdon, near Uxbridge, for the Guardians of Uxbridge Union. Price to include delivery into the laundry at the Institution. Apply Master of the Institution.

July 13.—**HOIST. Manchester.**—Supply and fixing at the Gas Stove Repair Department, Gleden Street, Bradford Road, of a one-ton direct-acting ram goods hoist, for the Gas Committee. Apply City Architect, Town Hall. Deposit 10s. 6d. All cheques or postal orders are to be made payable to the order of "The Corporation of Manchester" and crossed.

July 14.—**BOREHOLE. Leyburn.**—Sinking a borehole at Finghall, for the Leyburn Rural District Council. Apply Mr. F. J. Rodwell, 37 and 38 Prudential Buildings, Leeds. Deposit £1 1s.

July 14.—**SEWAGE WORKS. Haslingden.**—Construction of detritus tanks, carriers, storm tanks, buildings, and other works at their sewage works at Ewood Bridge, Lancashire, for the Haslingden, Rawtenstall, and Bacup Outfall Sewerage Board. Apply Mr. G. Midgley Taylor, of Messrs. J. Taylor and Sons, 36 Victoria Street, Westminster, S.W.1. Deposit £5 (cheque only).

July 15.—**BRIDGE. Bucknall.**—Taking down and rebuilding in reinforced concrete the bridge on the road near the school at Bucknall, for the Horncastle Rural District Council. Apply Council Offices, 4 Church Lane, Horncastle.

July 15.—**STEELWORK. Manchester.**—Supply and erection of steelwork required in the bridge carrying the town-planning road No. 25 over the Great Central Railway at Fallowfield, for the Town-planning Committee. Apply City Engineer's Office, Town Hall, Manchester. Deposit £2 2s.

July 15.—**MOTOR FIRE-ENGINE. Pentre.**—Supply of a motor fire-engine, complete with fire escape, lighting set and other accessories, the engine to have a pumping capacity of 350–400 gallons per minute, for the Rhondda Urban District Council. Contractors are required to submit detailed specifications and tender in respect of the engine offered. Contractors will be required to pay their workmen not less than the standard rate of wages paid in the district for each class of work respectively. Apply Engineer and Surveyor, Council Offices, Pentre, Rhondda.

July 17.—**BRIDGE. Shrewsbury.**—The Corporation of Shrewsbury invites tenders from public works contractors experienced in the erection of masonry bridges for the reconstruction of the English Bridge. The works include the taking down and rebuilding of the existing masonry in order to reduce the gradient and widen the structure, together with the improvement of the approaches, &c. Apply Mr. A. W. Ward, A.M.I.C.E., Borough Surveyor, Guildhall, Shrewsbury, accompanied by a bank note for £50.

July 17.—**STEEL AND IRON STAIRS. Glasgow.**—Steel and iron stairs, railings, ladders, gates, runways, &c., required in connection with the extension of the Municipal Buildings, for the Corporation. Apply Messrs. Watson, Salmond and Gray, 242 West George Street, Glasgow.

July 19.—**SEWAGE DISPOSAL WORKS. Northwich.**—Construction of detritus, septic, humus, and storm tanks, engine-house sludge lagoons, filters, &c., comprising the Rudheath sewage disposal works, for the Northwich Rural District Council. Apply Mr. J. Birtwistle, Surveyor to the Council, Winnington Hill, Northwich. Deposit £2 2s.

July 19.—**TELEPHONE INSTALLATION. Dartford.**—(a) Installation of internal automatic telephones at the River Hospitals, near Dartford, Kent; (b) installation of electric lighting in ward blocks, boiler-house, &c., at the Grove Fever Hospital, Tooting, S.W.17; (c) installation of a continuous drying machine at the Southern Hospital, near Dartford, Kent; and (d) installation of a brick-built baker's oven at the North-Western Fever Hospital, Lawn Road, Hampstead, N.W.3. Apply Office of the Metropolitan Asylums Board, Embankment, E.C.4. Deposit £1 in respect of each work.

July 19.—**LOCOMOTIVE REPAIR. Edinburgh.**—Overhaul and repair of a locomotive engine at Holmes Siding, Drumshoreland, near Edinburgh, for the Edinburgh Corporation. Apply Inspector of Cleansing, 331 High Street, Edinburgh.

(*Continued on page* xxiv.)

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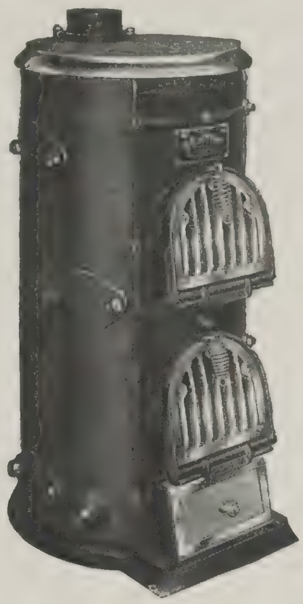

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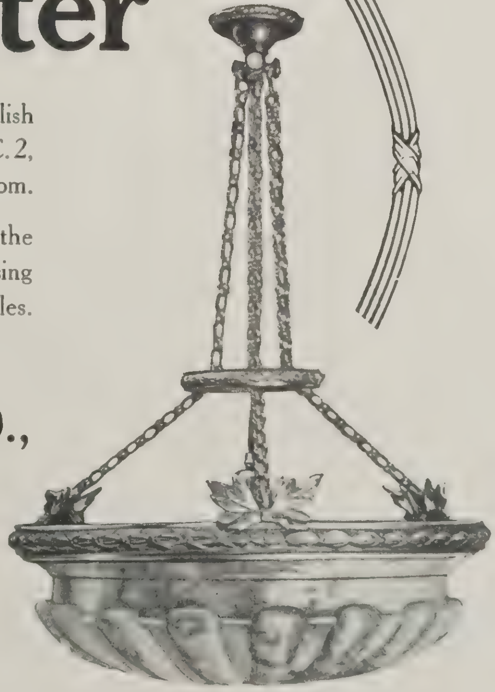

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July 21.—**WATER SUPPLY EXTENSIONS. Gorslas and Trefenty.**—Providing and laying water-main extensions, with all necessary valves, hydrants, &c., in connection with their water supply at Gorslas and Trefenty, for the Carmarthen Rural District Council, as follows: About 820 lineal yards of 4 in., 285 yards of 3 in., and 250 yards of 2 in. diameter cast-iron mains. Apply Mr. J. Saer, Clerk, 7 Hall Street, Carmarthen.

July 21.—**ISOLATING LINKS. Manchester.**—Supply, delivery, and erection at their Oldham Road "B" Sub-station of isolating links in sheet-steel cubicles, for the Electricity Committee. Apply Mr. F. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester. Deposit £1 1s.

July 22.—**VALVES. Newport.**—Supply of automatic stop valves, sluice valves, air valves, reflux valves, reducing valve, flap valves, and miscellaneous ironwork, also small bridgework, all in connection with a line of piping, chiefly 25 in. in diameter and about 34 miles in length, for the Waterworks Committee. The bridgework may be sub-let. Apply Messrs. G. H. Hill and Sons, 3 Victoria Street, Westminster. Deposit £2.

July 22.—**PIPES. Newport.**—Supply of cast-iron pipes in two contracts as follows, for the Waterworks Committee, viz.: No. (1) About 11,000 tons 25 in. in diameter and a small quantity of lesser diameters; No. (2) about 11,000 tons 25 in. and 19 in. in diameter and a quantity of other sizes. Apply Messrs. G. H. Hill and Sons (Westminster), 3 Victoria Street, Westminster. Deposit £2 in each case.

July 24.—**TANK. Alnwick.**—Supply of a water tank to hold 500 gallons at North Craster, for the Alnwick Rural District Council. Separate tenders are also invited for (1) cleaning out the 6,000 gallon sewage tank at Glanton; (2) for widening and cleaning out the sewage ditch at South Charlton; and (3) for cleaning out the sewage ditch at Christon Bank. Apply Clerk of the Council.

PAINTING.

July 13.—**PAINTING. East Retford.**—Painting and decorating of Town Hall Buildings, for the Corporation. Apply Mr. R. E. Wilson, M.I.M.C.E., Borough Surveyor, Market Place, Retford, Notts.

July 13.—**PAINTING. Fulham.**—Painting and decorating work at the Infirmary, St. Dunstan's Road, and the Guardians' Offices in Fulham Palace Road, W., for the Fulham Board of Guardians. Apply Clerk's Office, 129 Fulham Palace Road, Hammersmith, W.6.

July 14.—**PAINTING. Oldbury.**—Painting and decorating the following schools, for the Urban District Council: (1) Wesley School, Oldbury (interior and exterior); (2) Rounds Green School, Oldbury (interior and exterior); (3) Rood End School, Oldbury (interior and exterior); (4) National School, Oldbury (interior only). Apply Mr. R. Fletcher, A.M.I.C.E., Surveyor to the Education Committee, Public Buildings, Oldbury. Deposit £2.

July 14.—**PAINTING. Oldbury.**—Painting and decorating the public buildings, Oldbury, for the Urban District Council. Apply Mr. R. Fletcher, A.M.I.C.E., Engineer and Surveyor, Public Buildings, Oldbury. Deposit £2.

July 15.—**COLOURING. Keighley.**—Colouring, whitewashing, and painting at various Council schools and the Education Offices, the work to be done as far as possible during the midsummer holidays, for the Keighley Education Committee. Apply Education Offices, Keighley, by July 15.

July 15.—**PAINTING. Middleton.**—Painting of church and schools, for the trustees of Providence Congregational Church, Middleton. Apply specifications to Mr. W. Taylor, Secretary Co-operative Society, Long Street, Middleton.

July 15.—**PAINTING. Ossett.**—Internal painting and decorating of the Ossett Grammar School during the midsummer holidays. Apply Mr. E. Lucas, Town Hall, Ossett.

July 15.—**PAINTING. Wakefield.**—Work at various schools, for the Wakefield Education Committee. Apply Mr. P. Glover, Director of Education, Education Department, Town Hall, Wakefield.

July 15.—**PAINTING. Walsall.**—Painting, &c., of various schools in the borough, for the Education Committee. Apply Mr. J. Taylor, M.I.C.E., Borough Surveyor, Council House, Walsall.

July 17.—**PAINTING. Dover.**—Painting and decorating works at the elementary schools during the summer holidays, for the Corporation. Apply Borough Engineer's Office, Maison Dieu House.

July 17.—**PAINTING. Rochdale.**—Painting work required to be executed at Spotland Recreation Ground and Broadfield Park, for the Baths, Parks, and Cemetery Committee. Apply Borough Surveyor's Office, Town Hall, Rochdale.

July 17.—**PAINTING. Saughall.**—Painting and decorating the Children's Home, Saughall, near Chester, for the Guardians of Chester Union. Apply Mr. G. S. N. Hull, Clerk, St. Martin's House, Chester.

July 19.—**PAINTING. Bridgend.**—External painting of all the wood and iron work of Angelton Mental Hospital, Bridgend, comprising the male and female divisions, administrative block and adjoining buildings, workshops, dining-hall, church, farm buildings, cottages, lodges, &c., at the Glamorgan County Mental Hospital, for the Committee of Visitors. Apply Mr. H. W. Davies, Clerk and Steward, Bridgend.

July 19.—**PAINTING. Dartford.**—Cleaning and painting works and repairs at Joyce Green and Orchard Hospitals, Dartford, Kent, for the Metropolitan Asylums Board. Apply Office of the Board, Embankment, E.C.4. Deposit £1.

July 20.—**PAINTING BRIDGES. Worceste** Cleaning and painting the ironwork of each of the foll ing bridges, for the Worcestershire County Council, v Stourport, Holt Fleet, Upton-on-Severn. Apply C. F. Gettings, M.I.C.E., 30 Foregate Street, Worces

July 22.—**PAINTING. Ipswich.**—Painting outside of two lodges, shelter and iron fencing, for Ipswich Burial Board. Apply Office of the Bo Cemetery Gates.

ROADS AND SEWERS.

July 13.—**ROAD. Barnstaple.**—Reconstructio Mill Road as a reinforced concrete road, with new se &c., for the Barnstaple Town Council. Apply Boro Surveyor's Office, The Strand, Barnstaple. Dep £2 2s.

July 14.—**STREET WORKS. Leeds.**—Flagg paving, and tarmacadamizing streets, for the Corp tion. Apply Highways and Permanent Way Departm 1 Swinegate, Leeds.

July 14.—**ROAD. Sutton Bridge.**—Construc of a road at Wingland Grange Farm, Sutton Bridge, the Holland County Agricultural Committee. Ap Mr. E. J. A. Christie, County Land Agent, Sessi House, Boston.

July 15.—**ROAD WIDENING. Garndiffait** Widening Viaduct Road, Garndiffaith, for the A sychan Urban District Council. Apply Mr. F. C. Hatc Surveyor and Engineer, Council Offices, Abersychan

July 15.—**SANITARY IMPROVEMENTS. Boo** —For sanitary improvements, for the Corporat Apply Borough Engineer's Office, Town Clerk, T Hall, Bootle, by July 15.

July 15.—**SEWERS. York.**—Construction of ab 600 yards of sewers and surface-water drains, &c. connection with their housing scheme at Heworth, Y for the York Corporation. Apply Mr. F. W. Spurr, Engineer, Guildhall, York. Deposit £1 1s.

July 17.—**CONCRETE FLAGS. Bootle.**—Sup of concrete flags, for the Bootle Corporation Hou Committee. Apply Borough Engineer, Town H Bootle.

July 17.—**ROADS. Hengoed.**—Completion of ro on the Graig, Hengoed housing site, Gwerthonor, gam housing site, for the Gellygaer Urban Dist Council. Apply Mr. P. J. Williams, Architect Engineer, Council Offices, Hengoed. Deposit £1 1s.

July 20.—**GRANITE SETT PAVING. Worces** —Works incidental to the laying complete of a 9,533 super yards of new granite sett paving, toge with the necessary reinforced concrete foundations same, and the alteration of kerbing and channelling, for the Worcestershire County Council. Apply Mr. C Gettings, M.I.C.E., 30 Foregate Street. Worces Deposit £1.

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ery angle. This makes a thick, elastic
shion filled with dead-air spaces, and
ad air is said to be the most perfect
n-conductor of heat.

The frontispiece to the booklet is an
ustration of the Old Pierce House,
orchester, Mass., which was built in 1635,
d is an admirably preserved specimen
the earliest New England type of
ilding. In 1893 the walls of this house
ere opened for repairs, and they were
und to be stuffed between the studding
th eel-grass, which was in a perfect
ate of preservation after more than two
d a half centuries. The Babcock House,
ilton, Mass., built in 1723, and other old
uses in Connecticut, Nova Scotia, etc.,
ve since been found to be insulated in
e same way, and the eel-grass unde-
yed, thus proving the permanence of
is fibre with which Cabot's sheathing
d deafening quilt is made. A number
illustrations are taken from the United
ates and Canada because the quilt was
ell established and in great demand
ere long before any real attempt was
ade to bring it before the British public.
umerous illustrations, however, are
ven of its use in this country, and a
rusal of the pages shows that it already
s a most influential and convincing list
well-satisfied British users.

Among the buildings illustrated in
hich the quilt has been used are St.
ul's Girls' School (Music School),
ammersmith (Gerald C. Horsley,
R.I.B.A., and Dendy Watney, archi-
cts), The National Institute for the
lind (Claude Ferrier, F.R.I.B.A., archi-
ct), The Gramophone Audition Rooms
the Chappell Piano Co., Ltd., London
. Crowe, A.R.I.B.A., architect). Among
e residences in the United Kingdom
hich have been insulated with Cabot's
uilt are the following: Hackness Hall,
alby; Upper Grove House, Roehamp-
n; Cottesbrooke Hall, Northampton;
ewchapel Farm, Lingfield; Beaufort
ouse, Ham Common; Milton Hill,
eventon; Old Mains Farm, Mont-
eenan; Broomlands Farm, Dreghorn;
esford Court, Besford; Leadenham
state, Lincoln; Preston Manor House,
righton; Three Arts Club, London. The
sidences of: The Rt. Hon. Lord Middle-
n, Wollaston; The Rt. Hon. The Earl
Fortescue, Castle Hill, Devon; The Rt. Hon. Lord Hotham, Titchfield.

Cabot's quilt was also used with success for one of the shelter huts at the South Pole of the Scott Antarctic Expedition, for a house at Etah, North Greenland, by Mr. Donald B. McMillan, the explorer, and at "Naulakha," Waite, Vt., by Mr. Rudyard Kipling.

London County Westminster and Parr's Bank, Ltd.

The directors of the London County Westminster and Parr's Bank, Limited, have declared an interim dividend of 10 per cent. for the half-year ended June 30 on the £20 shares, and the maximum dividend of 6¼ per cent. on the £1 shares for the same period. The dividends, 10s. per share and 1s. 3d. per share respectively (both less income tax), will be payable on August 1.

Brilliant Sign Company's Annual Outing.

On July 1 the employees of The Brilliant Sign Company, Ltd., held their annual outing at Hindhead, Surrey, under the presidency of the Governing Director, Mr. F. G. Lucas. The party journeyed by charabanc. After luncheon sports were held, and many valuable prizes were contended for. At 4.30 o'clock the party had tea at Guildford, where they were entertained by the string band of the restaurant. The party left Guildford about eight o'clock. The weather kept fine throughout the whole day, which gave the men an opportunity of enjoying the scenery provided by the Surrey Hills—Devil's Punch Bowl, Hog's Back, etc. At the luncheon the usual toasts were given and responded to, and nine telegrams were read out from the chair, including one from each of the company's provincial branches, also one from their head office, 38 Gray's Inn Road, London, one from their London representatives, and from the cashier and staff. There were eight departments represented out of fourteen departments, or just over 25 per cent. of the total number of the company's employees.

Osglim Lamps.

The Osglim discharge lamps, introduced some twelve months ago, rapidly found favour for use as night-lights, indicators, and for advertising purposes by reason of their low current consumption, and the novel nature of their light. The Osglim lamp, which is manufactured at the Osram G.E.C. Lamp Works at Hammersmith, is now firmly established, and new types, together with special fittings for use with them, have recently been introduced. These are illustrated and described in a series of attractive leaflets and folders, copies of which may be obtained on application from The General Electric Co., Ltd., at Magnet House, Kingsway, London, W.C.2, or from any of the company's branches. Two forms of Osglim lamp were originally supplied—the lighting type and the letter lamps. The letter lamp series has now been supplemented by a set of figure lamps, so that complete signs with both words and numbers can be made up. Another innovation is a lighting type lamp in a ruby varnished bulb for use in photographic dark-rooms. This lamp provides a safelight of the right intensity for the dark room, and emits no fumes and practically no heat. In addition to the hanging, bracket, and pedestal signs specially designed for use with Osglim lamps, a new fitment which can be arranged either as a standard or as a ceiling fitting with one, two, or three lights has been introduced. These are specially intended for house numbering in connection with the Osglim figure lamps. Leaflet No. O.S. 2725 deals particularly with the Osglim dark-room lamp, leaflet O.S. 2742 with the lighting and figure lamps, and O.S. 2743 with the letter and figure lamps, Osglim signs, etc. These are available for overprinting with dealers' names and addresses, and supplies will be sent on application. As a further aid to sales, a novelty showcard depicting a night nursery has been produced. The showcard is in the form of a collapsible model, and is intended to be illuminated by an Osglim lighting type lamp. A showcard will also be sent to dealers on request.

New Inventions

Latest Patent Applications.

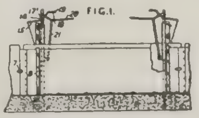
18049.—Douglass, A. S. — Building-blocks, etc. June 30.
17873.—Ewart, J. S.—Brick or slab building construction. June 29.
17993.—Gunn, M. J.—Method of preservation and colouring of stone, brick, etc. June 30.
18041.—Martin, J. W.—Glazed tiles. June 30.

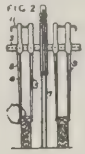
Specifications Published.

181408.—Marriott, W., Roy, A. W., and Ramm, A.—Moulding or forming concrete blocks and the like.
157140.—Truscon Steel Co.—Metal building constructions.
157141.—Truscon Steel Co.—Roof construction for buildings.
181424.—Raskin, S.—Adjustable form for moulding columns and the like in situ.
181570.—Bennett, M. B.—Building blocks and walls formed therewith.

Abstract Published.

179703.—Moulding walls in situ.—Hillman, E. B., Kimber, H., and Dadisman, H., 314 West Tenth Street, Los Angeles, U.S.A.—In building hollow or solid concrete walls course by course, the shutters 4, 5 are supported by uprights 8 which are adjustably carried by a crossbar 3 slidably supported on a standard 1. The shutters are raised to different levels by a friction ratchet 17′, 18, 19, 20, 21, and are supported at these levels by a friction collar 14 and arm 15. The bottoms of the shutters are caused to grip the completed course by screws 11 at their upper ends. The shutters have overlapping joints with hook members 7.





The above particulars are specially prepared by Messrs. Rayner & Co., Registered Patent Agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

The Use of White Lead in Paint

Draft regulations with regard to the use of white lead or sulphate of lead in paint have been prepared by the Home Office in collaboration with the Painters' and Decorators' Industrial Joint Committee of Great Britain.

Lead paint is defined as any paint, filling, or painter's material containing more than 2 per cent. of lead, expressed in terms of metallic lead when present as white lead or sulphate of lead.

The regulations for employers set forth that white lead, sulphate of lead, or products containing these pigments shall not be used in painting operations except in the form of paint or paste ready for use, and shall not be stored, transported, or used otherwise than in receptacles legibly marked as containing lead paint. The latter provision, however, does not apply to receptacles for mixing paint for immediate application or for actual use at place of painting. Lead paint must not be applied in the form of a spray in the interior painting of buildings, nor must surfaces painted with lead paint be rubbed down or scraped by a dry process.

Persons employed in filling, or painting with lead paint, shall be provided with a sufficient supply of water, soap, nail brushes, and towels, and at least one bucket or basin for every five persons so employed, and they shall each be allowed five minutes for washing before each meal-time and before leaving work. Suitable arrangements shall be made to prevent clothing put off during working hours being soiled by lead paint, and where practicable the accommodation provided shall be outside the apartment in which painting is taking place.

On notice being given to an employer by the Chief Inspector of Factories that the incidence of lead poisoning amongst his employees is excessive, the employer shall make arrangements for all painters employed by him to undergo periodic medical examination, under such conditions as the Chief Inspector may prescribe, by the certifying factory surgeon for the district or other qualified medical practitioner appointed by the Chief Inspector.

Under these regulations, the employees shall wash their overalls at least once a week, and clean and wash their hands before each meal-time and before leaving work, and shall present themselves at the appointed time for medical examination. They will also have to take precautions that when working with lead paint the clothing they have meantime discarded is prevented from being soiled by the paint.

Parliamentary Notes

BY OUR SPECIAL REPRESENTATIVE.

Housing Progress.

Sir A. Mond stated, in reply to a question from Sir A. Holbrook in the House of Commons, that on June 1 the number of houses completed under State-aided schemes was 149,207, including 115,899 provided by local authorities and public utility societies, and 33,308 by private builders. On the same date, 40,970 houses were under construction by local authorities and private utility societies, while preliminary certificates had been issued to private builders in respect of 8,846 houses. The latter, in order to qualify for subsidy, had to be completed by June 23. In addition, there was a balance of 19,131 houses to be built by local authorities which had not been started. The total capital cost of the assisted housing scheme of local authorities and public utility societies was estimated at £190,000,000, of which approximately £160,000,000 had been expended by June 1. Up to that date £7,800,000 had been paid in subsidy to private builders.

Eastern Canadian Timbers

Eastern Canadian Timbers is the subject of a report just issued by the Imperial Institute Advisory Committee on Timbers, and sent to the High Commissioner for transmission to the Government of Canada. The Committee, which includes members nominated by the R.I.B.A., the Timber Trade Federation, the Institute of Builders, the Carpenters' Company, the National Federation of Furniture Manufacturers, the Institute of British Carriage and Automobile Manufacturers, and the Timber Sub-Committee of the Empire Development (Parliamentary) Committee, has been inquiring for some time past into the possibilities of using British Empire woods in greater quantity in this country, and has already issued a number of reports dealing with the timbers of British Columbia, West Africa, New Zealand, India, etc. The Committee conclude that the technical qualities of Eastern Canadian timbers are such as warrant a far larger use of the woods in this country than obtains at present. As regards softwoods, spruce and red pine (notably the former) are most likely to find an extended market since they form admirable substitutes for Baltic white and red deal respectively. Yellow (white) pine should also be more widely used. The Committee, however, emphasize the fact that if Canadian softwoods are to compete more successfully with European timbers it is important that they should be well seasoned and that the sawn lumber should maintain a high standard of manufacture and accuracy of measurement. The timber should also be available in as full a range of sizes as is possible. The report is published in the Bulletin of the Imperial Institute, Vol. xx, No. 1, 1922, copies of which may be obtained from Mr. John Murray, 50A Albemarle Street, price 3s. 10d. post free.

The Domestic Revival.

Home building, compulsorily abandoned during recent years, has again become a matter of supreme interest to Englishmen, and the Domestic Architect is once more coming into his own.

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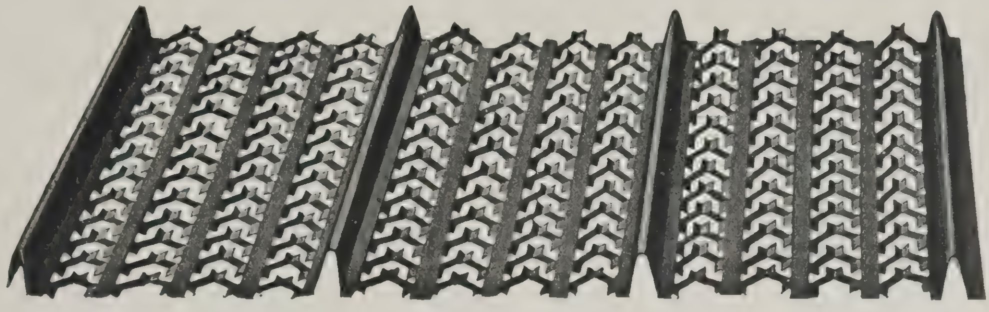

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Electrical Notes

I.E.M.A. Visit Magnet Club

During the convention of the Incorporated Electrical Manufacturers' Association a visit was paid to the Witton Engineering Works of the General Electric Co., Ltd., at Birmingham. Prominent among the social work carried out by the company at these works is the provision and erection of a new club house, in memory of the many who went from Witton to the front and who did not return. The club possesses an up-to-date electric kitchen, the whole of the equipment for which was manufactured at the company's heating and cooking works at Birmingham. The kitchen is planned for the supply of meals to the staff and employees, approximating 2,000, and has now been in operation for over eighteen months with complete success. The main equipment comprises four ranges, each fitted with three ovens, grillers, steaming ovens, vegetable boilers, fish fryers, stock pots, hot cupboards, saucepans and boilers, together with the necessary control gear. In considering the planning of the kitchen, it had to be borne in mind that whilst large numbers had to be catered for, there was no need to make provision for great variety in the type of meal. Any portion of the plant for cooking in any particular way had to be capable of providing for the full number of diners at any one time. In the design of the whole of the appliances, the guiding principle adopted was simplicity of construction, so that access could be easily obtained to any particular part. In the ovens the whole of the electrical portion can be readily removed, leaving an entirely free space for cleaning. There are no crevices for fat or dirt to accumulate, and all seams are welded. With the exception of the stock pots, all appliances have self-contained elements, whilst the problem of vegetable boiling has been solved by providing such loading that an ample reserve of heat is available to raise the temperature quickly to the boiling point.

Incorporated Municipal Electrical Association

Following are the new officers and council of the Incorporated Municipal Electrical Engineers' Association :—

President, Lieut.-Col. W. A. Vignoles, D.S.O. ; Vice-President, Mr. S. E. Britton ; Hon. Treasurer, Mr. H. Faraday Proctor ; Hon. Secretary, Mr. A. C. Cramb ; Hon. Solicitor, Mr. P. M. Heath ; Councillor Members, Ald. A. Wilkinson and Ald. H. Leese ; Engineer Members, large towns, Messrs. R. B. Mitchell, W. J. H. Wood, and H. R. Burnett ; Engineer Member, small towns, Mr. T. Hall. Mr. F. Ayton was elected an honorary member of the Association.

Extensions to Municipal Electrical Undertakings

Among the local authorities who have decided to carry out extensions to their electricity undertakings are the following : Douglas (Isle of Man), £62,000 for work authorized by the Corporation Electric Light and Power Act, 1921 ; Edinburgh, £1,100 to extend electricity main to Cramond ; Fulham, £2,875 for mains and switchgear and £1,750 for additions to linking up plant ; Halifax, £4,045 for high-pressure switchgear ; Leyton, £4,000 for electric light services ; Reigate, £33,000 for extension of generating station ; Watford, £35,000 for additional plant at electricity works. The following local authorities are applying for loans for electrical work : Barnstaple Town Council, £1,300 for extensions to plant ; Hereford, £21,000 in connection with electricity undertaking ; Stretford, £25,000 for extension of mains ; Wrexham, £6,586 in connection with electricity scheme, and £5,000 for the laying of cables. At Hanover a proposal to erect a central electricity supply station for the supply of electricity to the whole of the district between Göttingen and the River Aller was presented to the Prussian Landtag. It is intended to erect a supply station near Hanover, on the banks of the canal which connects Hanover with the coal basin of the Ruhr, and to generate electricity by means of steam turbo-dynamos.

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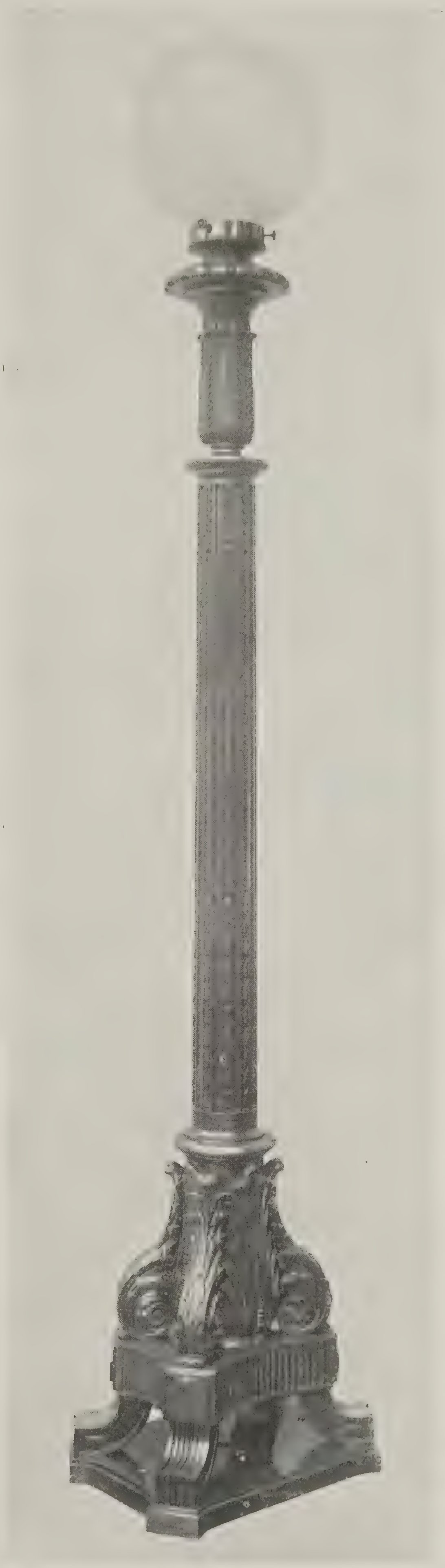

CONTRACTS OPEN

Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING.

July 20.—**CHURCH. Belfast.**—Erection of the Strand Presbyterian Church. Apply Messrs. W. H. Stephens and Sons, 13 Donegall Square North, Belfast.

July 20.—**DRILL HALL. Coedpoeth.**—Erection of a drill hall at Coedpoeth, for the Denbighshire Territorial Army Association. Apply Captain Gronwy Griffith, O.B.E., Architect, Denbigh.

July 20.—**ALTERATIONS. London.**—Structural alterations to sub-station. Grafton Road, N.W., for the St. Pancras Borough Council. Apply 57 Pratt Street, N.W.1. Deposit £2.

July 20.—**RENOVATION. Bedford.**—Works of renovation and repair at the various elementary schools in the county, for the Bedfordshire Education Committee. Apply County Surveyor, Shire Hall, Bedford.

July 20.—**HOUSES. Blackburn.**—Erection of 20 houses (ten pairs, non-parlour) on the Intack housing site, for the Housing Committee. Tenders are required for the 20 houses complete in all trades as one contract, including excavating, concreting, fencing, paving, draining, bricklaying, joinery, carpentry, slating, plastering, plumber, painting. Apply Mr. A. T. Gooseman, Borough Engineer, Blackburn. Deposit £3.

July 20.—**ALTERATIONS. Bristol.**—Alterations to Council House, for the Estates and General Purposes Committee. Apply City Valuer's Office, The Exchange, Bristol. Deposit £2 2s.

July 20.—**EXTENSIONS. Hull.**—Builder's and ferro-concrete work required in the extensions of the electricity works of Sculcoates Lane, for the Corporation. Apply Mr. F. W. Bricknell, M.I.C.E., City Engineer, Guildhall, Hull. Deposit £1.

July 20.—**HOUSES. Neath.**—Erection of 18 B-type houses on the Crythan Park site, for the Corporation. Apply Borough Engineer's Office, Gwyn Hall. Deposit £2 2s.

July 20.—**FARMHOUSE. Westleigh.**—Erection of a farmhouse at West Living Farm, Westleigh, for Mr. A. L. Christie. Apply Mr. J. C. Southcombe, P.A.S.I., Architect and Surveyor, Barnstaple.

July 21.—**FARMHOUSE. West Putford.**—Erection of new farmhouse, West Putford Glebe, for the Devon County Council. Apply Mr. W. J. M. Thomasson, A.R.I.B.A., Architect for Small Holdings, 18 Cathedral Yard, Exeter.

July 21.—**POST OFFICE. Whitley Bay.**—The Commissioners of His Majesty's Works, &c., invite tenders from federated and associated builders only for erection of a new post office at Whitley Bay. Apply District Surveyor, H.M. Office of Works, 63 Westgate Road, Newcastle-on-Tyne. Bills of quantities and forms of tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit payment of £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

July 21.—**HOUSES. Cowlersley.**—Various trades required in erection of two, four, or 20 houses, A type, at the Storth estate, Cowlersley, for the Linthwaite Urban District Cohcil. Apply Mr. J. Ainley, 3 Chapel Hill, Huddersfield.

July 21.—**FARM BUILDINGS. Rainham.**—Erection of a set of farm buildings at Rainham Lodge Farm near Romford, for the Small Holdings Committee of the Essex County Council. Apply Mr. C. Lock, County Land Agent, 69 Duke Street, Chelmsford. Deposit £1 1s.

July 22.—**COTTAGE. Charing.**—Erection of a cottage at Brockton Farm, Charing, and Coombe Farm, Hawkinge, near Folkestone, for the Kent County Council. Apply County Land Agent, Sessions House, Maidstone.

July 22.—**HOUSES. Bridlington.**—Erection of 12 houses on the Postill's estate, Bridlington, to alternative designs in units of two or for the whole 12, for the Town Council. Apply Borough Engineer and Surveyor, 1 The Crescent, Bridlington. Deposit £3 3s.

July 22.—**HOUSES. Backworth.**—Erection of three pairs of non-parlour type houses, to be erected at Castle Park, Backworth, for the Earsdon Urban District Council. Apply Mr. J. R. MacMillen, Council Offices, Shiremoor.

July 22.—**RESIDENCE. Brynamman.**—Erection of a minister's residence at Brynamman, for the Gibea Congregational Church, Brynamman, Carm. Apply Mr. T. Howells, Down Shop, Mountain Road, Brynamman.

July 22.—**COWHOUSE. Woking.**—Tenders are invited from builders who have adopted the Government scheme for training ex-Service men in the building industry for erecting a cowhouse for five cows at Lower Westfield Farm, Woking. Apply Mr. C. R. Harding, County Land Agent, County Hall Annexe, Kingston-upon-Thames.

July 24.—**REBUILDING. Weymouth.**—For pulling down and rebuilding No. 16 Saint Thomas Street, Weymouth, for Messrs. V H. Bennett & Co. Apply Mr. A. J. Bennett, C.E., Architect and Surveyor, Gloucester Street, Weymouth.

July 24.—**SHELTERS. Wakefield.**—Supply of seven sectional wood shelters, for the West Riding Public Health and Housing Committee. Apply West Riding Architect, County Hall, Wakefield.

July 24.—**HOUSES. Bebington.**—Erection of 16 houses in Bebington Road, for the Bebington and Bromborough Urban District Council. Apply Office of the Surveyor, Council Offices, Lower Bebington. Deposit £2 2s.

July 24.—**LAVATORIES. Redruth.**—Erection of public lavatories in Cross Street, Redruth, for the Redruth Urban District Council. Apply Mr. T. F. King, Surveyor, 2 Station Hill, Redruth.

July 24.—**CONVERTING. Cheadle.**—Conversion of existing buildings into a sub-station and for the erection of a new sub-station in Cheadle and Cheadle Hulme respectively, for the Cheadle and Gatley Urban District Council. Apply Mr. C. H. Wordingham, C.B.E., M.I.C.E., 11 Mosley Street, Manchester. Deposit £2 2s.

July 24.—**CHAPEL. Roxeth.**—Building a chapel and other works at their new burial ground at Eastcote Lane, Roxeth, Harrow, for the Roxeth Burial Board. Apply Mr. R. E. H. Fisher, Clerk, Roxeth Burial Board, Public Hall, Harrow, and 21 Old Square, Lincoln's Inn.

July 25.—**FACTORY. Norwich.**—Erection of a new factory for Messrs. Bowhill and Hubbard, Ltd., in two sections:—(1) Reinforced concrete and brick shell and (2) completion of factory. Apply Messrs. A. F. Scott and Sons, AA.R.I.B.A., Architects and Surveyors, 24 Castle Meadow, Norwich.

July 25.—**HOUSES. Gateshead.**—For 30 additional houses, in pairs, non-parlour type, to be erected at Carr Hill, Gateshead, for the Gateshead Housing Committee. Apply Mr. R. Wylie, A.R.I.B.A., 24 Grainger Street West, Newcastle-on-Tyne.

July 25.—**TENEMENTS. Glasgow.**—For the following works required in connection with the proposed erection of tenements in Pleasance Street, Pollokshaws, viz.: (1) Excavator, brick and mason works; (2) carpenter, joiner and ironmongery works; (3) slater work; (4) plumber and gasfitter works; (5) plaster work; and (6) glazier work, for the Corporation. Apply Mr. J. Lindsay, Town Clerk, City Chambers, Glasgow.

July 26.—**FIRE STATION. Walthamstow.**—Erection of a fire station and superintendent's house at Forest Road, Walthamstow, for the Walthamstow Urban District Council. Apply Mr. G. W. Holmes, A.M.I.C.E., Town Hall, Annexe Walthamstow.

July 27.—**HOUSES. Saltney.**—Erection of 22 houses, type A, and, alternatively, 22 houses, type B, at Saltney, near Chester, for the Hawarden Rural District Council. The contract will be let as a whole. Apply Mr. F. Barrett, Surveyor's Office, Hawarden. Deposit £2 2s.

July 27.—**COTTAGES. Charminster.**—Erection of five bungalow cottages at Charminster, near Dorchester. Apply Mr. F. T. Maltby, A.M.I.C.E., M.S.A., Architect and Surveyor, South Street, Dorchester.

July 31.—**CONVERSION. Shaftesbury.**—Conversion of certain premises in Victoria Street, Shaftesbury, into R.F.A. headquarters, for the Dorset Territorial Army Association. Apply Mr. F. T. Maltby, A.M.I.C.E., M.S.A., Architect and Surveyor, Dorchester. Deposit £2 2s.

July 31.—**BANK. Huddersfield.**—Erection of bank in the Market Place, Huddersfield, for the Union Bank of Manchester, Ltd. Apply Messrs. Joseph Berry and Sons, Architects and Surveyors, 3 Market Place, Huddersfield.

ELECTRICAL.

July 22.—**INDUCED DRAUGHT FAN. Manchester.**—Supply of an induced draught fan, with electric motor complete, for use with the steam-raising plant at the Crumpsall Institution, Crumpsall, Manchester, for the Board of Guardians. Apply Mr. Hargreaves, Superintendent of Works, Union Offices, All Saints', Manchester.

July 24.—**WIRING. Portsmouth.**—For electrical wiring of All Saints' Church, Portsmouth. Apply Mayor's Office, Town Hall.

July 24.—**SWITCHGEAR. Charlton.**—Supply, delivery, and erection of high-tension switchgear at the Central Repair Depot, Charlton, for the London County Council. Apply Clerk of the Council, County Hall, Westminster Bridge Road, S.E.1. Deposit £2.

July 26.—**TELEGRAPH APPARATUS. Australia**—Supply of telegraph and/or telephone apparatus, testing instruments and protective apparatus (schedule 734), for the Deputy Postmaster-General, Perth, Western Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

July 31.—**ELECTRIC LIFTS. Charlton.**—Manufacture, supply, delivery, erection, testing, and maintenance of four electric lifts for the Council's tramways central repair depot, Charlton, S.E., for the London County Council. Apply Clerk of the Council, County Hall, Westminster Bridge, S.E.1. Deposit £2.

August 1.—**ELECTRICALLY DRIVEN SEWAGE PUMPS. Dublin.**—Supply and erection of two sets of electrically driven sewage pumps, each capable of dealing with 18,000,000 gallons per diem, together with auxiliary works, for their Ringsend pumping station in the City of Dublin, for the Corporation. Apply Mr. M. J. Buckley, 28 Castle Street, Dublin, and Mr. J. S. Alford, 11 Victoria Street, Westminster, London, S.W.1. Deposit £5 5s. (crossed cheque only).

August 9.—**TELEPHONE, &c., APPARATU**
Perth.—Tenders are invited by the Postmaster-Gener
Department, Perth, Australia, for the supply and
livery of telephone and telegraph apparatus, test
instruments and protective apparatus. (Sche
No. W. A. 734), Apply Inquiry Office of the Departm
of Overseas Trade, 35 Old Queen Street, London, S.W.

ENGINEERING

July 20.—**STEELWORK. Kirkcaldy.**—For
following work, for the Town Council:—Specificat
No. 3, steelwork for building annexe at the electric
works, Victoria Road. Apply Messrs. Kennedy
Donkin, 8 Broadway, Westminster, S.W.1. Dep
£2 2s.

July 21.—**WATER SUPPLY EXTENSIO**
Gorslas and Trefenty.—Providing and laying wa
main extensions, with all necessary valves, hydra
&c., in connection with their water supply at Gor
and Trefenty, for the Carmarthen Rural District Cou
as follows: About 820 lineal yards of 4 in., 285 yard
3 in., and 250 yards of 2 in. diameter cast-iron ma
Apply Mr. J. Saer, Clerk, 7 Hall Street, Carmarthen.

July 21.—**ISOLATING LINKS. Manchester**
Supply, delivery, and erection at their Oldham R
"B" Sub-station of isolating links in sheet-steel cubic
for the Electricity Committee. Apply Mr. F. E. Hug
Secretary, Electricity Department, Town Hall, M
chester. Deposit £1 1s.

July 22.—**VALVES. Newport.**—Supply of a
matic stop valves, sluice valves, air valves, reflux val
reducing valve, flap valves, and miscellaneous ironw
also small bridgework, all in connection with a line
piping, chiefly 25 in. in diameter and about 34 mile
length, for the Waterworks Committee. The bridgew
may be sub-let. Apply Messrs. G. H. Hill and S
3 Victoria Street, Westminster. Deposit £2.

July 22.—**PIPES. Newport.**—Supply of cast-i
pipes in two contracts as follows, for the Waterwo
Committee, viz.: No. (1) About 11,000 tons 25 in.
diameter and a small quantity of lesser diamete
No. (2) about 11,000 tons 25 in. and 19 in. in diame
and a quantity of other sizes. Apply Messrs. G. H.
and Sons (Westminster), 3 Victoria Street, Westmins
Deposit £2 in each case.

July 24.—**TANK. Alnwick.**—Supply of a w
tank to hold 500 gallons at North Craster, for the Alnw
Rural District Council. Separate tenders are also inv
for (1) cleaning out the 6,000 gallon sewage tank
Glanton; (2) for widening and cleaning out the sew
ditch at South Charlton; and (3) for cleaning out
sewage ditch at Christon Bank. Apply Clerk of
Council.

July 24.—**PIPES. Warrington.**—For the follow
(a) cast-iron circulating pipes, (b) steam pipes, feed ta
&c., for the Electricity and Tramways Commit
Apply Mr. F. V. L. Mathias, Borough Electrical
Tramways Engineer, Howley, Warrington. Dep
£1 1s. for each specification.

July 24.—**WATERWORKS. Exmouth.**—For
following works, for the Exmouth Urban District Co
cil:—Contract No. 1, supply of about 45 tons of 6
cast-iron pipes and specials; contract No. 2, the lay
of approximately 1,100 yards of 6 in. water main
contingent works. Apply Mr. S. Hutton, Engineer
Surveyor, Council Offices, Exmouth.

July 25.—**CHASSIS. Bethnal Green.**—Supply
25-30-h.p. Crossley chassis, with specially reinfor
springs, twin wheels and tyres at rear, complete w
electric starter and lighting set and lamps, full kit
tools, spare wheel and tyre, fitted with a standard L.C
style ambulance body, finished in colour to be cho
with two stretchers and cushions and pillows for sa
the whole to be delivered ready for immediate use on
road, for the Bethnal Green Board of Guardians. Ap
Mr. C. F. Jones, Clerk, 79a Bishop's Road, London,

July 25.—**WATER WORKS. Maldon.**—For
supply of about 2,120 yds. 4 in. cast-iron pipes;
laying and jointing of the above pipes and fixing
requisite valves and other fittings, for the Maldon R
District Council. Apply Mr. W. Almond, Engin
6 Market Hill, Maldon, Essex.

July 26.—**GIRDER STRUTS. Manchester**
Construction and erection of new lattice girder strut
guide framing of Nos. 3 and 4 gasholders at their G
thorn station, for the Gas Committee. Apply Mr. G.
Kaye, Secretary, Gas Department, Town Hall, Manc
ter.

July 27.—**BOLTS AND NUTS. Sunderland**
Supply of bolts and nuts, washers, rivets, bar iron
mild steel, for the Corporation. Apply General Mana
and Engineer, Mr. A. R. Dayson, Tramways Offi
Sunderland.

July 28.—**WHEELS AND AXLES. London**
Supply of wheels and axles for rolling stock, for the S
Indian Railway Co., Ltd. Apply Company's Offi
91 Petty France, Westminster, S.W.1.

July 31.—**PUMPS. Glasgow.**—Supply and e
tion of centrifugal pumps and electric motors, &c.,
connection with housing scheme, Mosspark, for the
poration. Apply Director of Housing, Govan T
Hall.

August 1.—**UNDERFRAMES. Siam.**—Supply
25 underframes for bogie carriages, for the Departm
of State Railways. Apply Messrs. C. P. Sandberg,
Grosvenor Gardens, London, S.W.1.

(*Continued on page* xxxviii.)

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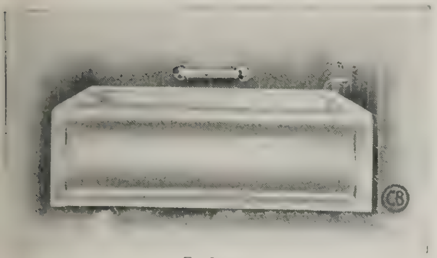

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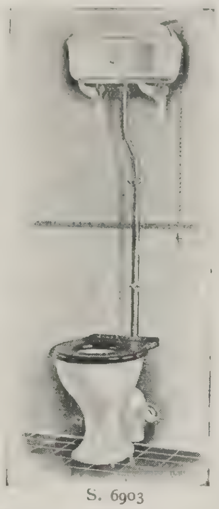

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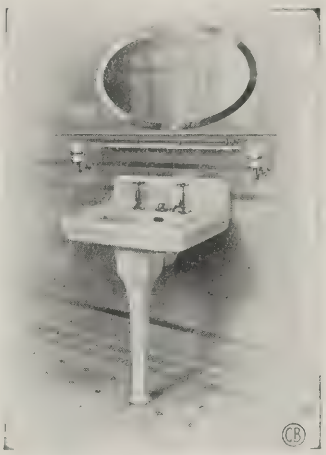

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August 2.—**MOTOR LORRIES. Buenos Aires.**—Supply of fifteen 5,000 kilog. motor lorries, twenty 2,000 kilog. motor lorries, and twenty-five 5,000 kilog. trailers. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

August 7.—**REPAIR OF BOILERS. Glasgow.** Repair, renovation and removal of the boilers, steam pipes, heating and hot-water apparatus at Shieldhall Hospital, for the Corporation. Apply Office of Public Works, 64 Cochrane Street, Glasgow. Deposit £2 2s.

August 16.—**PIPING. Buenos Aires.**—8,000 tons of cast-iron piping. Apply Department of Overseas Trade, 35 Old Queen Street, S.W.

August 25.—**STEEL CASTINGS. Johannesburg.**—Supply at Zwartkopjes pumping station, Selborne Siding No. 114, of 38 steel castings, 456 phosphor-bronze valves, and other materials for the inverted vertical marine-type pumping engines of that station. (Contract 229). Apply Department of Overseas Trade (Room 50a), 35 Old Queen Street, S.W.1.

September 2.—**DECK JOISTS. Bournemouth.**—New deck joists, decking, &c., required on the Bournemouth Pier, for the Town Council. Apply Mr. F. P. Dolamore, Town Hall, Bournemouth. Deposit £1 1s.

October 1.—**BRIDGE SUPERSTRUCTURES. Bangkok.**—Supply of superstructures of steel railway bridges, B.E.2465, for the Siam State Railways. Apply Messrs. C. P. Sandberg, 40 Grosvenor Gardens, London, S.W.1.

October 31.—**BRIDGE SUPER-STRUCTURE, &c. Sydney, N.S.W.**—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milson's Point, for Govt. of N.S.W. Application to the Agent-General. Mr. J. J. C. Bradfield, Chief Engineer, will be in London during June and July, 1922, address care of the Agent-General for New South Wales, Australia House, Strand, London, W.C.2.

PAINTING.

July 20.—**PAINTING BRIDGES. Worcester.**—Cleaning and painting the ironwork of each of the following bridges, for the Worcestershire County Council, viz.: Stourport, Holt Fleet, Upton-on-Severn. Apply Mr C. F. Gettings, M.I.C.E., 30 Foregate Street, Worcester.

July 20.—**PAINTING. Wellington.**—Painting, woodwork, and building repairs to the Children's Home, Brooklyn House, Watling Street, Wellington, for the Guardians. Apply Mr. R. Gwynne, Clerk, Edgbaston House, Wellington, Salop.

July 20.—**PAINTING. Wigan.**—Internal and external painting at the Whelley Sanatorium, Bradshaw Street, for the Corporation. Apply Mr. R. B. Donald, M.I.C.E., Borough and Water Engineer, Municipal Buildings, Library Street.

July 21.—**PAINTING. Cork.**—Painting works to be done in the South Charitable Infirmary and County Hospital. Apply Mr. J. F. M'Mullen, F.R.I.A.I., 30 South Mall.

July 21.—**COLOURING. Liskeard.**—Internal colouring of walls, &c., at the following schools, for the Cornwall Education Committee: St. Cleer, St. Pinnock, Lanreath, Pelynt, Trenode, Morval, and Duloe. Apply Head Teachers.

July 22.—**PAINTING. Ipswich.**—Painting the outside of two lodges, shelter and iron fencing, for the Ipswich Burial Board. Apply Office of the Board, Cemetery Gates.

July 22.—**PAINTING. East Ardsley.**—Outside painting of East Ardsley Wesleyan Chapel and School, and the internal decoration of the chapel. Apply H. Whitaker, 13 Grand View, East Ardsley, Wakefield.

July 24.—**PAINTING. Newbury.**—For the following work, for the Education Committee, viz: Painting the exterior of the Council Schools, Station Road and Bartholomew Street, Newbury, the work to be carried out during August. Apply Mr. J. W. Rosling, Education Secretary, Education Office, Municipal Offices, Newbury.

July 24.—**PAINTING. Rochester.**—Painting and repairs to certain school buildings, for the Education Committee. Apply Mr. A. Kennette, Secretary, Guildhall, Rochester.

July 24.—**PAINTING AND DECORATING. Tipton.**—For the following work, to be carried out during the first three weeks of September, for the Education Committee: (a) Internal decoration of Ocker Hill Council School (two departments), together with schoolhouse; (b) internal decoration of Great Bridge Council School (girls' and infants' department only); and (c) external painting of Great Bridge Council School (the whole block). Apply Messrs. Scott and Clark, Architects, Wednesbury.

ROADS AND SEWERS.

July 20.—**STREET WORKS. Wallington.**—Road and sewer works in Brambledown Road (between Park Hill Road and the Western end of "Harada House," Brambledown Road), Wallington, for the Beddington and Wallington Urban District Council. Apply Mr. S. F. R. Carter, A.M.I.C.E., Engineer and Surveyor, Council Offices, Wallington. Deposit £1 1s.

July 22.—**GRANITE. Enfield.**—Supply of approximately 2,800 cub. yds. of 2 in. and 1 in. broken Guernsey, Leicestershire, or other approved granite, to be delivered free to the several railway stations in the district, and in such quantities and at such times prior to March 31, 1923, as may be ordered by the Surveyor, for the Enfield Urban District Council. Apply Surveyor, Public Office, Enfield.

July 24.—**KERBING. Feltham.**—Kerbing and resurfacing Hounslow Road, with tar macadam, for the Feltham Urban District Council. Apply Surveyor to the Council.

July 24.—**ROAD RECONSTRUCTION. Hendo**
—Reconstruction of certain parts of the Edgware Roa
within their district, for the Hendon Urban Distri
Council. The works comprise the following or the
abouts: 1,400 yds. lin. of new 6 in. by 12 in. Norw
granite kerb; 13,300 yds. super. of 4 in. creosoted d
blocks paving on reinforced concrete foundation; 420 y
super. 2 in. artificial stone paving. Apply Mr. A.
Knight, A.M.I.C.E., Engineer and Surveyor, Town Ha
Hendon, N.W.4. Deposit £10 10s.

July 24.—**BITUMINOUS CARRIAGEWAY. Wa**
rington.—For the laying of about 6,000 sq. yards
bituminous carriageway on Manchester Road, for t
Paving and Sewerage Committee. Apply Borou
Surveyor, Town Hall.

July 25.—**DRAIN. Bethersden.**—Laying of a 4 i
pipe drain for a distance of about 211 yards, with thr
manholes, &c., in the parish of Bethersden, for the We
Ashford Rural District Council. Apply Mr. J.
Roberts, Sanitary Surveyor, "Northend," Charin
near Ashford.

July 28.—**MAKING-UP. Merton.**—For makin
up Merton Abbey Station Road, in the parish of Merto
for the Merton and Morden Urban District Counc
Apply Mr. G. Jerram, A.M.I.C.E., Surveyor, Coun
Offices, Merton. Deposit £2.

July 28.—**FLAGGING. Salford.**—Flaggin
asphalting, and tarmacadamising streets on Section
of the Littleton Road housing scheme, for the Salfo
Town Council. Apply Borough Engineer, Town Ha
Salford.

July 29.—**MACADAM. Isle of Mull.**—Laying
coat of water-bound macadam, full width, on a secti
of over two miles of the Salen-Bunessan Road, in t
Island of Mull, for the Mull District Committee of t
County Council of Argyll. Contractor to supply
material, plant, &c., necessary. Apply Mr. A. MacNaug
ton, Mull District Surveyor, Tobermory.

July 29.—**SEWER. Budock.**—Laying of a sewer, &
at Glasney Road, in the parish of Budock, for the Ea
Kerrier Rural District Council. Apply Mr. F. Jacke
Sanitary Inspector, Penryn.

August 1.—**MAKING-UP. Chingford.**—For ma
ing-up, paving, channelling, &c., of the Warwick Roa
parts of the Sinclair Road and the York Road, within t
district, for the Chingford Urban District Council. App
Mr. J. T. Griffin, Surveyor to the Council. Depo
£2 2s.

TENDER.

BUNGALOW AT ABERGAVENNY. For t
erection at Abergavenny, from the designs of Mr. B.
Francis, Architect, of a bungalow with stabling, etc.,
8 horses, the following tender has been accept
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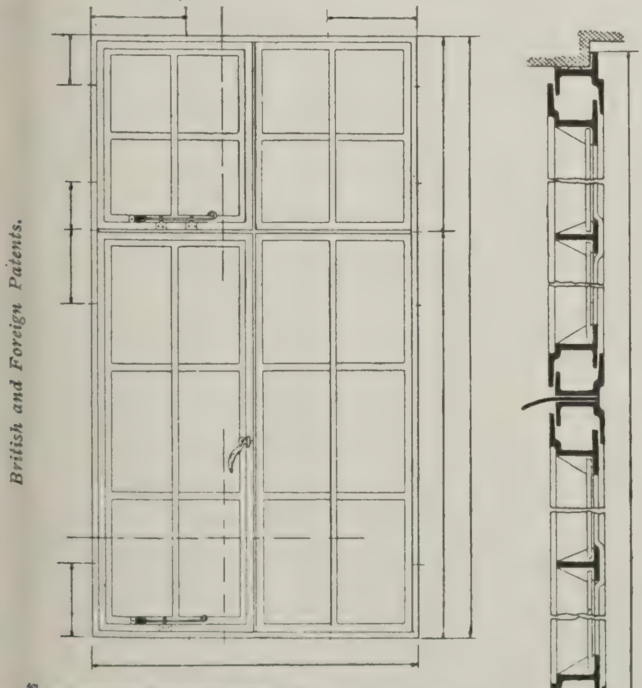

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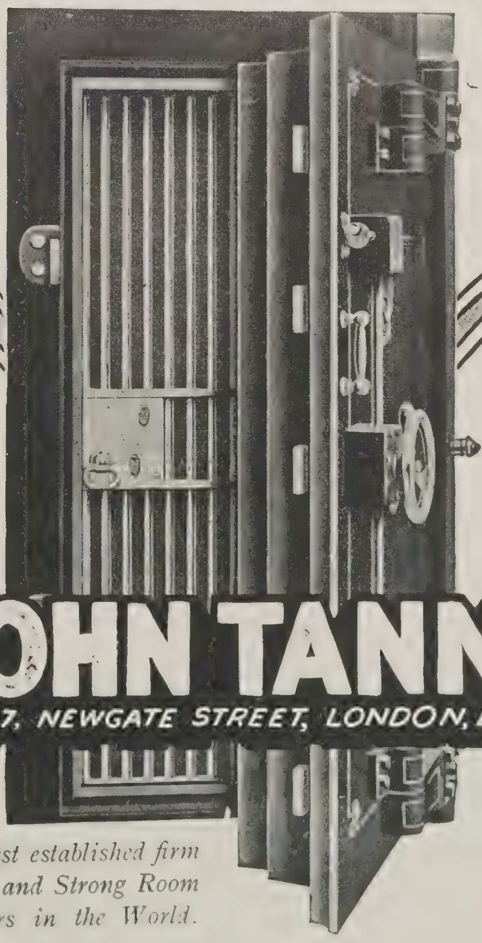

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BUILDING.

July 27.—**HOUSES. Saltney.**—Erection of 22 houses, type A, and, alternatively, 22 houses, type B, at Saltney, near Chester, for the Hawarden Rural District Council. The contract will be let as a whole. Apply Mr. F. Barrett, Surveyor's Office, Hawarden. Deposit £2 2s.

July 27.—**COTTAGES. Charminster.**—Erection of five bungalow cottages at Charminster, near Dorchester. Apply Mr. F. T. Maltby, A.M.I.C.E., M.S.A., Architect and Surveyor, South Street, Dorchester.

July 27.—**FLOORING. Kensington.**—New Dolomentflooring, plastering, and decorative works in wards Nos. 12, 13, and 19, and the adjoining rooms, at the Infirmary, Marloes Road, Kensington, for the Kensington Board of Guardians. Apply W. R. Stephens, Clerk, Marloes Road, Kensington, W.8.

July 28.—**BUNGALOW. Liskeard.**—Erection of a bungalow at Liskeard, for Mr. R. Evely. Apply Mr. C. Truscott, Architect, Downgate, Pensilva, Liskeard.

July 28.—**PAVILION. Southend-on-Sea.**—Ward pavilion at the Sanatorium, Balmoral Road, for the Corporation. Apply Mr. R. H. Dyer, Borough Engineer, Municipal Offices, Southend-on-Sea. Deposit £2.

July 29.—**URINAL. Llanharan.**—Erection of gentlemen's urinal, situate near the police station, Llanharan, for the Cowbridge Rural District Council. Apply Council Offices, the Institute, Cowbridge. Deposit £2 2s.

July 29.—**HOUSES. Manchester.**—Erection of houses on the Blackley estate in groups of from four houses to 40 houses for the Housing Committee. Apply Housing Director, Town Hall. Deposit £1 1s., which sum will be returned on receipt of a bona-fide tender.

July 29.—**HOUSES. Ballachulish.**—Works in connection with erection of twelve three-apartment houses at Ballachulish, Argyllshire, for the Argyll County Council, viz.: (1) Access road, house paths, &c.; (2) mason and brickwork; (3) carpenter and joiner work; (4) plumber work; (5) plaster and cement work; (6) slater and roughcast work. Apply Mr. R. W. Campbell, Architect, Oban.

July 29.—**FOUNDATIONS. Belfast.**—Piling and foundations of the hostel to be erected at the corner of Howard Street and Brunswick Street, Belfast, for the Committee in charge of the Presbyterian war memorial, Belfast. Apply Messrs. Young and Mackenzie, architects, Scottish Provident Buildings, Belfast. Deposit £5 5s.

July 31.—**CONVERSION. Shaftesbury.**—Conversion of certain premises in Victoria Street, Shaftesbury, into R.F.A. headquarters, for the Dorset Territorial Army Association. Apply Mr. F. T. Maltby, A.M.I.C.E., M.S.A., Architect and Surveyor, Dorchester. Deposit £2 2s.

July 31.—**BANK. Huddersfield.**—Erection of bank in the Market Place, Huddersfield, for the Union Bank of Manchester, Ltd. Apply Messrs. Joseph Berry and Sons, Architects and Surveyors, 3 Market Place, Huddersfield.

July 31.—**CHIMNEY. Dublin.**—Construction of factory chimney in reinforced concrete at the Broadstone locomotive works, for the Directors of the Midland Great Western Railway of Ireland. Apply Mr. P. A. Hay, Secretary, Broadstone Station, Dublin.

July 31.—**SHELTERS, &c. Failsworth.**—Construction of wood shelters and sanitary conveniences at the Council's new recreation ground, off Roman Road, Failsworth, for the Urban District Council. Apply Council's Engineer and Surveyor, Mr. J. W. E. Brown, Town Hall, Failsworth, near Manchester.

July 31.—**TAKING-DOWN, &c. Halifax.**—Taking-down of the present Ebenezer Primitive Methodist Church and erection of a new church at the junction of Pellon Lane and St. James' Road, Halifax. Apply Messrs. Walsh and Maddock, Architects and Surveyors, 10 Harrison Road, Halifax.

July 31—**HALL. Abbotsham, Devon.**—Building a parish hall at Abbotsham. Apply at Abbotsham Vicarage, or to Mr. C. H. Pickard, Shamlands, Abbotsham.

July 31.—**FOUNDATIONS, &c. Kirkcaldy.**—Foundations for building annexe and plant and alterations to existing buildings at Electricity Works, Victoria Road, for Town Council. Apply Messrs. Kennedy and Donkin, Broadway Court, 8 Broadway, S.W.1. Deposit £1 1s.

August 1.—**CENTRE. Newport, I.W.**—Erection of a domestic subjects centre at the Newport Council School, for the Borough of Newport, Isle of Wight, Education Committee. Apply Office of Mr. F. D. Shields, Clerk, 37 Quay Street, Newport.

August 1.—**IMPROVEMENTS, &c. Flintshire.**—Repairs, improvements, painting, and decorating at the following schools, for the Flintshire Education Committee: Mostyn N.P. School, Gwaenysgor C. School, Pantasaph R.C. School, Nannerch N.P. School, Mold County School, Rhyl Clwyd Street School, Rhyl Christ Church School. Full particulars can be obtained from R. G. Whitley, A.M.I.C.E., County Architect and Surveyor, County Buildings, Mold, to whom tenders are to be sent.

August 1.—**HOUSES. Wicklow.**—Building eight houses on the Murroughs, Wicklow, site No. 1, and, alternatively, for the building of above houses on Dunbur Road, site No. 2, for the Wicklow Urban District Council. Apply Mr. H. J. MacPhail, Town Clerk. Deposit £2 2s.

August 5.—**DECORATING, &c. Cradley Heath.**—Decorating and restoring the interior of St. Luke's Church, Reddall Hill, Cradley Heath, and repairing the belfry. Apply Mr. W. D. Caroe, 3 Great College Street, Westminster, London, S.W.1.

August 7.—**HOUSES. Ashford, &c.**—Erection of 40 houses, for the Staines Rural District Council, as follows: Ashford, 20; Hanworth, 20. Apply Mr. G. W. Manning, L.R.I.B.A., Architect, Council Offices, London Road, Ashford, Middlesex.

August 7.—**SANATORIUM. Stonehaven.**—Mason, carpenter, plumber, plaster, and painter works of a sanatorium to be built near the Isolation Hospital. Plans may be seen with Geo. Gregory, Architect, Stonehaven, from whom schedules of quantities may be obtained on application. Offers to be lodged with John Falconer, County Clerk, Stonehaven.

August 11.—**HOUSES. Chopwell.**—Erection of about 70 houses at Chopwell. Apply Surveyor at the Council Offices, Blaydon.

August 11.—**PUMP AND FILTER HOUSE. Trichinopoly.**—Erection of pump and filter house for the water supply of the Trichinopoly workshops scheme (constructional steelwork), for The South Indian Railway Co., Ltd. Specifications and forms of tender will be available at the Company's Offices, 91 Petty France, Westminster, S.W.1. Tenders addressed to the chairman and directors of the South Indian Railway Co., Ltd., must be left with A. Muirhead, Managing Director, 91 Petty France, S.W.1. Copies of the drawings may be obtained at the offices of Messrs. Robert White and Partners, Consulting Engineers to the Company, 3 Victoria Street, Westminster, S.W.1.

August 14.—**DWELLINGS. Yeovil.**—Erection of 20 working-class dwellings. Apply Mr. H. C. C. Batten, Town Clerk, Yeovil.

No Date.—**HOME. March.**—Erection of a home for nurses on the Norwood estate, March, for the March District Nursing Association. Apply Mr. W. Fovargue, Architect and Surveyor, The Causeway, March. Deposit £3 3s.

No Date.—**COTTAGES. Whittlesea.**—Erection of a pair of cottages on Kingsland Farm, Coates, Whittlesea, for Mr. F. W. Morton. Apply Mr. W. Fovargue, Architect and Surveyor. Deposit £2 2s.

No Date.—**SWIMMING BATH. Blaenavon.**—Construction of an open-air swimming bath in concrete. Apply, together with a deposit of £2 2s., to John Davies, Secretary, Working Men's Institute, Blaenavon. Bills of quantities will be provided and plans and specification may be seen at Blaenavon.

No Date.—**REPAIRS. Dinas Mawddwy.**—Carrying out certain repairs to 1 Carlyle Terrace, Dinas Mawddwy, for the Merioneth Education Committee. Apply Messrs. Deakin and Howard-Jones, M.S.A., Plas Ynys, Borth, S.O., Cardiganshire.

No Date.—**HOUSES. Halifax.**—House at Cote Hill, extensions at St. James's School, Pellon Lane. Apply Messrs. Jackson and Fox, Architects.

No Date.—**RESIDENCE. Harrogate.**—Erection of a residence at Harrogate. Apply Messrs. Empsall and Clarkson, 7 Exchange, Bradford.

No Date.—**IMPROVEMENTS. Horsham.**—Improvements to drainage to farm buildings, paths, provision of dairies, farm roads and other minor works in connection with the equipment of cottages and farm buildings at various estates, for the West Sussex County Council Small Holdings Committee. Apply Mr. H. P. Roberts, F.R.I.B.A., County Architect, Chichester.

ELECTRICAL.

July 26.—**TELEGRAPH APPARATUS. Australia**—Supply of telegraph and/or telephone apparatus, testing instruments and protective apparatus (schedule 734), for the Deputy Postmaster-General, Perth, Western Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

July 28-August 4.—**TRANSPORTER RUNWAY, &c. Plymouth.**—For supply of transporter runway and travelling trolley hoist, for the Plymouth Corporation. Apply Mr. E. G. Okell, Borough Electrical Engineer, Electricity Works, Plymouth. Deposit £1.

July 29-September 26.—**TELEPHONE ACCESSORIES. Melbourne.**—For supply and delivery of telephone parts (schedule No. V. 53), for Deputy Postmaster-General. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

July 31.—**ELECTRIC LIFTS. Charlton.**—Manufacture, supply, delivery, erection, testing, and maintenance of four electric lifts for the Council's tramways central repair depot, Charlton, S.E., for the London County Council. Apply Clerk of the Council, County Hall, Westminster Bridge, S.E.1. Deposit £2.

August 1.—**ELECTRICALLY DRIVEN SEWAGE PUMPS. Dublin.**—Supply and erection of two sets of electrically driven sewage pumps, each capable of dealing with 18,000,000 gallons per diem, together with auxiliary works, for their Ringsend pumping station in the City of Dublin, for the Corporation. Apply Mr. M. J. Buckley, 28 Castle Street, Dublin, and Mr. J. S. Alford, 11 Victoria Street, Westminster, London, S.W.1. Deposit £5 5s. (crossed cheque only).

August 9.—**TELEPHONE, &c., APPARATUS. Perth.**—Tenders are invited by the Postmaster-General's Department, Perth, Australia, for the supply and delivery of telephone and telegraph apparatus, testing instruments and protective apparatus. (Schedule No. W. A. 734), Apply Inquiry Office of the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

September 27.—**TELEPHONE APPARATUS AND PARTS. Brisbane.**—For supply and delivery o telephone apparatus and parts, schedule No. 561, fo Deputy Postmaster-General at Brisbane. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

ENGINEERING

July 26.—**GIRDER STRUTS. Manchester.**—Construction and erection of new lattice girder struts to guide framing of Nos. 3 and 4 gasholders at their Gaythorn station, for the Gas Committee. Apply Mr. G. W Kaye, Secretary, Gas Department, Town Hall, Manchester.

July 27.—**BOLTS AND NUTS. Sunderland.**—Supply of bolts and nuts, washers, rivets, bar iron an mild steel, for the Corporation. Apply General Manage and Engineer, Mr. A. R. Dayson, Tramways Offices Sunderland.

July 27.—**LAUNDRY MACHINERY, &c. Leytonstone.**—Supply of Laundry machinery, &c., to the mai laundry, at their Central Home, Union Road, Leytonstone, E.11, at an approximate cost of £5,000, for th Guardians of West Ham Union. Apply Mr. T. Smith Clerk, Boardroom, Union Road Leytonstone, E.11 Deposit £2 2s.

July 28.—**WHEELS AND AXLES. London.**—Supply of wheels and axles for rolling stock, for the Sout Indian Railway Co., Ltd. Apply Company's Offices 91 Petty France, Westminster, S.W.1.

July 29.—**BRIDGE. Bedwas.**—Work required t be done to the river bridge near the Waterloo Tinplat Works, Machen, consisting of reinforced concrete work road works, and repairs, for the Bedwas and Mache Urban District Council and Llandaff and Dinas Powi Rural District Council. Apply Mr. A. S. V. Taylo A.M.I.C.E., Council Offices, Bedwas.

July 31.—**BOILER. Alnwick.**—Taking out th existing heating boiler at the St. Michael's Parish Churc and providing and fixing a new No. 2B7 cast-iron "Ideal sectional water boiler. Apply Mr. G. Crack, Hon Secretary to Parochial Church Council, Grey Plac Alnwick.

July 31.—**PUMPS. Glasgow.**—Supply and erection of centrifugal pumps and electric motors, &c., i connection with housing scheme, Mosspark, for the Corporation. Apply Director of Housing, Govan Tow Hall.

August 1.—**UNDERFRAMES. Siam.**—Supply o 25 underframes for bogie carriages, for the Departmen of State Railways. Apply Messrs. C. P. Sandberg, 4 Grosvenor Gardens, London, S.W.1.

August 2.—**MOTOR LORRIES. Buenos Aires.**—Supply of fifteen 5,000 kilog. motor lorries, twent 2,000 kilog. motor lorries, and twenty-five 5,000 kilo trailers. Apply Department of Overseas Trade (Roo 49), 35 Old Queen Street, London, S.W.1.

August 5.—**RESERVOIR. Welshpool.**—For th construction of a new concrete reservoir, the provisio and laying of cast-iron water mains and fittings, togethe with certain glazed stoneware pipes, water conduits, &c for the Welshpool Corporation. Apply Mr. H. Weaver, M.I.C.E.I., M.I.M.E., F.G.S., County Chamber Gloucester. Deposit £5 5s.

August 7.—**REPAIR OF BOILERS. Glasgow.**—Repair, renovation and removal of the boilers, stea pipes, heating and hot-water apparatus at Shieldha Hospital, for the Corporation. Apply Office of Pub Works, 64 Cochrane Street, Glasgow. Deposit £2 2s.

August 16.—**PIPING. Buenos Aires.**—8,0 tons of cast-iron piping. Apply Department of Overse Trade, 35 Old Queen Street, S.W.

August 25.—**STEEL CASTINGS. Johannesbur**—Supply at Zwartkopjes pumping station, Selbor Siding No. 114, of 38 steel castings, 456 phosphor-bron valves, and other materials for the inverted vertic marine-type pumping engines of that station. (Contra 229). Apply Department of Overseas Trade (Room 50 35 Old Queen Street, S.W.1.

(*Continued on page* xxii.)

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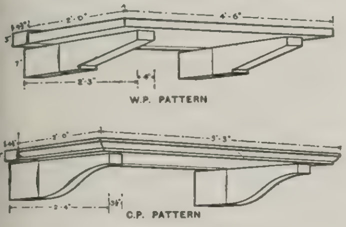

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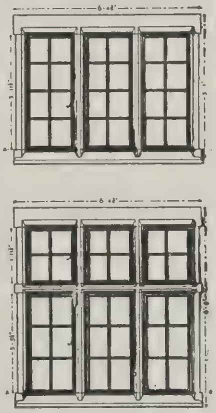

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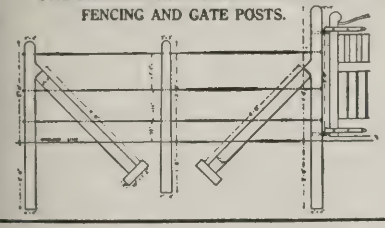

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"Limpet" Washers make an Absolutely Watertight Joint. They prevent Leakage and Corrosion round the Bolt Holes.

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The most approved Fixing for Joining Corrugated Iron Sheeting together.

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Agent for Scotland: FRANK G. PRICE & Co., 115 Bothwell St., Glasgow.

September 1.—**RATE OF FLOW CONTROLLER. Victoria.**—Supply and delivery of a rate of flow controller for the Victoria Water Supply. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, S.W.1.

September 2.—**DECK JOISTS. Bournemouth.**—New deck joists, decking, &c., required on the Bournemouth Pier, for the Town Council. Apply Mr. F. P. Dolamore, Town Hall, Bournemouth. Deposit £1 1s.

October 1.—**BRIDGE SUPERSTRUCTURES. Bangkok.**—Supply of superstructures of steel railway bridges, B.E.2465, for the Siam State Railways. Apply Messrs. C. P. Sandberg, 40 Grosvenor Gardens, London, S.W.1.

October 31.—**BRIDGE SUPER-STRUCTURE, &c. Sydney, N.S.W.**—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milson's Point, for Govt. of N.S.W. Application to the Agent-General. Mr. J. J. C. Bradfield, Chief Engineer, will be in London during June and July, 1922, address care of the Agent-General for New South Wales, Australia House, Strand, London, W.C.2.

October 18.—**PLANT. London, W.C.**—Supply and erection in South Africa of plant in connection with the electrification of the Glencoe-Pietermaritzburg section of the South African Railways, as follows:—Tender D. 1417, coal-handling plant for power station. Tender D. 1418, ash-handling plant for power station. Tender D. 1430, circulating water screening plant for power station. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C.2., and Messrs. Merz and McLellan, 32 Victoria Street, London, S.W.1. Deposit £5.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

No Date.—**BOILER. Batley.**—New boiler for the chapels at the cemetery, for the Cemetery Committee. Apply Registrar at the Cemetery.

PAINTING.

July 27.—**PAINTING. Boston.**—Painting at the Park Schools, Tunnard Street, and the Staniland Schools, Fydell Crescent, for the Boston Education Committee. Apply Borough Surveyor's Office, Municipal Buildings.

July 28.—**PAINTING SCHOOLS. Wolverhampton.**—Painting and colouring of schools for the Education Committee. Forms of tender and full particulars may be obtained at the office of Mr. T. H. Fleeming, Architect, 10 Queen Square, Wolverhampton. Tenders to be addressed to the Chairman of the Sites and Buildings Sub-Committee, Education Offices, Town Hall, Wolverhampton.

July 31.—**PAINTING. Ashton-under-Lyne.**—Painting and decorating the interior of the Town Hall, for the Town Council. Apply Mr. E. N. O'Hara, Borough Comptroller, Town Hall, Ashton-under-Lyne. Deposit 10s.

August 2.—**PAINTING GOVERNMENT BUILDINGS. London.**—(1) External painting at the Victoria and Albert Museum, South Kensington. (2) Internal painting, &c., at the W.C. District Post Office, London, for the Commissioners of His Majesty's Works, &c. Forms of tender &c., may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1, on payment of £1 1s. in each case (cheques payable to the Secretary, H.M. Office of Works).

August 2.—**PAINTING. Wandsworth.**—Painting at St. James's Hospital, &c., Ouseley Road, Balham, S.W.12, for the Guardians of Wandsworth Union. Apply Mr. F. J. Curtis, Clerk, Union Offices, St. John's Hill, Wandsworth, S.W.18. Deposit £2.

No Date.—**PAINTING, &c. Doncaster.**—Painting and renovating the following schools, for the West Riding County Council:—Bentley Central Council Schools; Bawtry Mixed and Infants' Council Schools; also for repairs to roofs and boundary walls at the following schools:—Austerfield Council School, Awkley Council School. Apply Mr. L. J. Blackburn, Education Offices, 17 Wood Street, Doncaster.

No Date.—**PAINTING TOWN HALL. Thornaby-on-Tees.**—Painting and decorating exterior of Town Hall. Specification and form of tender may be obtained on application at the Borough Engineer's Office, Town Hall, Thornaby-on-Tees.

ROADS AND SEWERS.

July 27.—**REPAVING. Ashton-under-Lyne.**—For repaving with granite Oldham Road, from Wellington Road to Boodle Street, for the Corporation. Apply Mr. J. Rowbottom, Borough Surveyor, Town Hall, Ashton-under-Lyne.

July 27.—**REPAVING. Ashton-under-Lyne.**—Repaving with a bituminous surface the south side of Stamford Street, between Queen Street and Stamford Square, for the Corporation. Apply Mr. J. Rowbottom, Borough Surveyor, Town Hall, Ashton-under-Lyne.

July 28.—**MAKING-UP. Merton.**—For making-up Merton Abbey Station Road, in the parish of Merton, for the Merton and Morden Urban District Council. Apply Mr. G. Jerram, A.M.I.C.E., Surveyor, Council Offices, Merton. Deposit £2.

July 28.—**FLAGGING. Salford.**—Flagging, asphalting, and tarmacadamising streets on Section II of the Littleton Road housing scheme, for the Salford Town Council. Apply Borough Engineer, Town Hall, Salford.

July 29.—**MACADAM. Isle of Mull.**—Laying a coat of water-bound macadam, full width, on a section of over two miles of the Salen-Bunessan Road, in the Island of Mull, for the Mull District Committee of the County Council of Argyll. Contractor to supply all material, plant, &c., necessary. Apply Mr. A. MacNaughton, Mull District Surveyor, Tobermory.

July 29.—**SEWER. Budock.**—Laying of a sewer, &c. at Glasney Road, in the parish of Budock, for the East Kerrier Rural District Council. Apply Mr. F. Jackett, Sanitary Inspector, Penryn.

July 31.—**SEWER. Romford.**—Work of laying a 6 in. foul sewer in Essex Road and a 6 in. foul sewer and 6 in. storm water sewer in Balmoral Road, for the Romford Urban District Council. Apply Engineer and Surveyor, 73 South Street. Deposit £2 2s.

July 31.—**ROAD WORKS. New Malden.**—Following works, for the Maldens and Coombe Urban District Council: (Contract No. 1) For making-up and maintaining Station Avenue, New Malden, and (2) for paving with artificial stone slabs the footways in Station Avenue, New Malden. Apply Engineer and Surveyor, Mr. R. H. Jeffes, A.M.I.C.E., Municipal Offices, New Malden. Deposit £2 2s.

August 1.—**MAKING-UP. Chingford.**—For making-up, paving, channelling, &c., of the Warwick Road, parts of the Sinclair Road and the York Road, within the district, for the Chingford Urban District Council. Apply Mr. J. T. Griffin, Surveyor to the Council. Deposit £2 2s.

August 7.—**SEWAGE DISPOSAL WORK. Matlock.**—Construction of sewers, manholes, storm overflows, pump-house and well, electric generating station, &c., for the Urban District Council. Apply Messrs. J. Diggle and Son, Consulting and Civil Engineers, 14 Brown Street, Manchester. Deposit £5.

August 7.—**SEWAGE DISPOSAL WORKS. Matlock.**—Construction of humus tanks, ejector chambers, engine-house, sludge filters, &c., for the Matlock Urban District Council. Apply Messrs. J. Diggle and Son, Consulting and Civil Engineers, 14 Brown Street, Manchester. Deposit £5.

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Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only, and should be confirmed by Trade inquiry. The Labour Rates are iose current at the time of issue and are the Union Rates. The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary. The measured prices are based upon the foregoing, and include usual Builders' profit.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

XCAVATOR AND CONCRETOR.

xcavator, 1s. 3d. per hour.
abourer, 1s. 3d. per hour.
'avvy, 1s. 3d. per hour.
imberman, 1s. 5d. per hour.
caffolder, 1s. 4d. per hour.
'atchman, 6s. 6d. per shift.

roken brick or stone, 2 in., 12s. per yd.
'hames ballast, 14s. per yd.
'it gravel, 19s. per yd.
'it sand, 17s. per yd.
'ashed sand, 19s. per yd.
creened ballast or gravel, add 10 per cent. per yd.
linker, breeze, etc., prices according to locality.
'ortland cement, 76s. per ton.
ias lime, 48s. per ton.
acks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.
'ransport hire per day :
Cart and horse, 22s.
3-ton motor lorry, £4.
Steam lorry, 5-ton, £4 10s.
Trailer, 20s.
Steam roller, £4 5s.
Water cart, 25s.

Excavating and throwing out in ordinary earth not exceeding 6 ft. deep basis price 3s. 3d. per yd. cube.
Exceeding 6 ft., but under 12 ft., add 25 per cent.
In stiff clay, add 50 per cent.
In underpinning, add 120 per cent.
In rock, including blasting, add 225 per cent.
If basketed out, add 80 per cent. to 150 per cent.
Headings, including timbering, add 400 per cent.
Return, fill, and ram, ordinary earth, 3s. 9d. per yd.
Spread and level, including wheeling, 3s. 6d. per yd.
Planking, 4½d. per ft. sup.
Do. over 10 ft. deep, add for each 5 ft. depth 40 per cent.
Hardcore, 2 in. ring, filled and rammed 4 in. thick, 2s. 9d. per yd. sup.
Do. 6 in. thick, 3s. 8d. per yd. sup.
Puddling, 28s. per yd. cube.
Cement concrete, 4-2-1, 47s. per yd. cube.
Do. 6-2-1, 38s. per yd. cube.
Do. in upper floors, add 15 per cent.
Do. in ferro-concrete work, add 20 per cent.
Do. in underpinning, add 60 per cent.
Lias lime concrete, 36s. per yd. cube.
Breeze concrete, 30s. per yd. cube.
Do. in lintols, etc., 2s. 3d. per ft. cube.

RAINER.

abourer, 1s. 3d. per hour.
'imberman, 1s. 5d. per hour.
3ricklayer, 1s. 8d. per hour.
'lumber, 1s. 8½d. per hour.
Vatchman, 6s. 6d. per shift.

Stoneware pipes, tested quality, 4-in. 1s. 9d., 6-in. 3s. 3d., 9-in. 5s. 0d. per yd.
ast iron pipes, coated, 9-ft. lengths, 4-in. 5s. 6d., 6-in. 8s. 0d. per yd.
Portland cement and sand, see "Excavator" above.
Lead for caulking, 31s. per cwt.
Gaskin, 9d. per lb.

Stoneware drains, jointed in cement, tested pipes, 4 in., 2s. 8d., 6 in. 3s. 9d., 9 in. 5s. per ft.
Cast-iron drains, jointed in lead, 4 in. 10s. 0d., 6 in. 14s. per ft.
Note.—These prices include digging and filling for normal depths, and are average prices.
Fittings in Stoneware and Iron according to type. *See* Trade Lists.

BRICKLAYER.

Bricklayer, 1s. 8d. per hour.
Labourer, 1s. 3d. per hour.
Scaffolder, 1s. 4d. per hour.

London stocks, 82s. per M.
Flettons, 64s. per M.
Staffordshire blue, 202s. per M.
Firebricks, 2½ in., 225s. per M.
Glazed salt, white, and ivory stretchers, £24 per M.
Do. headers, £23 10s. per M.
Colours, extra, 110s. per M.
Seconds, less, £1 per M.
Cement and sand, see "Excavator" above.
Lime, grey stone, 61s. per ton.
Mixed lime mortar, 25s. per yd.
Damp course, in rolls of 4½ in. 4s. 3d. per roll.
9 in. 7s., 14 in. 8s. 6d., 18 in. 10s. per roll.

Brickwork in stone lime mortar, Flettons, or equal £35 per rod
Do. in cement do., £38 per rod.
Do. in stocks, add 25 per cent. per rod.
Do. in blues, add 120 per cent. per rod.
Do. circular on plan, add 12½ per cent. per rod.
Facings, half Brick fair, 1½d. per ft. sup. extra.
Do. picked Flettons, 2d. per ft. sup. extra.
Do. picked stocks, 1½d. per ft. sup. extra.
Do. salt, white or ivory glazed, 5s. 6d. per ft. sup. extra.
Tuck pointing, 1s. per ft. sup. extra.
Weather pointing, 2d. per ft. sup. extra.
Granolithic and Cement paving, 1 in. 3s. 6d. per yd. sup.
Do. 1½ in., 4s. 3d. per yd. sup.
Do. 2 in., 5s. 0d. per yd. sup.
Fixing only damp course, ex rolls, 1d. per ft. sup.
Asphalt, damp course, ½ in., 9s. 6d. per yd. sup.
Do. vertical, 13s. 0d. per yd. sup.
Slate damp course, 1s. 3d. per ft. sup.
Asphalt Roofing (Mastic) in two thicknesses, ¾ in., 9s. 6d. per yd.
Skirting, 6 in., 1s.
2½ in. Breeze Partition Blocks, set in Cement, 6s. 3d. per yd. sup.
3 in. do. do. 8s.

MASON (INCLUDING SLATE).

Mason, 1s. 8d. per hour.
Do. fixer, 1s. 9d. per hour.
Labourer, 1s. 3d. per hour.
Scaffolder, 1s. 4d. per hour.

Portland stone :
Whitbed, 4s. 9½d. per ft. cube.
Basebed, 4s. 10½d. per ft. cube.
Bath stone, 3s. 3d. per ft. cube.
Usual trade extras for large blocks.

Hoisting and setting stone, 2s. 0d. per ft. cube.
Do. for every 10 ft. above 30 ft., add 15 per cent.
Plain face Portland basis, 2s. 6d. per ft. sup.
Do. circular, 3s. 8d. per ft. sup.
Sunk face, 3s. 4d. per ft. sup.
Do. circular, 4s. 0d. per ft. sup.
Joints, arch, 2s. 0d. per ft. sup.
Do. sunk, 2s. 1d. per ft. sup.
Do. do. circular, 3s. 8d. per ft. sup.
Circular-circular work, 18s. 0d. per ft. sup.
Plain moulding, straight, per inch of girth, 10½d. per ft. run.
Do. circular, do. 1s. 2d. per ft. run.
Half sawing, 1s. 1d. per ft. sup.
Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

MASON—continued.

York paving, av. 2½ in. 10s. 0d. per yd. super.
York templates sawn, per ft. cube, 14s.
Slate shelves, rubbed, 1 in., 2s. 3d. per ft. sup.
Cement and sand, see "Excavator," etc., above.

Do. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
Do. for Chilmark, 5 per cent.
Setting 1 in. slate shelving in cement, 7d. per ft. sup.
Rubbed round nosing to do., 8d. per ft. lin.
York steps, rubbed T. & R., 33s. ft. cub. fixed.
York Sills W. & T. 36s. ft. cub. fixed.

SLATING AND TILING.

Slater, 1s. 7d. per hour.
Tiler, 1s. 7d. per hour.
Scaffolder, 1s. 4d. per hour.
Labourer, 1s. 3d. per hour.
N.B.—Tiling is often "Piecework"

Slates, 1st quality, per M. :
Portmadoc Ladies £18, Countess £39, Duchess £47.

Clips, lead, 4½d. per lb
Clips, copper, 2s. 4d. per lb.
Nails, compo, 28s per cwt.
Nails, copper, 2s. 3d. per lb.
Cement and sand, see "Excavator," etc., above.
Handmade tiles, 170s. per M.
Machine-made tiles, 155s. per M.
Westmorland slates, large, 240s. per ton, Peggies 185s. per ton.

Slating, 3 in. gauge, compo nails, Portmadoc or equal :
Ladies 93s., Countess 105s., Duchess 110s. 0d. per square.
Westmorland, in diminishing courses, 140s. per square.
Cornish do., 128s. per square.
Add, if vertical, 10s. per square approx.
Add, if with copper nails, 7½ per cent. per square approx.
Double course at eaves, 1s. 3d. per ft. approx.
Tiling, 4 in. guage, 5th course nailed, in hand-made tiles, average 125s. per square.
Do., machine-made do., 115s. per square.
Vertical Tiling, including pointing, add 30s. per sq.
Fixing lead soakers, 9d. per dozen.
Stripping old slates and stacking for re-use, and clearing away surplus and rubbish, 8s. 6d. per sq.
Labour only in laying slates, but including nails, 18s. 6d. per sq.
See Sundries for Asbestos Tiling.

CARPENTER AND JOINER.

Carpenter, 1s. 8d. per hour.
Joiner, 1s. 8d. per hour.
Labourer, 1s. 3d. per hour.

Timber, average prices at Docks, London Standard.

Scandinavian, etc. (equal to 2nds) :
7 × 3, £25 per std. to 11 × 4, £36 per std.
Memel or Equal.
Slightly less than foregoing.
Flooring P.E., 1-in., 25s. per sq.
Do. T. and G., 1 in. 25s. per sq.
Planed Boards, 1 in. × 11 in. £46 per std.
Wainscot oak, 2s. 9d. per ft. sup. of 1 in.
Mahogany, 2s. 6d. per ft. sup. of 1 in.
Do. Cuba, 3s. 9d. per ft. sup. of 1 in.
Teak, 3s. per ft. sup. of 1 in.

Fir fixed in wall plates, lintels, sleepers, etc., 6s. 0d. per ft. cube.
Do. framed in floors, roofs, etc., 8s. per ft. cube.
Do., framed in trusses, etc., including ironwork, 9s. 6d. per ft. cube.
Pitch pine, add 33⅓ per cent.
Fixing only boarding in floors, roofs, etc., 15s. 0d. per sq.
Sarking felt laid, 1 ply 1s. 6d., 3-ply 1s. 8d. per yd.
Centering for concrete, etc., including horsing and striking, 65s. per sq.
Slate battening, 21s. per sq.
1 in. deal gutter board on firring, 90s. per sq.
1¾ in. moulded casements in 4 sqs., glazing beads and hung, 2s. 10d. per ft. sup.
2 in. do. do., 3s. 0d. per ft. sup.
Deal cased frames, oak sills, 2 in. D.H. sashes, brass-faced pullies, etc., 4s. 0d. per ft. sup.
Doors, 4 pan. sq. b.s., 2 in. 2s. 10d. per ft. sup.
Do. do. do., 1½ in. 2s. 9d. per ft. sup.
Do. do., moulded b.s., 2 in. 3s. 3d. per ft. sup.
Do. do. do., 1½ in. 2s. 10d. per ft. sup.
If in oak multiply 6 times.
If in mahogany multiply 6 times.
If in teak multiply 7 times.
Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, 1 in. 14s. 0d., 1¼ in. 16s. 0d. per yd. sup., average.
Do. do., 1¼ in. Maple blocks, 19s. 6d.
Staircase work, deal :
1 in. riser, 1¼ in. tread, fixed, 3s. 3d. per ft. sup.
2 in. deal strings, fixed, 3s. 6d. per ft. sup.

PLUMBER AND RAIN-WATER GOODS.

Plumber, 1s. 8½d. per hour
Mate or labourer, 1s. 3d. per hour.

Lead, milled sheet, 31s. per cwt.
Do. drawn pipes, 31s. 6d. per cwt.
Do. soil pipe, 34s. per cwt.
Do. scrap, 20s. per cwt.
Copper, sheet, 2s. 4d. per lb.
Solder, plumbers, 10d. per lb.
Do. fine, 1s. per lb.
Cast-iron pipes, etc. :
L.C.C. soil, 3 in. 5s. 6d., 4 in. 6s. 11d. per yd.
R.W.P., 2½ in. 3s. 3d., 3 in. 3s. 11d., 4 in. 5s. 2d. per yd.
Gutter, 4 in. H.R., 3s. 3d., 4 in. O.G., 4s. per yd.

Milled lead and labour in gutters, flashings, etc. 56s.
Lead pipe, fixed, including running joints bends, and tacks, ½ in., 1s. 6d. per ft.
Do., ¾ in., 1s. 10d. per ft.
Do., 1 in., 2s. 3d. per ft.
Do., 1¼ in., 2s. 10d. per ft.
Lead waste or soil, fixed as above, complete, 2½ in. 4s. 3d. per ft.
Do., 3 in., 5s. 3d. per ft.
Do., 4 in., 6s. per ft.
Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½ in., 2s. per ft.
Do., 3 in., 2s. 4d. per ft.
Do., 4 in., 2s. 8d. per ft.
Cast-iron H.R. gutter, fixed, with all clips, etc. 4 in., 2s. 4d. per ft.
Do., O.G., 4 in., 3s. per ft.
Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4 in., 6s. 6d. per ft.
Do., 3 in., 5s. 6d. per ft.
Fixing only :
W.C. pans and all joints, P. or S., and including joints to water waste preventers, 41s. 0d. each.
Baths only, with all joints, 37s.
Lavatory basins only, with all joints on brackets, 28s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, 1s. 7½d. per hour. Glass : 4th in crates : Clear, 21 oz. 5½d., 26 oz. 6⅝d. Cathedral white, 5½d. per ft. Polished Plate, British ¼ in., up to 2 ft. sup. 2s. 0d., 3 ft. sup. 2s. 6d., 7 ft. sup. 4s., 25 ft. sup. 4s. 0d., 100 ft. sup. 5s. 0d. Rough plate, 3/16 in., 4⅞d., ¼ in. 6½d. per ft. Linseed oil putty, 17s. per cwt.	Glazing in putty, clear sheet, 21 oz. 10d., 26 oz. 11d. Glazing in beads, 21 oz. 1s. 0d., 26 oz. 1s. 3d. per ft. Patent glazing in rough plate, normal span, 1s. 7½d. to 2s. 0d. per ft. Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 3s. 6d., and up, per ft. sup. Glazing only, polished plate, 6d. to 7½d. per ft., according to size.
PLASTERER.	
Plasterer, 1s. 8d. per hour. Labourer, 1s. 3d. per hour. —— Chalk lime, 63s. per ton. Hair, 25s. per cwt. Sand and cement, see "Excavator," etc., above. Lime putty, 3s. 9d. per cwt. Hair mortar, 28s. per yd. Fine stuff, 35s. per yd. Sawn laths, 4s. per bdl. Keene's cement, 93s. per ton. Sirapite, 70s. per ton. Do. fine, 70s. 6d. per ton. Plaster, 73s. per ton. Do. fine, 74s. per ton. Thistle plaster, 69s. per ton. Lath nails, 5d. per lb.	Lathing with sawn laths, 1s. 5d. per yd. Metal lathing, 1s. 10d. per yd. Floating in Portland, 1 to 3, for tiling or wood-block, ¾ in., 2s. 6d. per yd. Do., vertical, 2s. 10d. per yd. Render, on brickwork, 1 to 3, 2s. 6d. per yd. Render in Portland and set in fine stuff, 3s. per yd. Render, float, and set, trowelled, 2s. 9d. per yd. Render and set in Sirapite, 2s. 6d. per yd. Do., in Thistle plaster, 2s. 6d. per yd. Extra, if on but not including lathing, any of foregoing, 5½d. per yd. Extra, if on ceilings, 7d. per yd. Angles, rounded Keene's on Portland, 6d. per ft. lin. Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin. White glazed tiling set in Portland and jointed in Parian, 30s. per yd. Fibrous plaster slabs, 2s. per yd.
DECORATOR.	
Painter, 1s. 7d. per hour. Labourer, 1s. 3d. per hour. French polisher, 1s. 10d. per hour. Paperhanger, 1s. 8d. per hour. —— Genuine white lead, 55s. per cwt. Linseed oil, raw, 4s. 9d. per gall. Do. boiled, 5s. 2d. per gall. Turpentine, 6s. 4d. per gall. Liquid driers, 13s. per gall. Knotting, 35s. per gall. Distemper, washable, in ordinary colours, 53s. per cwt. and up. Double size, 4s. 6d. per firkin. Pumice stone, 7d. per lb. Varnish, hard oak, 14s. per gall. and up. Gold Leaf (Transferable), 2s. 4d. per book.	Lime whiting 6d. per yd. sup. Wash, stop, and whiten, 7d. per yd. sup. Do., and 2 coats distemper with proprietary distemper, 1s. 0d. per yd. sup. Knot, stop, and prime 6d. per yd. sup. Plain painting, including mouldings, and on plaster or joinery, 1st coat, 11d. per yd. sup. Do., subsequent coats, 9d. per yd. sup. Do., enamel coat, 1s. 3d. per yd. sup. Brush-grain, and 2 coats varnish, 3s. 9d. per yd. sup. Figured do. do., 5s. 6d. per yd. sup. French polishing, 1s. 6d. per ft. sup. Stripping old paper and preparing, 1s. 6d. per piece. Hanging paper, ordinary, 1s. 9d. per piece. Do., fine, 2s. 3d. and upwards per piece. Varnishing paper, 1 coat, 10s. per piece. Canvas, strained and fixed, 2s. 9d. per yd. sup. Varnishing, hard oak, 1st coat, 1s. 3d. yd. sup. Do., each subsequent coat, 1s. per yd. sup.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES
DECORATOR—continued.	
Varnish copal, 20s. per gall. and up. Do. Flat, 20s. per gall. Do. Paper, 17s. per gall. French polish, 29s. per gall. Ready mixed paints, 12s. per gall. and up.	
STEELWORK, SMITHWORK, etc.	
Smith, Weekly Rate = 1s. 9¾d. per hour. Mate, Do. 1s. 3d. Erector, 1s. 9½d. per hour. Fitter, 1s. 9½d. per hour. Labourer, 1s. 3d. per hour.	Mild steel in trusses, etc., erected, £29 per ton. Do., in small sections as reinforcement, £20 per ton. Do., in compounds, £21 per ton. Do., in bar or rod reinforcement, £22 per ton. Wrot. iron in chimney bars, etc., including building in, 45s. per cwt. Do., in light railings and balusters, 50s. per cwt. Fixing only corrugated sheeting, including washers and driving screws, 2s. per yd.
—— Mild steel in British standard sections, £14 10s. per ton. Sheet steel : Flat sheets, black, £28 per ton. Do. Galvd., £32 per ton. Corrugated sheets, galvd., £28 per ton. Driving screws, galvd., 2s. 10d. per grs. Washers, galvd., 1s. 10d. per grs. Bolts and nuts, 45s. per cwt. and up.	
SUNDRIES.	
Fibre or wood pulp boardings, 3½d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 6d. per ft. sup.
Plaster Board, 1s. 9d. per yd. sup.	Plaster Board, fixed as last, 2s. 6d. per yd. sup.
Asbestos sheeting, 5/32 in., grey flat, 3s. 0d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 3s. 9d. per yd. sup.
Do. corrugated, 5s. 0d. per yd. sup.	Do. do., corrugated, 5s. 10d. per yd. sup.
Asbestos composition. Flooring :	Laid in two coats, average ¾ in. thick, in plain colour, 10s. 0d. per yd. sup. Do. ½ in. thick, suitable for domestic work unpolished , 7s. 6d. per yd.
Metal casements for wood frames, domestic sizes, 2s. per ft. sup.	Hanging only metal casements in, but not including wood frames, 2s. 6d. each.
Do. in metal frames, 2s. 3d. per ft. sup.	Building in metal casement frames 6d. per ft. sup.
Asbestos cement slates or tiles, 5/32 in. punched per M. grey £18, red £20.	Asbestos slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey 55s. 0d., red 60s. 0d.
Waterproofing compounds for cement.	Add about 75 per cent. to 100 per cent. to the cost of cement used.
PLYWOOD.	
3 m/m Alder 2¼d. per ft. sup. 4½ m/m Amer. White 3¾d. per ft. sup. 5 m/m Figured Ash 5d. per ft. sup. 4½ m/m 3rd Quality, Composite Birch 1½d. per ft. sup.	

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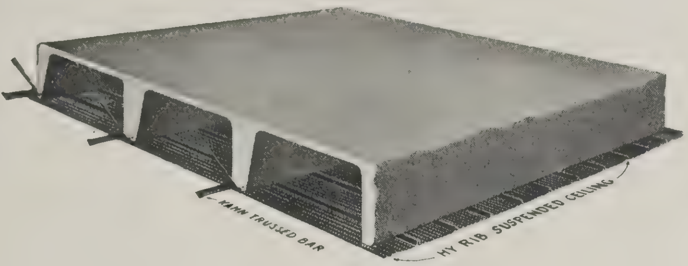

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CONTRACTS OPEN

Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING.

August 3.—**BUILDING. Edinburgh.**—Erection of building at Seafield Poorhouse, Leith, for the Edinburgh Parish Council. Apply Mr. J. M. Johnston, Architect, 47 Charlotte Street, Leith.

August 3.—**REST HUT. Seafield.**—Completion of one of the buildings at Seafield, for the Edinburgh Parish Council. Apply Mr. J. M. Johnston, Architect, 47 Charlotte Street, Leith.

August 3.—**HALL. Southwick.**—Taking down and re-erecting on a new site in St. Aubyn's Road, Fishergate, a small timber-framed building covered with corrugated iron and used as a mission hall, for the Southwick Urban District Council, Sussex. Apply Mr. G. W. Warr, the Council's Surveyor, Town Hall, Southwick. Deposit £1 1s.

August 4.—**FLOORING. Ipswich.**—Supplying and laying maple wood block flooring at Ipswich Sorting Office, for H.M.O.W. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1.

August 4.—**ADDITIONS. Maerdy, Glam.**—Additions and alterations to the Church of All Saints, Mardey, Glam. Apply Messrs. W. Morgan Lewis and Walters, Architects and Surveyors, Pontypridd. Deposit £2 2s.

August 4.—**REPAIRS, &c. Edinburgh.**—Execution of repairs and renewals at the Bangour Village Asylum, for the Edinburgh District Board of Control, Apply Mr. J. D. Gibson, Surveyor, 60 Frederick Street, Edinburgh.

August 5.—**WARD, &c. Ryde, I.W.**—Erection of new ward and other alterations at the Royal I.W. County Hospital, Ryde, for the Committee. Apply Mr. A. S. Gordon, Secretary.

August 5.—**ALTERATIONS, &c. Bury St. Edmunds.**—Alterations, painting, and repairs to Council schools, for the West Suffolk Education Committee. Apply Mr. A. Ainsworth Hunt, 51a Abbeygate Street, Bury St. Edmunds.

August 5.—**REPAIRS, &c. Clogher, Tyrone.**—Repairs and other works at St. Mary's Church, near Clogher. Apply Mr. J. Donnelly, M.R.I.A.I., Architect, Enniskillen.

August 5.—**DECORATING, &c. Cradley Heath.**—Decorating and restoring the interior of St. Luke's Church, Reddall Hill, Cradley Heath, and repairing the belfry. Apply Mr. W. D. Caroe, 3 Great College Street, Westminster, London, S.W.1.

August 7.—**HOUSES. Staines.**—Erection of 40 houses, for the R.D.C. Apply Mr. George W. Manning, Architect, Council Offices, London Road, Ashford, Middlesex.

August 7.—**HOUSES. Prestonpans.**—Erection of six houses (three and four apartment cottages) at East Loan, for the Prestonpans Town Council. Apply Messrs. R. and A. K. Smith, Surveyors, 44 Queen Street, Edinburgh.

August 7.—**HOUSES. Swindon.**—Completion of 40 houses, for the Corporation. Apply Borough Surveyor, Mr. S. C. Baggott, 34 Regent Circus.

August 7.—**HOUSES. Ashford, &c.**—Erection of 40 houses, for the Staines Rural District Council, as follows: Ashford, 20; Hanworth, 20. Apply Mr. G. W. Manning, L.R.I.B.A., Architect, Council Offices, London Road, Ashford, Middlesex.

August 7.—**SANATORIUM. Stonehaven.**—Mason, carpenter, plumber, plaster, and painter works of a sanatorium to be built near the Isolation Hospital. Plans may be seen with Geo. Gregory, Architect, Stonehaven, from whom schedules of quantities may be obtained on application. Offers to be lodged with John Falconer, County Clerk, Stonehaven.

August 7.—**GOODS SHED. Cumbernauld.**—Construction of goods shed at Cumbernauld, for the Directors of the Caledonian Railway Co. Apply Company's Engineer, Buchanan Street Station, Glasgow. Deposit £2 2s.

August 9.—**HOUSES. Gartcosh.**—Erection of 28 dwelling-houses at Gartcosh, for the District Committee of the Lower Ward of the County of Lanark. Apply Office of Mr. J. A. M'Cullum, District Clerk, 15 West George Street, Glasgow. Deposit £1 1s.

August 9.—**POST OFFICE. Glasgow.**—Erection of a new post office at Port Glasgow, for Commissioners H.M.O.W. Apply Post Office, Port Glasgow, or the Architect, H.M. Office of Works, 4-5 Drumsheugh Gardens, Edinburgh. Deposit £1 1s.

August 9.—**ALTERATIONS. Dartmouth.**—Alterations, &c., at the Dartmouth Girls' and Infants' Council School, for the Devon Education Committee. Apply County Architect (Education), 1 Blackall Road, Exeter. Deposit £1 1s.

August 10.—**HOUSES. Langholm.**—Erection of four blocks of two houses each, for the T.C. Apply Mr. G. Irving Bell, Town Clerk, Langholm. Deposit £1 1s.

August 11.—**PUMP AND FILTER HOUSE. Trichinopoly.**—Erection of pump and filter house for the water supply of the Trichinopoly workshops scheme (constructional steelwork), for The South Indian Railway Co., Ltd. Specifications and forms of tender will be available at the Company's Offices, 91 Petty France, Westminster, S.W.1. Tenders addressed to the chairman and directors of the South Indian Railway Co., Ltd., must be left with A. Muirhead, Managing Director, 91 Petty France, S.W.1. Copies of the drawings may be obtained at the offices of Messrs. Robert White and Partners, Consulting Engineers to the Company, 3 Victoria Street, Westminster, S.W.1.

August 11.—**HOUSES. Chopwell.**—Erection of about 70 houses at Chopwell. Apply Surveyor at the Council Offices, Blaydon.

August 12.—**ALTERATIONS. Aberystwith.**—Alterations to the Students' Union at the University College of Wales, Aberystwith. Apply Mr. G. T. Bassett, A.R.I.B.A., and Mr. H. McGregor Wood, A.R.I.B.A., Architect, 13 North Parade, Aberystwith.

August 14.—**DWELLINGS. Yeovil.**—Erection of 20 working-class dwellings. Apply Mr. H. C. C. Batten, Town Clerk, Yeovil.

August 14.—**THEATRE. Belfast.**—Erection of new picture theatre at Castle Lane, Belfast, for Classic Cinemas, Ltd. Apply Mr. A. Ferguson, F.S.I., Building Surveyor, 2 Wellington Place, Belfast. Deposit £5 5s.

August 14.—**SHOPS, &c. Rosyth.**—Erection of 15 shops and 8 houses over same at Rosyth. Apply Architect, Scottish National Housing Co., Ltd., 111 George Street, Edinburgh.

August 15.—**REPAIRS. Welsh Area.**—War Dept. Contracts for repairs and materials. Artificers' works contracts from September 1, 1922, for following stations and division in R.E. district. Contract 1, Rhyl Hutments; 2, Wrexham; 3, Shrewsbury; 4, Brecon; 5, Newport (Mon.); 6, Cardiff; 7, Barry; 8, Pembroke Dock. Apply Commanding Royal Engineer, R.E. Office, 3 Belmont, Shrewsbury.

August 17.—**ALTERATIONS, &c. Holywell.**—Alterations and addition to the Vicarage, Holywell. Apply Mr. Gronwy R. Griffith, Architect, 2 Post Office Lane, Denbigh.

August 30.—**HOUSES. Mansfield.**—Erection of 24 houses, type A, in connection with the housing scheme No. 2, Bull Farm site, for the Town Council. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield.

No Date.—**BUNGALOW, &c. Hardhorn, Lancs.**—Erection of bungalow and garage at Hardhorn. Apply Messrs. Fairbrother and Hall, L.A.R.I.B.A., Architects, 16 Queen Square, Blackpool, and Poulton-le-Fylde. Deposit £1 1s.

No Date.—**SWIMMING BATH. Blaenavon.**—Construction of an open-air swimming bath in concrete at Blaenavon. Apply Mr. J. Davies, Secretary, Working Men's Institute, Blaenavon. Deposit £2 2s.

No Date.—**ALTERATIONS. Boston.**—Alterations to the ladies' cloakroom in the assembly rooms, for the Town Council. Apply Borough Surveyor, Municipal Buildings.

No Date.—**HOUSES. St. Annes, Lancs.**—Erection of houses in Fairhaven Road, St. Annes; Lytham Road, St. Annes; St. Annes Road; Preston New Road; and Poulton. Apply Mr. H. Best, P.A.S.I., &c., Architect and Surveyor, St. John's Chambers, Church Street, Blackpool.

No Date.—**HOME. March.**—Erection of a home for nurses on the Norwood Estate, March, for the March District Nursing Association. Apply Mr. W. Fovargue, Architect and Surveyor, The Causeway, March. Deposit £3 3s.

No Date.—**PAINTING, &c. Bacton.**—Cleaning and colouring the interior of Bacton Church and also for placing in position a stained glass window. Apply Mr. T. F. Woods and Mr. C. M. Gooderham, Churchwardens, Bacton.

No Date.—**EXTENSIONS. Barnsley.**—Building various works required in extensions in the shop premises, Eldon Street, Barnsley, for Messrs. Jas. Fox and Sons. Apply Messrs. Dyson, Cawthorne and Coles, 10 Regent Street, Barnsley.

ELECTRICAL.

August 5.—**INSTALLATION. Bishop's Castle.**—Installation of electric light (wiring and fittings) in the parish church, for the Bishop's Castle Parochial Church Council. Apply Vicarage, Bishop's Castle.

August 9.—**TELEPHONE, &c., APPARATUS. Perth.**—Tenders are invited by the Postmaster-General's Department, Perth, Australia, for the supply and delivery of telephone and telegraph apparatus, testing instruments and protective apparatus. (Schedule No. W. A. 734), Apply Inquiry Office of the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

August 15.—**PLANT. Oxford.**—Supply, delivery, erection of:—Contract No. 10, section A, one 1,000-kw. turbo-alternator, complete with condensing plant; B, one 500-kw. conversion plant, from 3,000 volts, 3-phase, to 1,100 volts d.c., complete with switchgear, for the Oxford Electric Co., Ltd. Apply Mr. F. H. Francis, M.I.E.E., Chief Engineer, Russell Street, Osney, Oxford. Deposit £2 2s.

September 27.—**TELEPHONE APPARATUS AND PARTS. Brisbane.**—For supply and delivery of telephone apparatus and parts, schedule No. 561, for Deputy Postmaster-General at Brisbane. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

ENGINEERING

August 2.—**MOTOR LORRIES. Buenos Aires.**—Supply of fifteen 5,000 kilog. motor lorries, twenty 2,000 kilog. motor lorries, and twenty-five 5,000 kilog. trailers. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

August 3.—**BOILER. Chelmsford, Essex.**—Provision and installation of a boiler in connection with the heating apparatus at the Trinity Road Council School, for the Town Council. Apply Mr. E. J. Miles, A.M.I.C.E., Borough Engineer, Municipal Offices, Chelmsford.

August 3.—**BOILER. Keighley.**—New (senior) Robin Hood boiler and the fixing thereof, to replace one at the Town Hall, for the Finance Committee. Apply Caretaker, Town Hall.

August 4.—**EXTENSION. Dundee.**—Extension to heating apparatus at Dundee Head Post Office, for H.M.O.W. Apply Mr. J. L. Macgregor, H.M. Office of Works, 5 Drumsheugh Gardens, Edinburgh. Deposit £1 1s.

August 5.—**PUMPING PLANT. Upholland.**—Additional pumping plant, to be delivered and fixed at their Roby Mill pumping station, Upholland, for the Urban District Council. Apply Office of Mr. A. Hunt, Surveyor, Council Offices, Upholland.

August 5.—**RESERVOIR. Welshpool.**—For the construction of a new concrete reservoir, the provision and laying of cast-iron water mains and fittings, together with certain glazed stoneware pipes, water conduits, &c., for the Welshpool Corporation. Apply Mr. H. J. Weaver, M.I.C.E.I., M.I.M.E., F.G.S., County Chambers, Gloucester. Deposit £5 5s.

August 7.—**REPAIR OF BOILERS. Glasgow.**—Repair, renovation and removal of the boilers, steam pipes, heating and hot-water apparatus at Shieldhall Hospital, for the Corporation. Apply Office of Public Works, 64 Cochrane Street, Glasgow. Deposit £2 2s.

August 7.—**BRIDGE RENEWAL. Dunblane.**—Work to be executed in the renewal of the footbridge over the main line to the north of Dunblane (steelwork), for the Directors of the Caledonian Railway Co. Apply Company's Engineer, Buchanan Street Station, Glasgow. Deposit £2 2s.

August 9.—**LANTERNS. Egremont, Cumb.**—Supply of 50 stormproof street lanterns, all copper, for the Egremont Urban District Council. Apply Mr. F. Fawcett, Manager Gasworks, Egremont, Cumberland.

August 9.—**PLANT. Ashton-under-Lyne.**—Supply, delivery, erection and testing of the following, for the Stalybridge and Dukinfield Joint Sewerage Board, viz.:—(a) three centrifugal pumps, suction and delivery pipes, sluice valves and all accessories; one sludge ejector, compressed air main, reducing valve, sluice valves, and all accessories; one vertical two-stage air compressor capable of delivering 200 cubic feet of free air per minute at a working pressure of 100 pounds per square inch. Apply Engineer, Mr. C. J. Lomax, M.I.C.E., M.C.E., 37 Cross Street, Manchester. Deposit £1 1s.

August 11.—**STEELWORK. London, S.W.**—Supply of pump and filter-house for the water supply of the Trichinopoly workshops scheme (constructional steelwork), for the South Indian Railway Co., Ltd. Apply Company's Offices, 91 Petty France, Westminster, S.W.1.

August 11.—**BOREHOLE. Newmarket.**—Sinking a borehole and test pumping for obtaining a supply of water for the parishes of Dullingham, Westley, Brinkley, and Borough Green, for the Newmarket Rural District Council. Apply the Engineers, Messrs. Sands and Walker, Milton Chambers, Nottingham.

August 16.—**PIPING. Buenos Aires.**—8,000 tons of cast-iron piping. Apply Department of Overseas Trade, 35 Old Queen Street, S.W.

(*Continued on page* xxvi.)

The

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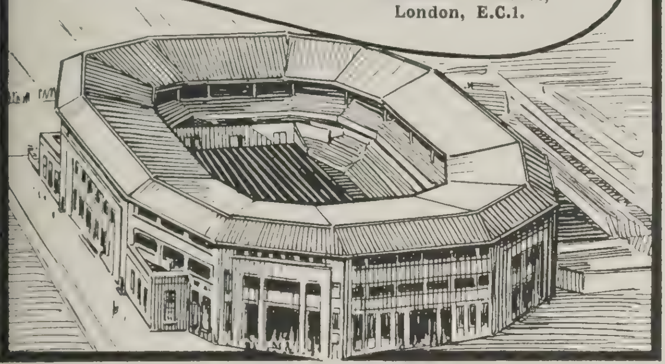

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General Agents for United Kingdom : **EDWARD CHALONER & CO., Brown's Buildings, Liverpool.**

August 25.—**STEEL CASTINGS. Johannesburg.** —Supply at Zwartkopjes pumping station, Selborne Siding No. 114, of 38 steel castings, 456 phosphor-bronze valves, and other materials for the inverted vertical marine-type pumping engines of that station. (Contract 229). Apply Department of Overseas Trade (Room 50a), 35 Old Queen Street, S.W.1.

September 1.—**BRIDGE SUPER-STRUCTURE, &c. Sydney, N.S.W.**—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milson's Point, for Govt. of N.S.W. Application to the Agent-General. Mr. J. J. C. Bradfield, Chief Engineer, will be in London during June and July, 1922, address care of the Agent-General for New South Wales, Australia House, Strand, London, W.C.2.

September 1.—**RATE OF FLOW CONTROLLER. Victoria.**—Supply and delivery of a rate of flow controller for the Victoria Water Supply. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, S.W.1.

September 2.—**DECK JOISTS. Bournemouth.**—New deck joists, decking, &c., required on the Bournemouth Pier, for the Town Council. Apply Mr. F. P. Dolamore, Town Hall, Bournemouth. Deposit £1 1s.

September 13.—**MACHINERY. Surbiton.**—Supply and erection at their Surbiton pumping station, Surrey, of one steam turbine with centrifugal pumps having a maximum capacity of 20 million gallons per 24 hours, for the Metropolitan Water Board. Apply Offices of the Board (Room 182), Chief Engineer's Department, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £3 3s.

September 13.—**MACHINERY. Eynsford, Kent.**—Supply and erection of two Diesel or high compression solid injection oil engines, with well and surface pumps, &c., at their Eynsford Works, Kent, for the Metropolitan Water Board. Apply Offices of the Board (Room 182), Chief Engineer's Department, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £3 3s.

September 15.—**WHARF. Guayaquil.**—Construction of a Custom-house wharf at Guayaquil, for the Government of Ecuador. Apply Consul-General of Ecuador, 23 College Hill, Cannon Street, E.C.

September 18.—**BEACON. Edinburgh.**—Construction of a concrete beacon on a tidal rock which lies off the northern end of South Rona, for the Commissioners of Northern Lighthouses. Apply Mr. D. A. Stevenson, 84 George Street, Edinburgh. Deposit £1.

October 1.—**BRIDGE SUPERSTRUCTURES. Bangkok.**—Supply of superstructures of steel railway bridges, B.E.2465, for the Siam State Railways. Apply Messrs. C. P. Sandberg, 40 Grosvenor Gardens, London, S.W.1.

October 18.—**PLANT. London, W.C.**—Supply and erection in South Africa of plant in connection with the electrification of the Glencoe-Pietermaritzburg section of the South African Railways, as follows:—Tender D. 1417, coal-handling plant for power station. Tender D. 1418, ash-handling plant for power station. Tender D. 1430, circulating water screening plant for power station. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C.2., and Messrs. Merz and McLellan, 32 Victoria Street, London, S.W.1. Deposit £5.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

No Date.—**BOILER. Drogheda.**—New or short-time-used Lancashire boiler, 16 ft. by 6 ft. dia., capable of working at 100 lb., for the Drogheda Gas Department. Complete with best pattern injector, gauges, and all necessary fittings, and fitted with Meldrum or other furnace suitable for using cheap quality fuels. Apply Mr. P. J. Fitzpatrick, Manager and Secretary.

No Date.—**WALL. Matlock Bath.**—Rebuilding of the deep retaining wall near Masson Mills, for the U.D.C. Apply Surveyor's Dept., Council Chambers, Matlock Bath.

PAINTING.

August 2.—**PAINTING GOVERNMENT BUILDINGS. London.**—(1) External painting at the Victoria and Albert Museum, South Kensington. (2) Internal painting, &c., at the W.C. District Post Office, London, for the Commissioners of His Majesty's Works, &c. Forms of tender &c., may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1, on payment of £1 1s. in each case (cheques payable to the Secretary, H.M. Office of Works).

August 2.—**PAINTING. Wandsworth.**—Painting at St. James's Hospital, &c., Ouseley Road, Balham, S.W.12, for the Guardians of Wandsworth Union. Apply Mr. F. J. Curtis, Clerk, Union Offices, St. John's Hill, Wandsworth, S.W.18. Deposit £2.

August 9.—**PAINTING. Portsmouth.**—Painting a steel chimney shaft, 200 ft. in height, at the Electricity Works, Gunwharf Road, Portsmouth, for the Corporation. Apply Engineer and Manager, Electricity Works, Gunwharf Road, Portsmouth.

August 17.—**PAINTING. Essex.**—Carrying out certain painting and redecorating work at their Children's Homes at Stifford, near Grays, Essex, for the Board of Guardians. Apply Mr. A. J. Smith, Clerk, Guardian's Offices, Barnes Street, Commercial Road East, E.14. Deposit £2 2s.

No Date.—**PAINTING AND DECORATING. Melton Mowbray.**—Painting and decorating of th exterior of the Melton Mowbray Isolation Hospital. Apply Joseph Bayliss, Clerk of the Committee, 6 St. Martin's, Leicester.

No Date.—**PAINTING. Barnsley.**—Painting and colour-washing required to certain of the schools in the Borough. Apply Messrs. Dyson, Cawthorne and Coles, 10 Regent Street, Barnsley.

No Date.—**PAINTING. Buxton.**—Painting at Devonshire Hospital, Buxton. Apply Mr. Tom B. Harrison, General Superintendent, Buxton.

No Date.——**PAINTING. Clayton West (Huddersfield).**—Outside and inside painting and redecorating of the Clayton West Congregational Church. Apply Mr. Frank Hall, Clayton West, near Huddersfield.

ROADS AND SEWERS.

August 4.—**ROADS. Dore, Sheffield.**—Work required to be done at Totley Brook Road and Grove Road, in the township of Dore, for the Norton Rural District Council. Apply Mr. J. E. Moulding, Clerk, Council Offices, The Edge, Sheffield.

August 4.—**MAKING-UP. Southend-on-Sea.**—Making-up new boulevard, Prittlewell Chase (Eastwood Lane to Southbourne Grove), for the Corporation. Apply Mr. R. H. Dyer, Borough Engineer and Surveyor. Deposit £2 2s.

August 7.—**SEWAGE DISPOSAL WORK. Matlock.**—Construction of sewers, manholes, storm overflows, pump-house and well, electric generating station, &c., for the Urban District Council. Apply Messrs. J. Diggle and Son, Consulting and Civil Engineers, 14 Brown Street, Manchester. Deposit £5.

August 7.—**SEWAGE DISPOSAL WORKS. Matlock.**—Construction of humus tanks, ejector chambers, engine-house, sludge filters, &c., for the Matlock Urban District Council. Apply Messrs. J. Diggle and Son, Consulting and Civil Engineers, 14 Brown Street, Manchester. Deposit £5.

August 14.—**SEWER. Hayes.**—For the Construction of about 400 yards of 9 in. sewer in the Uxbridge Road, in the urban district of Hayes, for the Hayes Urban District Council. Apply Mr. D. C. Fidler, Engineer and Surveyor, Council Offices, Hayes, Middlesex.

August 21.—**SEWERAGE. Darlaston.**—Construction of stoneware pipe sewers, manholes, cast-iron pipes, screening, and detritus chamber, storm-water tanks, sewage tanks, filters, sludge-drying area, drains and ejector chambers, together with other works, for the Darlaston Urban District Council. Apply Messrs. Dodd, Dodd and Watson, MM.I.C.E., County Chambers, Corporation Street, Birmingham. Deposit £5.

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Marseilles Tiles

The general utility of Marseilles tiles for roofing purposes has long been recognized on the Continent, and their employment, not only in many parts of Europe, but in Asia, Northern Africa, and Australasia, has increased so rapidly that the present demand necessitates an annual manufacture of 250 millions.

In England, however, where for centuries only plain tiles and pantiles were n ordinary use, it was not until the manufacturers of patented interlocking roofing tiles had achieved some success in popuarizing this form of roof covering that Marseilles tiles—probably the oldest of the interlocking type—found their way nto this country, and established for themselves the favourable position they still hold.

These tiles originated in Marseilles about one hundred years ago, and are made from non-ferrous clays—peculiar to the locality in which the famous old seaport is situated.

The earliest authentic examples known to the writer of the use of genuine Marseilles tiles in England occur in a arge house and several other buildings at Dorking, in Surrey, and date from the year 1875. These are to-day in excellent condition, although they have not been touched since they were originally laid.

It is quite possible that instances exist which go back even farther than those ust mentioned, but it is difficult to trace them, and the point must be left undetermined. Nevertheless, roofing tiles which have remained exposed to the climatic conditions of this country for close on half a century, and at the end of that period show no signs of flaking or disintegration, have obviously been very everely tested.

The extent to which the use of Marseilles iles has grown during the last few years may be inferred from the fact that they have been adopted by the architects of over a hundred housing schemes in Great Britain, and that last year upwards of hree millions were supplied by the manuacturers.

Besides interlocking on all four edges, these tiles are extremely hard, and of even colour.

A square of roofing requires 127 tiles and weighs from six to seven cwt., while a single tile measures 16¼ in. × 9½ in.

The following suggestions for laying Marseilles tiles will be found of practical value to those who seek reliable information on the subject :—

1. Start fixing at the bottom right-hand corner of the roof.

2. Arrange the roof battens so that no cutting of tiles will be necessary, either to the top or bottom row; but if the depth of the roof is such that a course of tiles must be cut, then cut the bottom one.

3. A course of plain tiles should be securely fixed in all eaves and verges, and the Marseilles tiles firmly bedded to them. If, instead of seating the bottom course, it is decided to wire it, the bottom batten should be of double thickness.

4. The usual gauge of the battens is 13¾ in. from centre to centre, but this gauge should be checked when the tiles are delivered and before the exact spacing of the battens is decided. It is an advantage if the tiler who fixes the tiles also fixes the battens. The size of the battens can be 1¼ in. by ¾ in., or 1 in. by ¾ in., with the rafters spaced at 14-in. centres.

5. Marseilles tiles have been effectively used at all pitches from 30 deg. to 50 deg.

6. In the north of England the tiles are generally secured with 18-gauge copper wire, the cost of which does not, as a rule, exceed 4s. 6d. per square. The best method of wiring is to pass the wire round the batten and give the wire a twist on top of the batten. Then pass the wire upwards through the hole in the back of the tile and give the wire another twist. If the wire is first placed through the hole, and then round the batten and fastened, the wire may become "slack." In the south of England the tiles are very seldom wired, and the roofs appear to be quite satisfactory. Some firms in the south recommend bedding the tiles every third or fifth course, or torching the heads every third or fifth course. This method appears to give good results.

7. The tiles should not be tightly jammed up to one another, but put down normally. It is easier to fix the tiles if there is plenty of "play."

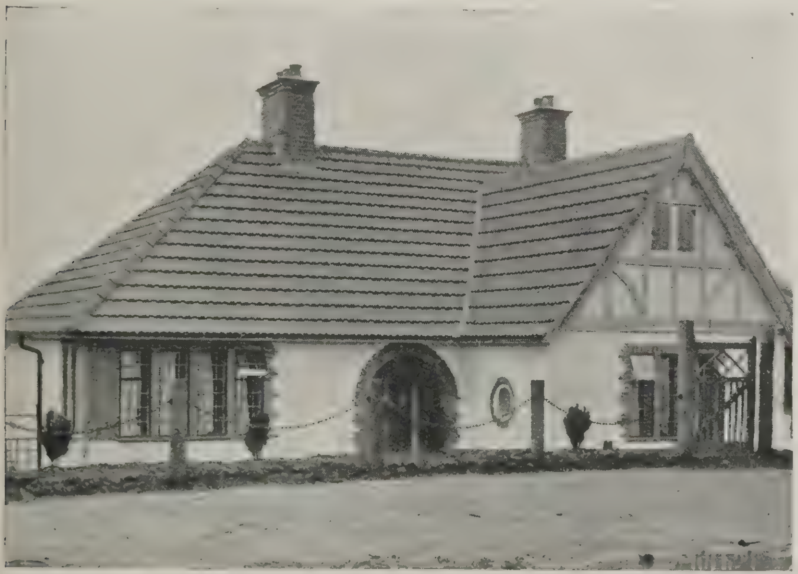
8. Ridge-hip tiles are supplied to match the tiles, and should be cut so that they practically meet on top of the beam which forms the hip.

9. Valleys can be of lead or zinc, and tilting fillets should not be used, but a slate undercloak about 5 in. wide may be securely nailed up each side of the valley with a projection of 2½ in. over it. The Marseilles tiles should then be cut up the valley in a line with the slate, and securely bedded and pointed between it and the tile.

10. Broken and damaged tiles can nearly always be used for cutting to the verges, hips, and valleys.

11. For verges a half-tile is required at each alternate row, and these can be cut from damaged tiles.

The accompanying illustration of a bungalow at Golders Green—designed by Herbert A. Welch, A.R.I.B.A.—shows the effect which is obtainable with Marseilles tiles as a roof covering.



A BUNGALOW AT GOLDERS GREEN, ROOFED WITH MARSEILLES TILES.
HERBERT A. WELCH, A.R.I.B.A., ARCHITECT.

Trade and Craft

The Woman's Exhibition.

We are asked to state that the London Gas Companies' stand at the Woman's Exhibition was not only furnished by Messrs. Heal & Son, Ltd., but also erected by them.

The Relay Automatic System Adopted by the G.P.O.

The new Director of Telephones has converted the telephone exchange in the Lancashire town of Fleetwood to relay automatic working. This is the latest step in the direction of giving practical effect to the promised telephone reforms. Automatically operated exchanges have been on their trial in England during the last decade, and their pronounced success in eliminating operating errors and delays combined with the present urgent demand for a more rapid service has given a marked impetus to their general adoption.

Fleetwood's exchange is unique in that it is the first of its kind opened for public as distinct from private service. All modern telephone systems, whether manual or automatic, utilize small electro-magnetic "relays" to a very large extent for controlling the various electrical circuits, but the system installed at Fleetwood is remarkable for the fact that it performs the whole work of establishing and controlling subscribers' connections entirely by means of such "relays," without the intervention of mechanical switches or continuously rotating shafting employed in other automatic exchanges. The system has been aptly termed the Relay System; it might also be characterized as the silent and motionless system, for the moving parts are so light, and their travel so minute, that it is difficult to detect any movement when the apparatus is in operation.

Fleetwood exchange has an ultimate capacity for 920 subscribers. The whole of the service is automatic, the nearest operator being at Blackpool (a distance of eight miles); even trunk calls, which are negotiated via Blackpool, are set up automatically at Fleetwood.

The requirements of any telephone service are exacting and complex, and particularly is this true of a public exchange such as Fleetwood. The new automatic installation, however, experiences no difficulty in meeting the many and varied demands of the service with far greater precision and speed than could be attained by human agency. The operator's usual salutation "number please" is replaced by a humming tone which is audible on the line within a fraction of a second of a caller lifting the receiver. The Fleetwood caller accepts this as an invitation to deliver the number required, which is done by rotating the numbered dial in the approved fashion. The desired connection is established and a signal indicating the ringing of the distant subscriber's bell is distinctly audible the moment dialling is completed. Owing to the almost imperceptible movements the entire operation of establishing connection with the number dialled is effected almost instantaneously. The connection is severed with the same speed on the conclusion of conversation.

The Post Office has now thirteen automatic exchanges in use, and in due course others will be added.

New Inventions

Latest Patent Applications.

19651.—Bailey, T.—Method of fastening slates and tiles to roofs. July 19.

19775.—British Everite and Asbestilite Works, Ltd.—Roofing tiles or sheets. July 19.

19587.—British Fibrocement Works, Ltd.—Roofing sheets, tiles, etc. July 17.

19668.—Carter, G. H. S.—Perforated bricks or gratings for ventilating. July 18.

19954.—Gouyard, M.—Method of constructing reinforced - concrete arches. July 20.

19901.—Morris, G. R.—Composite building construction. July 20.

Specifications Published.

157139.—Truscon Steel Co.—Metal building construction.

182523.—Spring, F., Jun.—Walls constructed of hollow bricks.

182682.—Knapen, A.—Building-blocks.

FIG. 3.

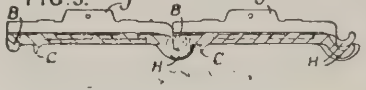
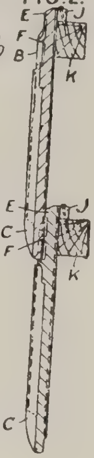


FIG. 2.



Abstract Published.

180862.—Roofing-tiles.—Wainer, G. W. and March, W., 2 Victoria Villas, Sneinton Dale, Nottingham.—A roofing-tile is provided on its upper face with two horizontal ribs, E, F and in continuation therewith are two side ribs B, C of greater height; the other side of the tile is formed with an over-lapping portion H to fit the rib B of the adjoining tile. The tile is retained in position by means of a lug J which engages the roofing-lath K.

The above particulars are specially prepared by Messrs. Rayner & Co., Registered Patent Agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

West Ham's Electricity Supply

The recently completed extensions at the West Ham Corporation Generating Station at Canning Town have been officially opened by the Mayor. After a tour of inspection of the station he set in motion the new 10,000 kilowatt turbo-alternator which has been installed. Subsequently votes of thanks were accorded to the Mayor and to Mr. Councillor J. T. Husband, the chairman of the West Ham Electricity and Tramways Committee, and the proceedings included the presentation of a gold watch to the Mayor from the contractors for the generating plant, and one of a dressing bag to Councillor Husband from the contractors for the boilers; while the workmen at the generating station presented the Mayor with a framed portrait of himself in his robes.

The Mayor, in the course of his reply, spoke of the difficulties the Corporation had had to contend with, and suggested that with the new 10,000 kilowatt turbo-alternator a practically continuous supply of electricity would now be assured. They hoped to install another 10,000 kilowatt alternator in the near future. One feature of the work of the West Ham Electricity Committee was that it had advertised the vacant building plots in the borough, and the result of that was that now the borough had an additional £50,000 a year coming in in rates.

Are Great Cities a Menace?

"England has demonstrated that the garden city is a practical scheme of benefit to the workers, of benefit to industry, of benefit to the community, of benefit to the nation." This conclusion is reached by Mr. Laurence Veiller, in a booklet entitled "Are Great Cities a Menace? : The Garden City a Way Out," published (price 25 cents.) by the National Housing Association of New York City. Mr. Veiller puts forward many reasons why a great city is a great evil, gives particulars and illustrations of the schemes at Welwyn and Letchworth, and states that the vital features of the garden city idea have just as much value for America as for England. Will America, he asks, heed this example, or will she be content to blunder on in the same old way?

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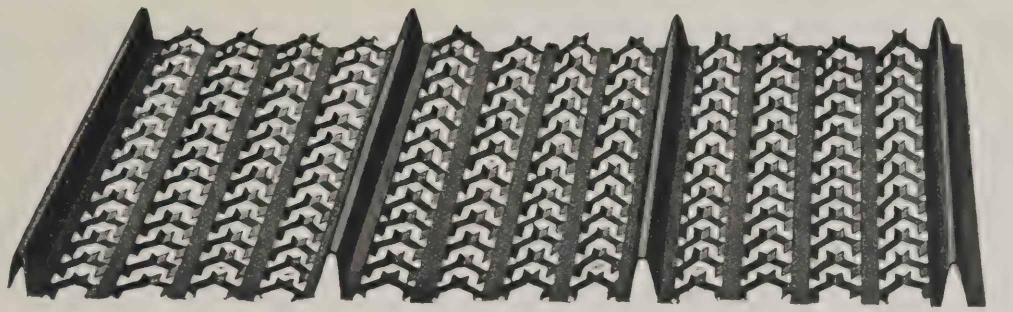

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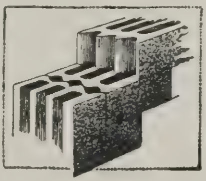

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BUILDING.

August 10.—**HOUSES. Langholm.**—Erection of four blocks of two houses each, for the T.C. Apply Mr. G. Irving Bell, Town Clerk, Langholm. Deposit £1 1s.

August 10.—**HOUSES. Llanharran.**—Erection of 26 "A" type houses and 24 "B" type houses on the housing site at Llanharran, for the Cowbridge Rural District Council. Apply Mr. E. Loveluck, A.R.I.B.A., 12 Dunraven Place, Bridgend.

August 10.—**ADAPTATION. Liskeard.**—Adaptation and repair of Trenant Farm, Menheniot, Liskeard, for the Cornwall County Council. Apply The County Land Agent, County Hall, Truro. Deposit £1 1s.

August 11.—**PUMP AND FILTER HOUSE. Trichinopoly.**—Erection of pump and filter house for the water supply of the Trichinopoly workshops scheme (constructional steelwork), for The South Indian Railway Co., Ltd. Specifications and forms of tender will be available at the Company's Offices, 91 Petty France, Westminster, S.W.1. Tenders addressed to the chairman and directors of the South Indian Railway Co., Ltd., must be left with A. Muirhead, Managing Director, 91 Petty France, S.W.1. Copies of the drawings may be obtained at the offices of Messrs. Robert White and Partners, Consulting Engineers to the Company, 3 Victoria Street, Westminster, S.W.1.

August 11.—**HOUSES. Chopwell.**—Erection of about 70 houses at Chopwell. Apply Surveyor at the Council Offices, Blaydon.

August 12.—**CINEMA THEATRE. Huddersfield.**—Conversion of offices and warehouse in Northumberland Street, Huddersfield, into a cinema theatre for Messrs. Freedman's Pictures, Ltd. Apply Messrs. Stock, Sykes and Hickson, Architects, 1 St. Peter's Street, Huddersfield.

August 12.—**HOMES. Coxhoe.**—Erection of six aged-miners' homes, for the East Hetton Lodge, Durham Miners' Association. Apply Mr. Dixon, Master Mason, Kelloe Pit, Coxhoe.

August 12.—**ALTERATIONS. Aberystwith.**—Alterations to the Students' Union at the University College of Wales, Aberystwith. Apply Mr. G. T. Bassett, A.R.I.B.A., and Mr. H. McGregor Wood, A.R.I.B.A., Architect, 13 North Parade, Aberystwith.

August 14.—**DWELLINGS. Yeovil.**—Erection of 20 working-class dwellings. Apply Mr. H. C. C. Batten, Town Clerk, Yeovil.

August 14.—**THEATRE. Belfast.**—Erection of new picture theatre at Castle Lane, Belfast, for Classic Cinemas, Ltd. Apply Mr. A. Ferguson, F.S.I., Building Surveyor, 2 Wellington Place, Belfast. Deposit £5 5s.

August 14.—**HOUSES. Kirkcaldy.**—Erection of 22 houses of 3 rooms at Glencraig site, Lochore, for the Kirkcaldy District Committee. Apply Messrs. W. Williamson, F.R.I.B.A., and G. B. Deas. Deposit £1 1s.

August 14.—**COMPLETION. Campden.**—Completion of one part of stone cottages at the Campden (Station Road) site, for the Campden Rural District Council. Apply Mr. W. L. Lissaman, M.S.A., Broadway.

August 14.—**WAR MEMORIAL. Scarborough.**—Construction of an obelisk, 75 ft. high, stone faced with brick core, on Oliver's Mount, Scarborough, for the Scarborough War Memorial Committee. Apply Mr. H. W. Smith, A.M.I.C.E., Borough Engineer, Town Hall, Scarborough. Deposit £1 1s.

August 14.—**HOUSES. Sheffield.**—Erection of 57 additional houses (4th instalment) on the Stubbin Estate, Firth Park, for the Estate Committee. Apply Mr. F. E.P. Edwards, City Architect, Town Hall, Sheffield. Deposit £2.

August 14.—**INN. Treodyrhiwfuwch.**—Erection of the Rising Sun Inn, Troedyrhiwfuwch, Tirphil, for Messrs. Crosswells Cardiff Brewery, Ltd. Apply Mr. J. T. Jenkins, M.S.A., Architect and Surveyor, Porth, Rhondda. Deposit £2 2s.

August 14.—**STAND. Weymouth.**—Building a spectators' stand at the recreation ground for the Weymouth Football Club. Apply Mr. A. J. Bennett, C.E., Architect and Surveyor, Gloucester Street, Weymouth.

August 15.—**HOUSES. Nottingham.**—Erection of 54 houses and bungalows on the Sherwood site, in groups varying from two to twelve in number, for the Housing Committee. Apply Mr. W. A. Kneller, Architect, 3 Victoria Street, Nottingham. Deposit £2 2s.

August 15.—**REPAIRS. Welsh Area.**—War Dept. Contracts for repairs and materials. Artificers' works contracts from September 1, 1922, for following stations and division in R.E. district. Contract 1, Rhyl Hutments; 2, Wrexham; 3, Shrewsbury; 4, Brecon; 5, Newport (Mon.); 6, Cardiff; 7, Barry; 8, Pembroke Dock. Apply Commanding Royal Engineer, R.E. Office, 3 Belmont, Shrewsbury.

August 16.—**CHAPEL. Harrogate.**—Demolition of the former St. Mary's Church, Harrogate, and the erection and completion of a chapel in the college grounds, Clarence Drive. Apply Mr. Hutchinson, Head Gardener, The College, Harrogate. Deposit £1 1s.

August 17.—**ALTERATIONS, &c. Holywell.**—Alterations and addition to the Vicarage, Holywell. Apply Mr. Gronwy R. Griffith, Architect, 2 Post Office Lane, Denbigh.

August 17.—**OFFICES, &c. Leeds.**—Erection of offices and stores in Bridge Street, Leeds, for the Sewerage Committee. Apply Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

August 18.—**EXTENSION. Kidwelly.**—Extension to the vestry of "Sardis" Congregational Chapel, Trimsaran, near Kidwelly. Apply the Secretary, Mr. D.Thomas, 19 New Houses, Trimsaran, or Messrs. George and Price, P.A.S.I., M.S.A., &c., Architects, Aberavon and Cross Hands, near Llanelly.

August 18.—**HOUSES. Birkenhead.**—Erection of 54 "A" type houses in connection with the Hoylake Road (3rd portion) revised scheme, for the Corporation. Apply Mr. T. T. Rees, F.R.I.B.A., F.S.I. (Housing Architect to the Corporation at 64 Rodney Street, Liverpool). Deposit £2 2s.

August 19.—**LODGE. Chesterfield.**—Erection of a lodge at the Walton Sanatorium, Chesterfield, for the Derbyshire County Council. Apply Mr. G. C. Copestick, New County Offices, Derby. Deposit £1 1s.

August 19.—**OFFICES. Wokingham.**—Erection of two additional offices to their boardroom buildings, for the Board of Guardians. Apply Mr. P. H. Phipps, Clerk, Union Offices, Board Room, Barkham Road, Wokingham. Deposit £1 1s.

August 24.—**HOUSES. Rosyth.**—Carpenter and joiner, glazier, slater, and roughcast, of 15 shops, with eight houses over same, at Rosyth, with addition of 40 houses, also at Rosyth. Apply Mr. A. H. Mottram, A.R.I.B.A., Scottish National Housing Co., Ltd., Parkgate, Rosyth, Dunfermline.

August 30.—**HOUSES. Mansfield.**—Erection of 24 houses, type A, in connection with the housing scheme No. 2, Bull Farm site, for the Town Council. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield.

August 30.—**WALL. Oughtershaw.**—Taking down and rebuilding a retaining wall at Hazelgill, near Oughtershaw, for the Skipton Rural District Council. Apply Mr. A. Rodwell, Surveyor, Skipton.

August 31.—**REPAIRS, &c. Pontllanfraith, Mon.**—Carrying out of certain repairs and painting to their council office and caretaker's house, Pontllanfraith, Mon., for the Mynyddislwyn Urban District Council. Apply Council Offices, Pontllanfraith, Mon. Deposit £1 1s.

September 19.—**HOUSES. Gosforth.**—Erection of 20 semi-detached houses on road No. 6 of the Corlodge Housing site for the U.D.C. Apply Mr. George Nelson, A.M.I.C.E., Engineer and Surveyor, to the Council, Council Chambers, High Street.

No Date.—**BUNGALOW. Ben Rhydding.**—Erection of a bungalow at The Drive, Ben Rhydding. Apply Mr. W. H. Herbert Marten, L.R.I.B.A., 50 Cookridge Street, Leeds.

No Date.—**BARN. Coverdale.**—Erection of a barn in Coverdale. Apply Mr. A. W. Chaytor, Scrafton Lodge, Middleham.

No Date.—**STORES. Farnsfield.**—Reconstruction of small branch stores at Farnsfield, for the Southwell Co-operative Society, Ltd. Apply Messrs. W. V. Betts and Son, Architects, 630 Radford Road, Old Basford, Nottingham.

No Date.—**BUNGALOW. Hawksworth.**—Erection of a bungalow at Hawksworth. Apply Messrs. Spencer and Sharp, Architects and Surveyors, Old Bank Chambers, Great Horton.

No Date.—**CHURCH. Rycroft, Rawmarsh.**—Erection of the first portion of new church at Rycroft, near Rawmarsh. Apply Mr. W. H. Wood, F.R.I.B.A., Architect, 20 Collingwood Street, Newcastle-on-Tyne. Deposit 10s.

ELECTRICAL.

August 14.—**CABLE, &c. Warrington.**—Supply of the following, for the Electricity and Tramways Committee: (a) High and low tension paper and lead-covered cable; (b) earthenware conduits. Apply Mr. F. V. L. Mathias, Borough Electrical and Tramways Engineer, Howley, Warrington. Deposit £1 1s.

August 15.—**PLANT. Oxford.**—Supply, delivery, erection of:—Contract No. 10, section A, one 1,000-kw. turbo-alternator, complete with condensing plant; B, one 500-kw. conversion plant, from 3,000 volts, 3-phase, to 1,100 volts d.c., complete with switchgear, for the Oxford Electric Co., Ltd. Apply Mr. F. H. Francis, M.I.E.E., Chief Engineer, Russell Street, Osney, Oxford. Deposit £2 2s.

August 16.—**TELEPHONES. Rochdale.**—Installing a system of automatic telephones at their Institution, Dearnley, near Rochdale, for the Guardians of Rochdale Union. Apply at the Institution.

August 31.—**TURBO-ALTERNATOR, &c. Wimbledon.**—Supply, delivery, and erection at their electricity works, Durnsford Road, Wimbledon, of a 3,000-kw. turbo-alternator, condensing plant and auxiliaries, for the Town Council. Apply Mr. A. E. McKenzie, M.I.E.E., Borough Electrical Engineer, Electricity Works, Durnsford Road, Wimbledon, S.W.19. Deposit £2 2s.

September 5.—**CRANES. Edinburgh.**—Conversion of two overhead cranes from mechanical to electrical operation, for the Corporation. Apply Tramways Manager, 2 St James Square, Edinburgh.

September 27.—**TELEPHONE APPARATUS AND PARTS. Brisbane.**—For supply and delivery of telephone apparatus and parts, schedule No. 561, for Deputy Postmaster-General at Brisbane. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

ENGINEERING

August 11.—**STEELWORK. London, S.W.**—Supply of pump and filter-house for the water supply of the Trichinopoly workshops scheme (constructural steelwork), for the South Indian Railway Co., Ltd. Apply Company's Offices, 91 Petty France, Westminster, S.W.1.

August 11.—**BOREHOLE. Newmarket.**—Sinking a borehole and test pumping for obtaining a supply of water for the parishes of Dullingham, Westley, Brinkley, and Borough Green, for the Newmarket Rural District Council. Apply the Engineers, Messrs. Sands and Walker, Milton Chambers, Nottingham.

August 12.—**BOILER. Manchester.**—Supply and fixing of a heating boiler at the Deansgate Library, for the Libraries Committee. Apply City Architect, Town Hall. Deposit 10s. 6d.

August 15.—**LAUNDRY MACHINERY. London, E.**—Supply and fixing of the following belt-driven machines in the hopital laundry, Bow, for the managers of the Poplar and Stepney Sick Asylum District, viz.: 1 ironing, drying, and finishing machine complete; 1 washing machine, 36 in. by 72 in.; 1 30 in. hydro extractor underdriven. Apply Mr. S. G. Wright, Clerk, Clerk's Office, St. Andrew's Hospital, Devon's Road, Bow, E.3.

August 15.—**CENTRIFUGAL PUMP. London, S.W.**—Supply and installation of a centrifugal sewage pump and motor at the main sewage pumping station in Toronto to deliver 40 million imperial gallons per day of 24 hours. Apply Mr. Dempster, of the Engineering Section, Room 50, 35 Old Queen Street, London, S.W.

☛August 16.—**PIPING. Buenos Aires.**—8,000 tons of cast-iron piping. Apply Department of Overseas Trade, 35 Old Queen Street, S.W.

August 17.—**ENGINES, &c. Matlock.**—Supply and erection of two gas engines (of about 25 b.h.p.) gas producing plant, electric generators and motors and pumping plant, &c., for the Matlock Urban Distric Council. Apply Messrs. J. Diggle and Son, Civil Engineers, 14 Brown Street, Manchester. Deposit £5.

August 22.—**RESERVOIRS. Bampton, Devon.**—Construction of two covered concrete reservoirs—one with a capacity of 40,000 gals. and one of 60,000 gals. engine house with oil engine and pump; and the laying of about 300 lineal yards of 3 in. suction and rising mai and about 900 lineal yards of 3 in. and 4 in. distributin mains, and other works, for the Bampton Urban Distric Council. Apply Mr. H. Monson, A.M.I.C.E., Surveyor Bampton, Devon.

August 25.—**STEEL CASTINGS. Johannesburg**—Supply at Zwartkopjes pumping station, Selborn Siding No. 114, of 38 steel castings, 456 phosphor-bronz valves, and other materials for the inverted vertica marine-type pumping engines of that station. (Contrac 229). Apply Department of Overseas Trade (Room 50a) 35 Old Queen Street, S.W.1.

August 31.—**PLANT, &c. Grimsby.**—Installatio of new centralized heating and hot-water supply plant fuel economizer, water-softening plant, and additions t cooking apparatus at the Scartho Road Institution Grimsby, for the Guardians. Apply Mr. J. F. Wintring ham, Clerk, St. Mary's Chambers, Great Grimsby Deposit £2 2s.

September 1.—**BRIDGE SUPER-STRUCTURE, &c Sydney, N.S.W.**—Construction of the superstructur and substructure of a cantilever bridge across Sydne Harbour from Dawes Point to Milson's Point, for Govt of N.S.W. Application to the Agent-General. Mr. J. J C. Bradfield, Chief Engineer, will be in London durin June and July, 1922, address care of the Agent-Genera for New South Wales, Australia House, Strand, London W.C.2.

September 1.—**RATE OF FLOW CONTROLLER Victoria.**—Supply and delivery of a rate of flow controller for the Victoria Water Supply. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street Westminster, S.W.1.

September 2.—**DECK JOISTS. Bournemouth.**—New deck joists, decking, &c., required on the Bournemouth Pier, for the Town Council. Apply Mr. F. P Dolamore, Town Hall, Bournemouth. Deposit £1 1s.

(*Continued on page* xx.)

CARRON —— HIGH-CLASS COOKING APPARATUS

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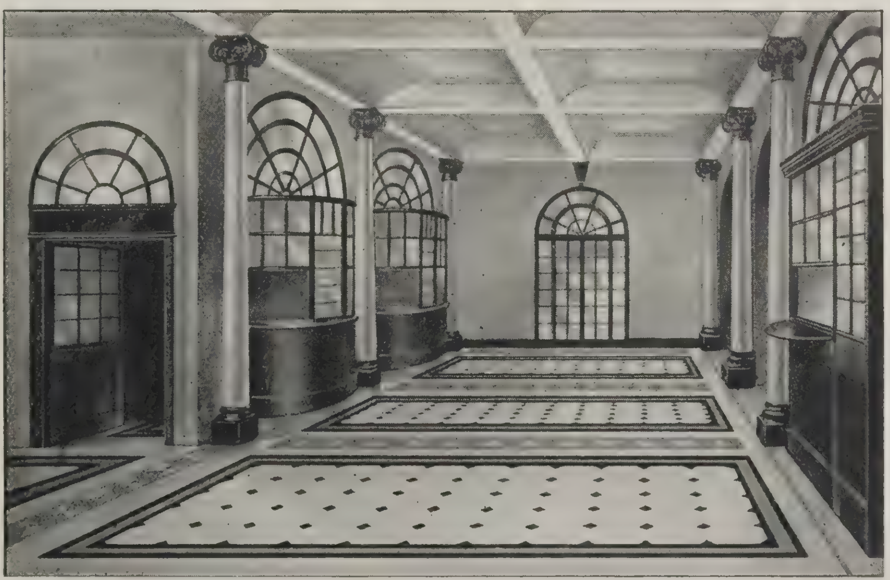

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BRANCHES: London, Birmingham, Manchester, Dublin, Cardiff, Glasgow, Edinburgh, Calcutta, Johannesburg, and Buenos Aires.

September 13.—**MACHINERY. Surbiton.**—Supply and erection at their Surbiton pumping station, Surrey, of one steam turbine with centrifugal pumps having a maximum capacity of 20 million gallons per 24 hours, for the Metropolitan Water Board. Apply Offices of the Board (Room 182), Chief Engineer's Department, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £3 3s.

September 13.—**MACHINERY. Eynsford, Kent.**—Supply and erection of two Diesel or high compression solid injection oil engines, with well and surface pumps, &c., at their Eynsford Works, Kent, for the Metropolitan Water Board. Apply Offices of the Board (Room 182), Chief Engineer's Department, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £3 3s.

September 15.—**WHARF. Guayaquil.**—Construction of a Custom-house wharf at Guayaquil, for the Government of Ecuador. Apply Consul-General of Ecuador, 23 College Hill, Cannon Street, E.C.

September 18.—**BEACON. Edinburgh.**—Construction of a concrete beacon on a tidal rock which lies off the northern end of South Rona, for the Commissioners of Northern Lighthouses. Apply Mr. D. A. Stevenson, 84 George Street, Edinburgh. Deposit £1.

September 20.—**ENGINES, &c. Richmond.**—Contract No. 1, supply, erecting, and setting to work at the Water Lane pumping station of two steam pumping engines; No. 2, supply of one electrically driven centrifugal booster pump for the high-level district supply, for the Town Council. Apply Mr. H. W. Apted, A.M.I.C.E., Water Engineer, Waterworks, Richmond (Surrey). Deposit £1 1s.

October 1.—**BRIDGE SUPERSTRUCTURES. Bangkok.**—Supply of superstructures of steel railway bridges, B.E.2465, for the Siam State Railways. Apply Messrs. C. P. Sandberg, 40 Grosvenor Gardens, London, S.W.1.

October 14.—**FURNACE. Johannesburg.**—Supply and erection of a pig singeing furnace at the abattoirs, for Municipal Council of Johannesburg. Apply Room 91 Municipal Offices, Johannesburg. Deposit £1 1s.

October 18.—**PLANT. London, W.C.**—Supply and erection in South Africa of plant in connection with the electrification of the Glencoe-Pietermaritzburg section of the South African Railways, as follows:—Tender D. 1417, coal-handling plant for power station. Tender D. 1418, ash-handling plant for power station. Tender D. 1430, circulating water screening plant for power station. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C.2., and Messrs. Merz and McLellan, 32 Victoria Street, London, S.W.1. Deposit £5.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

No Date.—**BOILER. Drogheda.**—New or short-time-used Lancashire boiler, 16 ft. by 6 ft. dia., capable of working at 100 lb., for the Drogheda Gas Department. Complete with best pattern injector, gauges, and all necessary fittings, and fitted with Meldrum or other furnace suitable for using cheap quality fuels. Apply Mr. P. J. Fitzpatrick, Manager and Secretary.

No Date.—**WALL. Matlock Bath.**—Rebuilding of the deep retaining wall near Masson Mills, for the U.D.C. Apply Surveyor's Dept., Council Chambers, Matlock Bath.

No Date.—**WATER SUPPLY. Alnwick.**—Execution of the Lowick water supply scheme, for the Glendale Rural District Council. Apply Messrs. G. Reavell, F.R.I.B.A., and W. A. Tebbs, L.R.I.B.A., Architects and Surveyors, Alnwick.

PAINTING.

August 12.—**PAINTING, &c. Oswestry.**—Painting, distempering and limewashing at the Powis Hall, for the Oswestry Town Council. Apply Mr. G. W. Lacey, C.E., Borough Surveyor, Guildhall, Oswestry.

August 14.—**PAINTING. Whittlesea.**—Painting the whole of the outside wood and iron work of their Workhouse and premises, for the Guardians. Apply Mr. J. W. Bowker, Clerk, Whittlesea. Deposit £1 1s.

August 17.—**PAINTING. Essex.**—Carrying out certain painting and redecorating work at their Children's Homes at Stifford, near Grays, Essex, for the Board of Guardians. Apply Mr. A. J. Smith, Clerk, Guardian's Offices, Barnes Street, Commercial Road East, E.14. Deposit £2 2s.

August 21.—**PAINTING. Shoeburyness.**—Painting two gasholders and water tank at their works, Shoeburyness, for the Shoeburyness Urban District Council. Apply Mr. A. W. Goodchild, the Waterworks, Shoeburyness.

No Date.—**PAINTING. Sleaford.**—Exterior painting, including residences, of (1) Alvey's School, Eastgate; (2) Westgate Infant School; also for certain interior painting and redecoration at the latter school. Apply Mr. N. E. Snow, Clerk to the Managers.

No Date.—**REPAINTING. Falkirk.**—Repainting of greenhouses and entrance gate at Falkirk Cemetery, Camelon, for the Parish Council. Apply Mr. J. Geddes, Clerk, Parish Council Chambers, Falkirk.

No Date.—**PAINTING. Horbury, Yorks.**—Painting of the whole of the trust property, for the Trustees of the Horbury Common Lands. Apply Mr. E. L. Quarmby, Secretary, Town Hall, Horbury.

No Date.—**PAINTING. Leicester.**—Painting and decorating of the exterior of the Melton Mowbray Isolation Hospital, for the Leicestershire Isolation Hospitals Committee. Apply Mr. J. Baylis, Clerk, 6 St. Martin's, Leicester.

ROADS AND SEWERS.

August 14.—**SEWER. Hayes.**—For the Constr
tion of about 400 yards of 9 in. sewer in the Uxbri
Road, in the urban district of Hayes, for the Ha
Urban District Council. Apply Mr. D. C. Fidler,
gineer and Surveyor, Council Offices, Hayes, Middles

August 14.—**ROADS AND SEWERS. Letchwor**
—Private Street works, for the Letchworth Urban
trict Council. Apply Mr. G. T. Hill, Council Offi
Letchworth. Deposit £2 2s.

August 14.—**MAKING-UP. Southend-on-Sea**
Making-up new boulevard, Prittlewell Chase (Eastw
Lane to Southbourne Grove), for the Corporati
Apply Mr. R. H. Dyer, Borough Engineer and Survey
Deposit £2 2s.

August 16.—**MAKING-UP. Bournemouth**
Making-up Heathwood, Talbot Hill, Wood View, P
(second portion), Naseby (first portion), and Gr
(second portion) Roads, for the Town Council. Ap
Mr. F. P. Dolamore, F.S.I., Borough Engineer and S
veyor, Town Hall, Bournemouth. Deposit £1 1s.

August 21.—**SEWER WORKS. Hornchur**
Romford.—Construction of about 1,800 ft. of 3 ft.
meter sewer, and other works, on a site adjoining Ra
ham Creek, in the parish of Hornchurch, for the Romf
Rural District Council. Apply Mr. W. Fairlei
M.I.C.E., Parliament Mansions, Westminster, S.W
Deposit £5.

August 21.—**SEWERAGE. Darlaston.**—Constr
tion of stoneware pipe sewers, manholes, cast-iron pi
screening, and detritus chamber, storm-water ta
sewage tanks, filters, sludge-drying area, drains
ejector chambers, together with other works, for
Darlaston Urban District Council. Apply Mes
Dodd, Dodd and Watson, MM.I.C.E., County Chamb
Corporation Street, Birmingham. Deposit £5.

TENDERS.

Longfield, Kent. For the erection of a bungalow
S. H. Carr. Frank Nash, M.S.A., Architect.

		£	s.
Messrs. West Bros., Ltd., Strood, Kent	..	1,184	0
Mr. A. W. Taylor, Orpington, Kent	..	875	0

Paignton. For the erection of house in Orient Ro
Preston, Paignton, for Mrs. Gates. Messrs. Colbo
and Gates, Architects, Gerston Chambers, Paignt
Quantities by Mr. G. S. Harris, 36 Hyde Road, Paign
and Fleet Chambers, Torquay.

			£	s.
W. Jury	Paignton	..	1,130	0
R. Harris and Sons	,, ..	..	1,009	0
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Waterproofing of Concrete

The writer's interest in integral waterproofing was first aroused through the necessity of waterproofing a large number of structures of various types in connection with which it was necessary to obtain first-class results.

At that time his feeling on the subject of integral waterproofing was sceptical, and his first use of integral waterproofing material was dictated by curiosity. The results obtained, however, and subsequent experience, have confirmed the correctness of the opinion that was at once formed—namely, that integral waterproofing is a useful and trustworthy process yielding satisfactory results.

In the first place, the widely prevalent opinion that there is a direct conflict between the integral and membrane methods, and that the choice of one instead of the other is simply a matter of personal preference, does not seem to be substantiated by full consideration of the facts involved.

Thin concrete sections subject to wide temperature variations, vibrations, or impact, will inevitably crack, and the waterproofing problem is not one of correcting absorption or permeability, but of waterproofing cracks. Obviously, the only way to effect this result is to protect the cracks with a membrane or elastic coating enough to span and waterproof these cracks when they are open. On the other hand, occasion arises, such as in deep foundations and wet excavation, where a waterproofing is required, yet where constant presence of water or conditions of excavation preclude the use of a membrane, because a membrane cannot be applied to a wet or an unprepared surface. As in such cases as these there would be no temperature variation and mass concrete would probably be used, it would be obviously desirable to use integral waterproofing. Furthermore, it is being recognized more and more every day that concrete is not permanent unless waterproofed, any more than steel or wood is durable without a protective coating. And, again, cases arise where surface coatings are not practicable, and where integral waterproofing could be advantageously used.

After careful and prolonged study, the writer is convinced that the theories on which some at least of the integral waterproofing materials are produced are technically correct.

In any effort to render concrete or mortar intrinsically waterproof two factors must be borne in mind. These are, that water enters in two ways, by absorption through minute pores, and by percolation through pores of appreciable size. This difference of action can easily be shown by trying to force water through a neat Portland cement sample and a 1 : 2 : 4 (say) concrete sample. In the first case no water could be forced through, while in the second probably considerable would go through. On the contrary, if both are immersed in quiescent water, the neat cement sample will absorb much more than the concrete one.

Taking cognizance of these facts, waterproofing materials seem to have been produced mainly on two theories which appear diametrically opposed at first sight, but on closer examination are not so divergent as at first they seemed. These theories are represented respectively by (1) Water-repellent materials; (2) Water-absorbent and lubricating materials. The first is designed to kill absorption, the second to correct porosity.

As far as mortars and stucco are concerned, the first theory seems entirely rational, because, as the mortar consists of finely particled materials applied under pressure, there are no real voids, or there should be none, and water enters chiefly by absorption.

As regards concrete there is, however, room for difference of opinion. The water-repellent theory assumes that if the mortar is rendered non-absorptive the concrete is waterproof because the coarse aggregate does not absorb. The lubricating and water-absorbent theory, going more boldly at the subject, assumes that as the mortar is but a small part of the volume absorption is a minor factor, and that the elimination of the permeability through the elimination of porosity is the end to be accomplished. Porosity is largely due to field manipulation; that is, too much water, too little tamping; to vertical chuting; insufficient mixing; segregation of material and insufficient absorption of water by the cement. If the lubricating element can be introduced, the liability to defects from superfluous water, insufficient tamping, and vertical chuting, is certainly lessened, to say the least; while if absorption of the water by the cement can be increased, and this accompanied by a slight swelling action, the liability to porosity from the evaporation of unabsorbed water is lessened.

The sceptic will, perhaps, say that this is all very well in theory, but why can it not be proved. By which he means, apparently, proved by laboratory experiment. The writer submits, with all due respect, that this may be due to defective experiments, and not to defective materials. It is possible to test in a laboratory the absorption-killing effects on mortars, but nullification of field errors cannot be tested until laboratory experiments can reproduce the field errors. It is difficult to see, too, on what basis of reasoning the result of a laboratory experiment can be considered more convincing than results obtained in actual field operations. Most certainly the actual results obtained in field operations have convinced a very large number of practical users of the value of integral compounds when properly used.

As regards laboratory tests, however, no really authentic and comprehensive tests have ever been made as far as the writer's knowledge goes, nor would the results of laboratory tests alter the fact that some thousands of successful works have been dealt with. And, further, most of these reported tests do not include concrete, but have been made exclusively with mortars. In no other factor pertaining to good concrete would it be considered valid to reason from mortar to concrete in view of to-day's knowledge, and certainly it is not valid to do so in regard to waterproofing.

In the writer's opinion this whole subject has been and is obscured by lack of comprehensive ascertainment of the facts, and that if this obscuration can be cleared away, much of the antagonism to integral waterproofing would also disappear. It can no longer be disputed that the entrance of water is destructive to concrete and its permanence, and means must be produced to exclude it, and that the means suitable for one condition may not be applicable for another.

I am hoping that this article will start a movement for ascertaining what is the best concrete possible for every condition that may arise, and certainly this end is not furthered by banging the door in the face of effort to obtain that result, along whatever line it may be expected.

CECIL T. LEWIS, M.C.I.

Birmingham Civic Society Annual Report

The new Advisory Art Committee for Birmingham is full of great possibilities, and given the goodwill of all concerned should mark the beginning of a new era in the artistic expression of that city. According to the last annual report just issued of the Birmingham Civic Society the setting up of a committee to which civic matters involving artistic judgment can be referred for experienced and impartial consideration was one of the first proposals put forward by the Society in 1918. As a result of persistent advocacy by the Society, and the generous attitude of important members of the City Council and their advisers, this proposal has now advanced to the stage of trial, and the Society are at present engaged in drawing up a working basis for carrying the proposal into effect. Birmingham is the first city in Great Britain to undertake an important reform of this character.

As reported in a recent issue of the JOURNAL, the gold medal of the Society for 1921–22 was awarded to Mr. Barry V. Jackson in recognition of the high civic importance and the artistic distinction of his work at the Repertory Theatre.

The original booklet of the Society dealing with the Lickey Hills was primarily intended to suggest the provision of certain desirable accommodation to an agreed plan. It has been found, however, that it was largely purchased as an interesting and useful guide to the Hills, and the Society therefore decided to remodel the booklet and to publish a further edition of 500 copies as a guide only. This edition having been exhausted in nine months, a third edition is now in the press. The welcome given to the Lickey Guide led to the consideration of a Guide to Sutton Park, a nature reserve more than five times the area of the Lickeys, and much frequented by Birmingham people. This guide has therefore been produced and has been on sale since the beginning of April.

As a direct outcome of the scheme for replanning the junction of Pebble Mill Road and Pershore Road it is probable that the Calthorpe Estate will present to the city the land required for the re-arrangement of Pebble Mill Road and Pershore Road Junction, as a direct outcome of the scheme for revision prepared by the Society. Under these circumstances it is proposed to allocate £1,000 of the fund for purchase of open spaces towards the cost of the lay-out advocated by the Society, who have every reason to be gratified with the success of this project. Copies of the report, which is full of useful information, may be obtained, price 1s. 6d. net, from 37 Bennetts Hill, Birmingham.

Trade and Craft

Automatic Extinction of Fires.

At the Holborn Cinema, Messrs. Mather and Platt recently exhibited, to specially invited members of the London insurance fraternity, architects, and press a film dealing with the extinguishment of fires, by means of "Grinnell" automatic sprinklers. Almost every insurance company having offices in London was represented, as also were nearly all the leading insurance brokers and architects.

The chief film, entitled "The Menace," was produced in the United States and was accompanied by an explanatory lecture. The film was produced to give unanswerable testimony to the superiority of automatic sprinkler protection and to show that a sprinkler installation is tantamount to a fireman "always on the spot," ready to extinguish any fire in its insipiency and before it has time to grow to dangerous dimensions. It is claimed that through the reduction of fire insurance premiums granted for the adoption of a sprinkler installation, an installation pays for itself in a very short period, so that it eventually costs nothing, and that it is a first-class investment.

The film was accompanied by lantern slides showing cases of actual destruction of property by fire, in the absence of sprinkler protection, and was finally followed up by a second film entitled "Who Pays?" showing the fire which occurred in January last at the Goods Station of the North British Railway Company in Glasgow.

Further exhibitions of this film will be given in the autumn, and any of our readers interested in the subject can obtain an invitation by application to Messrs. Mather & Platt, Ltd., 14 Great Smith Street, Westminster, S.W.1.

Bush House, Aldwych.

Messrs. Doulton & Co., Ltd., of Lambeth, have received the order from Messrs. Helmle & Corbett, of London and New York, architects, for the sanitary fittings for Bush House, Aldwych, London. An interesting departure is being made from the usual practice in that no w.c. cisterns are being used—all the w.c.'s being flushed by Doulton's new patented "London" flushing valve. This water-waste preventing valve is approved by the Metropolitan Water Board.

Surveying Instruments.

Messrs. T. Cooke and Sons, Ltd., of 3 Broadway, Westminster, S.W.1, have sent us a copy of their revised price list (home edition) of surveying instruments, etc. The new price list cancels all previous lists of surveying instruments, and is intended to be used with the company's general catalogue No. 526, and their loose sheets describing other manufactures not included in it. The new catalogue of astronomical instruments is not quite ready, but full particulars and prices of any type or size of instrument will be sent on application.

Eastwoods, Ltd.

The second annual general meeting of the shareholders of Eastwoods, Ltd., has been held in London under the presidency of Dr. T. Cato Worsfold, M.A., J.P., M.P., chairman of the company. Before giving a résumé of the year's work the chairman conveyed to the meeting the great regret of the vice-chairman, Mr. Horace Boot, in not being able to attend owing to his undergoing a serious operation, which, fortunately, has had a most successful result. In the course of his address the chairman dealt with the report of the directors for the past year, which showed, after providing adequately for depreciation, and writing off £5,000 from preliminary expenses, a profit of £25,294 15s. 5d. The directors recommended a dividend of six per cent. for the year, less income tax, leaving a balance of £27,401 15s. to be carried forward to the next account. One of the most satisfactory features of the accounts, said Dr. Cato Worsfold, was that nothing had to be provided for any loan or debenture, and that there was nothing on the credit side for goodwill, which was a very considerable factor with the company. Under all the circumstances he thought that the year's working was one for congratulation. Notwithstanding many difficulties the company during the past year made 51,500,000 bricks and disposed of over 58,000,000. As to the future, it looked as though the company were in for a good time. One was justified in assuming a considerable improvement, if not a boom, in the building trade, in which the company was bound to participate to a very large extent. The report was put to the meeting and carried unanimously, and Dr. Cato Worsfold and Colonel Sir Henry Goold-Adams were re-elected to the Board.

Publications Received

"Building Supervision." By George W. Grey, P.A.S.I., Licentiate R.I.B.A., Member of the Concrete Institute. Second Edition. Price 3s. 6d. net. E. and F. N. Spon, Ltd., 57 Haymarket, S.W.1.

"Steam Heating." By Frederick W. Dye, M.Inst.H. and V.E. Price 8s. 6d. net. E. and F. N. Spon, Ltd., 57 Haymarket, S.W.1.

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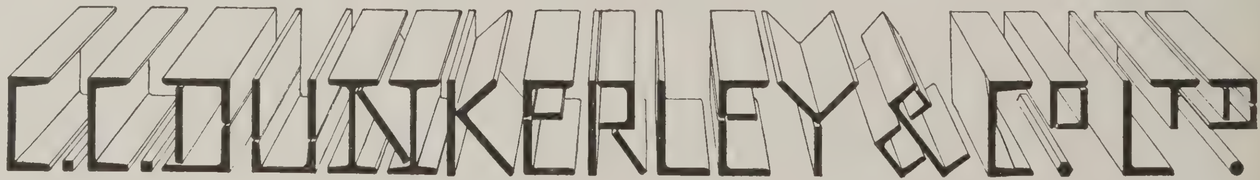
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Electrical Notes

Electrical Development in China.

There has been a striking increase, during the past year, in the imports of electrical materials and fittings into China. During last year, according to the report of the Maritime Customs, the imports reached a total value of 13.2 million taels, compared with 6.3 million taels in 1920, and 5 million taels in 1919. With regard to the decline in the sale of small lighting plants it is stated in an article in "The Board of Trade Journal," that this was expected owing to adverse trade conditions. This decline, it is pointed out, "may also be partly due to the installation of new, or the improvement of existing plants for public light services. Several contracts for large power and light plants for places in the interior were settled during the year, and an increasing tendency to install larger units of 1,000, 2,000, and 5,000 kilowatts is noticeable, while only a couple of years ago 200 and 400 kilowatts were considered sufficient to meet requirements. It is interesting to mention here, as an indication of the progress that is being made in the use of electricity, that current is now supplied during the day in several important centres instead of the plant being run during the night only, as has hitherto been the practice: Nanking, Soochow, and Hangchow are cases in point. As regards electrical accessories, fittings, and lamps, Japanese manufacturers have held the market for wires and cables, porcelain insulators, etc., Dutch manufacturers for lamps, and American manufacturers for the better-class fittings and glassware. Towards the end of the year German glassware fittings appeared on the market at prices which undersold the American product. Altogether this line of trade is in a flourishing condition, with good prospects ahead."

Big Electrical Scheme for Dublin.

Great progress is being made with the formulation of the scheme for harnessing the River Liffey to supply electrical energy to the City of Dublin. The scheme is estimated to cost about £1,000,000, and it is suggested that power stations should be built at Poulaphouca, Ballymore Eustace, Salmon Leap, and Connell Ford. To provide sufficient power to supply all the electricity it is proposed to build a dam, forming a lake of 3,000 million cubic ft. capacity about 200 yds. above the walls of the Poulapouca Valley, Co. Wicklow. Subsidiary stations are proposed at Lockstown on King's River and at Cloghleagh. It is thought that storage will be needed above Poulaphouca and above Leixlip, and that the latter would be necessary both for peak loads and for daily regulation owing to the fact that the water allowed to flow down from Poulaphouca would only reach Leixlip about twenty hours later. Ballymore Eustace would be capable of dealing with a peak load of about 20,000 h.p., and Leixlip with a peak load of 10,000 h.p. Representatives of the Free State Provisional Government, the Dublin Corporation, and Messrs. Buchi and Fey, of Zurich, consulting engineers, have made an inspection of the site.

Electric Light and Power Extensions.

Schemes for developing electric light or power supplies are being considered by the following local and other authorities:—Bathurst (New South Wales) Municipal Council, supply of electricity, £37,000; Colchester Electricity Supply Committee, new station at the Hythe; Formby Urban District Council, electricity for power and lighting; Homerton, installation of half-watt lamps at the Eastern Hospital, Homerton Grove, Homerton, E.9, for the Metropolitan Asylums Board; Leek Urban District Council, new generating set at the electricity works, £15,000; Manchester Corporation, sub-station plant, £100,000; Tooting, renewal of electric storage battery and repairs to the battery floor at the Grove Hospital, Tooting Grove, for the Metropolitan Asylums Board, £815; Walsall Corporation Electricity Committee, machines and tools for the fitting shop and asbestos mattresses and planished steel required for certain pipes and valves at the Birchills electricity station, £464; Wrexham Town Council, supply of electricity from Gresford Colliery, £1,570.

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BUILDING.

August 17.—**ALTERATIONS, &c. Holywell.**—Alterations and addition to the Vicarage, Holywell Apply Mr. Gronwy R. Griffith, Architect, 2 Post Office Lane, Denbigh.

August 17.—**OFFICES, &c. Leeds.**—Erection of offices and stores in Bridge Street, Leeds, for the Sewerage Committee. Apply Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

August 17.—**HOUSE WORKS. Galashiels.**—Excavator, concretor, and brick works, carpenter and joiner works, glazier work, slater and roughcast works, plumber and gasfitter works, and plaster work of five blocks, each containing two houses, for the Town Council. Apply Town Clerk.

August 17.—**RESIDENCE. Corstorphine.**—Brick, joiner, slater, plumber, plaster, glazier, and painter works of residence to be erected at Drumhead Brae, Corstorphine. Apply Mr. J. Gentles, F.F.S., Surveyor and Valuer, 184 High Street, Kirkcaldy.

August 18.—**CABLE HUT. Dover.**—Erection of a cable hut at Dover. Apply Postmaster, Dover, and at Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

August 18.—**EXTENSION. Kidwelly.**—Extension to the vestry of "Sardis" Congregational Chapel, Trimsaran, near Kidwelly. Apply the Secretary, Mr. D. Thomas, 19 New Houses, Trimsaran, or Messrs. George and Price, P.A.S.I., M.S.A., &c., Architects, Aberavon and Cross Hands, near Llanelly.

August 18.—**HOUSES. Birkenhead.**—Erection of 54 "A" type houses in connection with the Hoylake Road (3rd portion) revised scheme, for the Corporation. Apply Mr. T. T. Rees, F.R.I.B.A., F.S.I. (Housing Architect to the Corporation at 64 Rodney Street, Liverpool). Deposit £2 2s.

August 19.—**LODGE. Chesterfield.**—Erection of a lodge at the Walton Sanatorium, Chesterfield, for the Derbyshire County Council. Apply Mr. G. C. Copestick, New County Offices, Derby. Deposit £1 1s.

August 19.—**OFFICES. Wokingham.**—Erection of two additional offices to their boardroom buildings, for the Board of Guardians. Apply Mr. P. H. Phipps, Clerk, Union Offices, Board Room, Barkham Road, Wokingham. Deposit £1 1s.

August 19.—**BUNGALOW COTTAGE. Sandwich.**—Erection of a bungalow cottage at St. Bartholomew's Hospital, Sandwich, for the trustees. Apply Surveyor's Office, The Barbican, Sandwich.

August 19.—**ALTERATIONS. Castle Caereinion.**—Alterations and additions to Berwydd Congregational Chapel (about 3½ miles from Castle Caereinion and 4 from Berriew). Apply Messrs. Mills and Ford, Llandyssil, Montgomery.

August 19.—**REPAIRS. Islington.**—Repairs and painting, &c., to the operating theatre and to two other rooms at their Infirmary, Highgate Hill, N., for the Guardians of St. Mary, Islington. Apply Mr. E. J. Harrison, L.R.I.B.A., 23 Berkeley Road, Crouch End, N.8. Deposit £2.

August 21.—**BRIDGE REPAIRS. Marlow.**—Sundry repairs to woodwork, &c., and cleaning down and repainting Marlow Suspension Bridge, for the Berks and Bucks County Councils. Apply Mr. E. Winfield, County Surveyor of Bucks., County Hall, Aylesbury.

August 21.—**HOUSES. Greenock.**—Erection of 52 or, alternatively, 36 tenement houses, for the Corporation: Digger and brick work; carpenter, joiner, and ironmongery works; slater work and roughcasting; plumber work; plaster and concrete work; glazier work; electric lighting; and painter work. Apply Office of Public Works, Municipal Buildings, Greenock. Deposit £1 1s. for each schedule.

August 21.—**OUTBUILDINGS. Lanchester.**—Providing 13 sets of sanitary outbuildings and coalhouses, yard fencing, and concreting and roadmaking, drainage, &c., at Lanchester, near Durham. Apply Mr. J. T. Pegge, Surveyor, The Anchorage, Durham City. Deposit 10s.

August 23.—**COTTAGES. Llangwyllog.**—Erection of two cottages at Cerrigddewi, Llangwyllog. Apply Shire Hall, Llangefni.

August 23.—**HOUSES. Carnarvon.**—Construction of six houses at Cae Hampton, Bethel Road, Carnarvon, for the Corporation, according to Class B of the plans of the Ministry of Health. Apply Mr. R. O. Roberts, Town Clerk, 2 Market Street, Carnarvon.

August 24.—**JOINERY WORK. Wigan.**—Joinery work required to be executed in connection with the construction of a portable floor to cover the second-class plunge bath at the Municipal Public Baths, Millgate, Wigan. Apply Mr. R. B. Donald, M.I.C.E., Borough Engineer, Municipal Buildings, Wigan. Deposit £1 1s.

August 24.—**HOUSES. Rosyth.**—Carpenter and joiner, glazier, slater, and roughcast, of 15 shops, with eight houses over same, at Rosyth, with addition of 40 houses, also at Rosyth. Apply Mr. A. H. Mottram, A.R.I.B.A., Scottish National Housing Co., Ltd., Parkgate, Rosyth, Dunfermline.

August 26.—**SCHOOL. Romsey.**—Erection of a new Council school at Romsey (with army hutting), for the Hants County Council. Apply Mr. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s.

August 28.—**BATHROOM. Birkenhead.**—Provision of additional bathroom and lavatory accommodation at the Nurses' Home, Union Infirmary, Church Road, Birkenhead, for the Guardians. Apply Mr. A. E. Shennan, Guardian Assurance Buildings, 35 Dale Street, Liverpool. The person whose tender is accepted will be required to enter into a contract with the Guardians and to provide sureties. Rate of wages, &c., clauses to be observed. The contractor will also be required to have special regard to the employment of local (Birkenhead and Wallasey) unemployed persons, and to a preference being given to ex-Service men.

August 30.—**FOUNDATIONS. Preston.**—Supply of materials and work necessary in connection with the foundations, buildings, &c., for the Ribble Power Station, for the Corporation. Apply Town Clerk, Town Hall, Preston. Deposit £2 2s.

August 30.—**HOUSES. Mansfield.**—Erection of 24 houses, type A, in connection with the housing scheme No. 2, Bull Farm site, for the Town Council. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield.

August 30.—**WALL. Oughtershaw.**—Taking down and rebuilding a retaining wall at Hazelgill, near Oughtershaw, for the Skipton Rural District Council. Apply Mr. A. Rodwell, Surveyor, Skipton.

August 31.—**REPAIRS, &c. Pontllanfraith, Mon.**—Carrying out of certain repairs and painting to their council office and caretaker's house, Pontllanfraith, Mon., for the Mynyddislwyn Urban District Council. Apply Council Offices, Pontllanfraith, Mon. Deposit £1 1s.

September 1.—**REPAIRS AND MATERIALS. Aldershot.**—Works contracts from October 1, 1922, at the stations mentioned below in the North Aldershot Royal Engineer District of the Aldershot Command. Address of Royal Engineer's Office, Marlborough Lines, North Aldershot, Hants. (1) North Aldershot, including Marlborough Lines, Pinehurst and Mytchett; (2) Blackdown and Deepcut, including Woking, Pirbright, and Cobham; (3) Sandhurst and Arborfield. Apply Royal Engineer Office.

September 2.—**HOUSES. Tyldesley.**—Erection and completion of 26 houses in connection with the Tyldesley (Sale Lane) housing scheme, for the Urban District Council. Apply Mr. F. E. Jones, M.I.M. and Cy. E., Council Offices, Tyldesley. Deposit £2 2s.

September 19.—**HOUSES. Gosforth.**—Erection of 20 semi-detached houses on road No. 6 of the Corlodge Housing site for the U.D.C. Apply Mr. George Nelson, A.M.I.C.E., Engineer and Surveyor, to the Council, Council Chambers, High Street.

ELECTRICAL.

August 17.—**MOTOR. Macclesfield.**—Supply of a combined 4 in. centrifugal pump and 5-b.h.p. electric motor, for the Macclesfield Corporation. Apply Mr. J. H. Edmondson, Manager, Sewage Outfall Works, Prestbury, near Macclesfield.

August 31.—**TURBO-ALTERNATOR, &c. Wimbledon.**—Supply, delivery, and erection at their electricity works, Durnsford Road, Wimbledon, of a 3,000-kw. turbo-alternator, condensing plant and auxiliaries, for the Town Council. Apply Mr. A. E. McKenzie, M.I.E.E., Borough Electrical Engineer, Electricity Works, Durnsford Road, Wimbledon, S.W.19. Deposit £2 2s.

September 5.—**CRANES. Edinburgh.**—Conversion of two overhead cranes from mechanical to electrical operation, for the Corporation. Apply Tramways Manager, 2 St James Square, Edinburgh.

September 27.—**TELEPHONE APPARATUS AND PARTS. Brisbane.**—For supply and delivery of telephone apparatus and parts, schedule No. 561, for Deputy Postmaster-General at Brisbane. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

October 18.—**TRANSFORMER. Melbourne.**—Supply and delivery at the Electric Light and Pintsch Gas Station, Spencer Street, Melbourne, of a static transformer complete with oil, and a motor generator set complete with accessories. (Contract No. 35089.) Apply Room 49 of the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

ENGINEERING

August 17.—**ENGINES, &c. Matlock.**—Supply and erection of two gas engines (of about 25 b.h.p.), gas producing plant, electric generators and motors and pumping plant, &c., for the Matlock Urban District Council. Apply Messrs. J. Diggle and Son, Civil Engineers, 14 Brown Street, Manchester. Deposit £5.

August 17.—**WATER SUPPLY WORKS. Bere Ferrers.**—Certain work to improve the water supply for the village of Bere Ferrers, for the Tavistock Rural Council. Apply Mr. T. Harris, Town Hall Chambers, Tavistock.

August 17.—**FOUNDATIONS. Atherton.**—Excavation for and the construction of concrete foundations for a gasholder in a steel tank, to be erected at the gasworks, Atherton, for the Urban District Council. Only tenders from firms or persons who are thoroughly experienced in excavating and concreting, and have previously carried out large and important works of a similar character, will be considered. Apply Mr. W. T. Duxbury, Gasworks, Atherton. Deposit £1 1s.

August 17.—**STEEL TUBES. Thurnscoe.**—Laying of about 2,200 lin. yards of 6 in. steel tubes and certain special fittings in the urban district of Thurnscoe, for the Thurnscoe Urban District Council. Apply Mr. T. Bull, Engineer, Council Offices, Thurnscoe.

August 19.—**FLUES. Birkenhead.**—Supply and fixing of internal flues for a Lancashire boiler at the Union Institution, Derby Road, Birkenhead, for the Guardians. Apply Mr. S. R. Carter, Clerk, Poor Law Offices, Conway Street, Birkenhead.

August 22.—**RESERVOIRS. Bampton, Devon.**—Construction of two covered concrete reservoirs—one with a capacity of 40,000 gals. and one of 60,000 gals.; engine house with oil engine and pump; and the laying of about 300 lineal yards of 3 in. suction and rising main and about 900 lineal yards of 3 in. and 4 in. distributing mains, and other works, for the Bampton Urban District Council. Apply Mr. H. Monson, A.M.I.C.E., Surveyor, Bampton, Devon.

August 23.—**WATER WORKS. Hexham.**—Providing, laying and jointing about 4,000 lineal yards of 3 in. dia. cast-iron pipes, together with specials, valves, collecting well, service tank, fencing and appurtenant works in connection with the Slaley water scheme, for the Hexham Rural District Council. Apply Mr. C. Franklin Murphy, A.M.I.C.E., Lloyd's Bank Chambers, Morpeth. Deposit £2.

August 24.—**WATER MAINS. Edlington.**—Laying about 300 yards of 3 in. cast-iron water mains at the New Village, Edlington (above Thompson Avenue), for the Doncaster Rural District Council. Apply Mr. W. R. Crabtree, Union Offices, Nether Hall, Doncaster.

August 25.—**HEATING. London.**—Complete installation of hot-water heating and domestic supply in a large block of flats now being erected in Maida Vale, London, for the Central London Building Company, of 24 Grove End Road, St. John's Wood, N.W.3. Apply Mr. W. C. C. Hawtayne, Consulting Engineer, 9 Queen Street, Place, London, E.C. Deposit £3 3s.

August 25.—**STEEL CASTINGS. Johannesburg.**—Supply at Zwartkopjes pumping station, Selborne Siding No. 114, of 38 steel castings, 456 phosphor-bronze valves, and other materials for the inverted vertical marine-type pumping engines of that station. (Contract 229). Apply Department of Overseas Trade (Room 50a), 35 Old Queen Street, S.W.1.

August 30.—**BOILER. Newcastle-upon-Tyne.**—Supply and delivery of one boiler for their locomotive tank engine No. 11 at the Albert Edward Dock, North Shields, for the Tyne Improvement Commissioners. Apply Mr. J. McDonald Manson, General Manager and Secretary, Bewick Street, Newcastle-on-Tyne. Deposit £1.

August 30.—**CROSSINGS. Newcastle-on-Tyne.**—Supply and delivery of four diamond crossings for their railways at the Albert Edward Dock, North Shields, for the Tyne Improvement Commissioners. Apply Mr. J. McDonald Manson, General Manager and Secretary, Bewick Street, Newcastle-upon-Tyne. Deposit £1.

August 31.—**PLANT, &c. Grimsby.**—Installation of new centralized heating and hot-water supply plant, fuel economizer, water-softening plant, and additions to cooking apparatus at the Scartho Road Institution, Grimsby, for the Guardians. Apply Mr. J. F. Wintringham, Clerk, St. Mary's Chambers, Great Grimsby. Deposit £2 2s.

September 1.-**BRIDGE SUPER-STRUCTURE, &c. Sydney, N.S.W.—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milson's Point, for Govt. of N.S.W. Application to the Agent-General. Mr. J. J. C. Bradfield, Chief Engineer, will be in London during June and July, 1922, address care of the Agent-General for New South Wales, Australia House, Strand, London, W.C.2.**

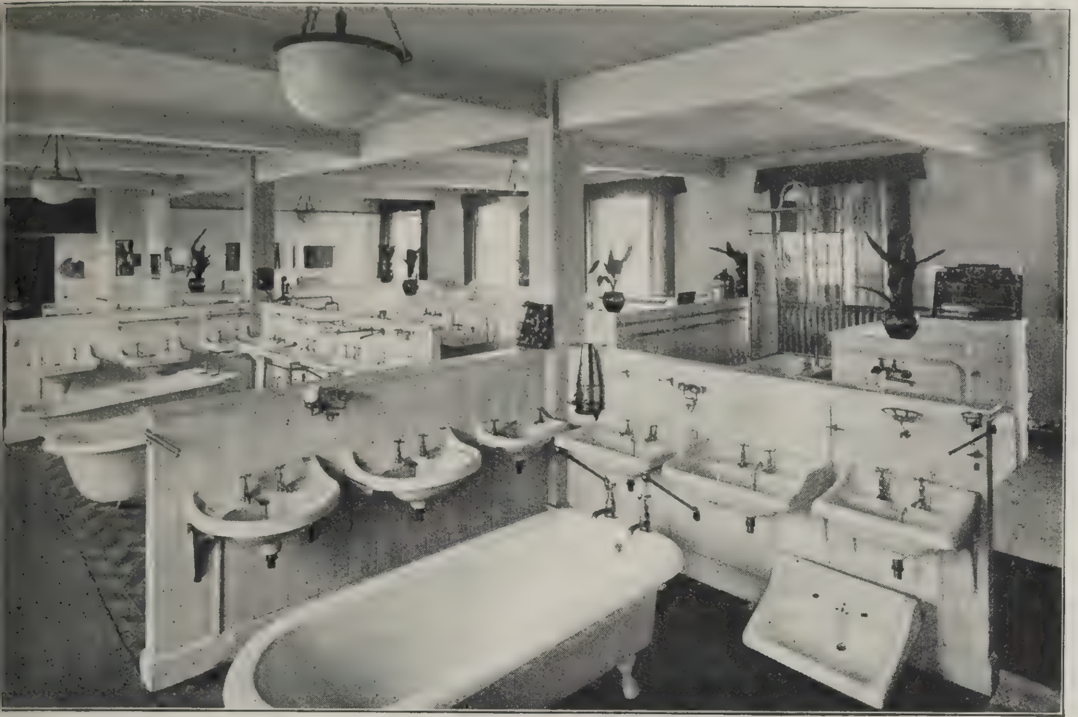
September 1.—**RATE OF FLOW CONTROLLER. Victoria.**—Supply and delivery of a rate of flow controller for the Victoria Water Supply. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, S.W.1.

September 2.—**DECK JOISTS. Bournemouth.**—New deck joists, decking, &c., required on the Bournemouth Pier, for the Town Council. Apply Mr. F. P. Dolamore, Town Hall, Bournemouth. Deposit £1 1s.

September 4.—**SCREENING PLANT. Mansfield.**—Supplying and erecting of refuse screening plant, including elevators, conveyors, rotary screen, hoppers, &c., at the Health Depot, Lime Tree Place, Mansfield, for the Corporation. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield. Deposit £2 2s.

(*Continued on page xxviii.*)

MODERN SANITARY EQUIPMENT



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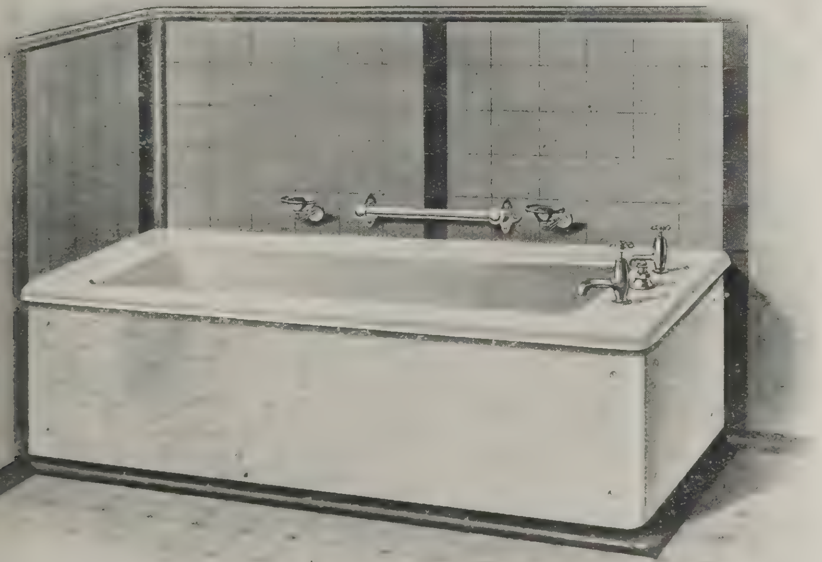

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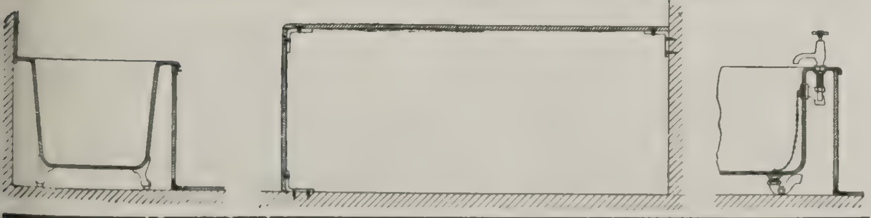

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WESTMINSTER, S.W.1.

Telegrams: "MELLOWES, VIC, LONDON."
Telephone: VICTORIA 4568.
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September 13.—**MACHINERY. Surbiton.**—Supply and erection at their Surbiton pumping station, Surrey, of one steam turbine with centrifugal pumps having a maximum capacity of 20 million gallons per 24 hours, for the Metropolitan Water Board. Apply Offices of the Board (Room 182), Chief Engineer's Department, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £3 3s.

September 13.—**MACHINERY. Eynsford, Kent.**—Supply and erection of two Diesel or high compression solid injection oil engines, with well and surface pumps, &c., at their Eynsford Works, Kent, for the Metropolitan Water Board. Apply Offices of the Board (Room 182), Chief Engineer's Department, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £3 3s.

September 15.—**WHARF. Guayaquil.**—Construction of a Custom-house wharf at Guayaquil, for the Government of Ecuador. Apply Consul-General of Ecuador, 23 College Hill, Cannon Street, E.C.

September 18.—**BEACON. Edinburgh.**—Construction of a concrete beacon on a tidal rock which lies off the northern end of South Rona, for the Commissioners of Northern Lighthouses. Apply Mr. D. A. Stevenson, 84 George Street, Edinburgh. Deposit £1.

PAINTING.

August 17.—**PAINTING. Essex.**—Carrying out certain painting and redecorating work at their Children's Homes at Stifford, near Grays, Essex, for the Board of Guardians. Apply Mr. A. J. Smith, Clerk, Guardian's Offices, Barnes Street, Commercial Road East, E.14. Deposit £2 2s.

August 21.—**PAINTING. Shoeburyness.**—Painting two gasholders and water tank at their works, Shoeburyness, for the Shoeburyness Urban District Council. Apply Mr. A. W. Goodchild, the Waterworks, Shoeburyness.

August 25. — **CLEANING AND PAINTING. Chelmsford.**—Cleaning and painting the interior of the scarlet fever block and the military pavilion, for the Chelmsford Joint Hospital Board. Apply Messrs. C. and W. H. Pertwee and Howard, London Road, Chelmsford.

ROADS AND SEWERS.

August 17.—**SEWER. St. Mellon's.**—Construction and extension of the Glasllwch sewer, for the Saint Mellon's Rural District Council. The work is comprised of a length of 367 lineal yards of 6-in. stoneware pipes, manholes and other appurtenant works. Apply Mr. W. Dowler, Clerk, Queen's Hill, Newport, Mon. Deposit £2 2s.

August 18.—**ROAD REPAIR. Southampton.**—Repair of roads at the Ordnance Survey Office, Southampton. Apply Superintendent of Works, 15 Darwin Road, Southampton. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

August 19.—**FLAGS. Bridlington.**—Providing and laying in the borough about 1,300 sq. yards of York flags, and 520 sq. yards of non-slip flags, for the Corporation. Apply Borough Engineer and Surveyor, No. 1 The Crescent, Bridlington. Deposit £1 1s.

August 21.—**SEWER WORKS. Hornchurch, Romford.**—Construction of about 1,800 ft. of 3 ft. diameter sewer, and other works, on a site adjoining Rainham Creek, in the parish of Hornchurch, for the Romford Rural District Council. Apply Mr. W. Fairleigh, M.I.C.E., Parliament Mansions, Westminster, S.W.1. Deposit £5.

August 21.—**SEWERAGE. Darlaston.**—Construction of stoneware pipe sewers, manholes, cast-iron pipes, screening, and detritus chamber, storm-water tanks, sewage tanks, filters, sludge-drying area, drains and ejector chambers, together with other works, for the Darlaston Urban District Council. Apply Messrs. Dodd, Dodd and Watson, MM.I.C.E., County Chambers, Corporation Street, Birmingham. Deposit £5.

August 24.—**DRAINAGE. Harrietsham.**—New cesspool drainage at Holm Mill, Harrietsham, for the Hollingbourn Rural District Council. Apply Mr. F. Miskin, clerk, 33 Earl Street, Maidstone.

August 25.—**DRAIN. New Edlington.**—Laying about 206 yards of 9-in. sewer, 164 yards of 9-in. surface water drain and 66 yards of 6-in. surface water drain at New Edlington (above Thompson Avenue), for the Doncaster Rural District Council. Apply Mr. W. R. Crabtree, Union Offices, Nether Hall, Doncaster.

August 26.—**SEWER EXTENSION. Sutton-on-Sea.**—Laying reinforced concrete pipe sewers, necessary manholes and fittings, &c., in connection with extension of Trusthorpe Road sewer, Sutton-on-Sea, for the Spilsby Rural District Council. Apply Mr. J. E. Bolt, Council Offices, Boston Road, Spilsby.

August 26.—**TARSPRAYING. Newark.**—Tarspraying about 17,000 sup. yds. of road one to three miles north of Collingham Station, M.R., for the Newark Rural District Council. The tar is to be in accordance with Road Board Specification No. 1. Apply Surveyor, 27 Winchelsea Avenue, Newark.

August 28.—**REPAIRS. Barnet.**—Carrying out temporary repairs to Normandy Avenue, for the Barnet Urban District Council. Apply Mr. W. B. Chancellor, M.I.M.C.E., Surveyor, Municipal Offices, Wood Street, Barnet.

August 28.—**WIDENING. Willesden.**—Work of widening part of Dudden Hill Lane and Neasden Lane, including the reconstruction in reinforced concrete of a bridge carrying Neasden Lane over the River Brent, also the reconstruction of the culvert conveying the canal feeder under Neasden Lane, for the Willesden Urban District Council. Apply Mr. F. Wilkinson, M.I.C.E., Town Hall, Dyne Road, Kilburn, N.W.6. Deposit £2 2s.

August 28. — **CONVERSIONS. Burslem.** – Execution of works required to be done in the conversio into water closets of 140 privy cesspools, or thereabout in Burslem. Apply Health Department, St. Peter Chambers, Glebe Street, Stoke-on-Trent. The successfu contractor will be required to conform to the regulation of the Council as to payment of the standard rate wages, the employment of a percentage of disable ex-service men, sub-letting, &c.

TENDERS.

New Road, Torbay Hall Estate, Torquay. Th following tenders have been received by Mr. Francis C. Johnson, of Torquay, Architect, for the construction a new road on the Torbay Hall Estate, Torquay. Th lowest tender, that of Mr. R. E. Narracott, was accepte

	£	s.	d
Bovey and Son	1,993	0	
Vanstone and Sons	1,715	0	
Yeo	1,673	0	
Wilkins and Sons, Ltd.	1,651	0	
Brock	1,599	0	
Narracott	1,318	7	

Governor House for Paignton Gas Compan The following tenders have been received for the erectio of a Governor House for the Paignton Gas Compan The architects are Messrs. W. G. Couldrey and So M.S.A., A.R.I.B.A., of Paignton, and the quantiti were prepared by Mr. G. S. Harris, of Paignton an Torquay :—

	£	s.
Willcocks and Barnes, Paignton	689	10
W. H. Webber ,,	687	0
H. T. Drew ,,	677	0
T. Vanstone and Sons, Torquay	587	10
R. E. Narracott ,,	548	10
S. Batten, Paignton	497	10
R. F. Yeo and Sons, Torquay	483	0
*E. P. Bovey and Sons ,,	479	0

* Accepted.

New Concert Hall for Blackpool. The Directo of the Blackpool Pier Company have accepted the tend of Messrs. Edmund Taylor & Co., Ltd., of Littleboroug for the erection of a new concert hall at the west end the pier. Possession of the site will be given o October 2, and the contract is to be completed b February 24, 1923.

Bungalow at Torquay. For the erection of bungalow on the Torbay Hall Estate for Mr. G. Pize Mr. Francis C. R. Johnson, Architect, has received th following tenders, and that of Messrs. E. P. Bovey an Son has been accepted.

	£	s.
Wilkins and Sons, Ltd.	2,189	0
Jury, Paignton	2,021	0
Brock	1,999	18
Narracott	1,882	0
E. P. Bovey and Son]	1,869	0

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(*The Week's News—continued.*)

ght-story warehouse in Glasgow to place buildings destroyed by fire, the timated expenditure being £65,000. The roperty Investment Company, Glasgow, ive taken warrant to construct roads, wers, footpaths, etc., at Kilmarnock oad, in order to encourage building of uses on their land.

New Buildings for Glasgow.

New warehouses are being erected for essrs. William McLaren, Sons & Co., td., at Glasgow. The site is at the rner of George Square and South anover Street. The buildings will be ght stories high with, in addition, a isement; and the total floor area is lculated at 81,600 sq. ft. The architect Mr. James Miller, A.R.S.A., Glasgow. new building is being erected at Bath reet, Glasgow, for Messrs. Pettigrew id Stevens, dry goods merchants, from ie designs of Messrs. Keppie and Henerson, of Glasgow, architects.

Historic Church on Fire.

The historic parish church of All Saints, uth Wingfield, Derbyshire, situated on ie banks of the River Amber, and under ie shadow of Wingfield Manor, famous one of the prison-houses of Mary Queen Scots, has been almost completely estroyed by fire, only the chancel being ved. During the recent heavy rains ie church was flooded, and after the ater had subsided, the heating apparatus iving been put out of action, a large oil ove was introduced to dry the interior, id the fire is believed to have been used by this stove.

New London Tube.

Three miles of the City and South ondon Railway, from Moorgate Street its terminus at Euston, has been closed r reconstruction. The reconstructed ibe is to be connected by a new short innel with the Hampstead Railway at amden Town. This will enable trains run from Clapham Common to Golders reen, and by the time this is done the tension of the Hampstead line to dgware, now under construction, will so be nearing completion. These improvements, it is estimated, will double ie carrying capacity of the City and uth London Railway.

Old Arch of London Bridge.

The Bridge House Estates Committee the City Corporation are considering hat support, if any, they can give to the fort to save the original arch of London ridge which was recently discovered iring the demolition of certain old iildings. A scheme to preserve the arch id make it accessible to the public has een prepared by the architects of the ew building, and the owners have proised to contribute towards the cost if ie balance can be raised from other urces. The Bridge House Estates Comittee are invited to make a contribution money or to remit for a time a portion the ground rent.

Alphabet Avenue Novelty.

The first "alphabetical avenue" in ngland has been planted by Sir William eary in his park at Oxon Heath, Hadw, near Tonbridge, Kent. It is nearly alf a mile long, and the trees—at present ily saplings—are planted in alphabetical der. The alphabet of trees is made of aspen, beech, catalpa, chestnut, morphanthus, elm, fraxinus, gum, hornbeam, idesia, juglans, koelreutia, larch, maple, negundo, oak, plane, poplar, quince, rowan, sycamore, tulip tree, umbrella pine, viburnum, willow, xanthoceras, yellow tree, zelcova. There are several other trees as well.

New Lung for London.

Part of Castlewood Estate, Shooter's Hill, Kent, with Severndroog Castle, the mansion house, two lodges, stabling, and twenty-two acres of magnificently timbered park land, by the will of the late Mr. Probyn Godson, is to become one of the London County Council's parks and be open to the public for ever. The estate will be shortly transferred to the L.C.C. Severndroog Castle is the highest point between London and Paris, being 450 ft. above the level of the sea. It was erected in 1784 by the widow of Sir William James in honour of her husband, who distinguished himself against the pirates of the Indian seas.

Housing Progress in Scotland.

The following figures show the progress that has been made in State-aided housing schemes in Scotland to July 31: Permanent houses completed, 10,155; temporary houses completed, 665; reconstructed houses completed, 89; houses completed under the private subsidy schemes, 2,028; making a total of 12,937. There are 8,710 houses at present under construction in connection with housing schemes carried out by local authorities and public utility societies. The total amount paid by the Scottish Board of Health in respect of the 2,028 houses completed under the private subsidy schemes is £490,583 6s. 8d.

Building Guild's Operations.

At the annual conference of the National Building Guild Ltd., at Birmingham, the chairman, Mr. H. Frankland, of Manchester, said the movement had grown to such an extent during the past two years that of 150 committees in existence seventy had work in hand, and compared with last year's contracts of £666,000, at the present moment they were engaged on contracts totalling £2,500,000. They had already completed contracts of £1,250,000. Unfortunately, owing to the action of the Ministry of Health, contracts with local authorities amounting to £4,000,000 had been cut down to £1,500,000. Under the new building scheme prepared by the guild board they believed they could supply the wants of the community and provide houses for all.

Battersea Baths and Tenements.

An inquiry has been held by the Ministry of Health into the application of the Battersea Borough Council for sanction to borrow £3,500. The council propose to purchase the disused fire station which was erected in Chatham Road, Battersea, in 1906. It is intended to adapt part of the premises for use as public baths, including a swimming-bath. The price of the site and existing buildings is £8,000, but to a private purchaser it would be £12,000. Special terms are offered to the local authority by the County Council because it will utilize the former quarters of the firemen as tenement dwellings. No opposition was offered to the proposals. The inspector said the Ministry of Health regarded the provision of baths as urgent.

Trade and Craft

New Sewage Lifting Plants for Thatcham Factory.

Messrs. Daniel Adamson & Co., Ltd., of Dukinfield, near Manchester, have received an order for one of their latest patent electrically driven crude sewage lifting plants for Messrs. Cropper's new factory at Thatcham, Berks. The design of this installation is of special interest in that the motor-driven compressors deliver the air direct into the sewage ejectors. Mr. W. C. Easdale, F.I.S.E., M.S.E., M.R.S.I., of Westminster, is the consulting engineer to the scheme.

Cafferata Plaster Slabs.

The method of fixing Cafferata plaster slabs is clearly explained in a handy little booklet which has just been published by Messrs. Cafferata & Co., of Newark-upon-Trent. Simple instructions, accompanied by diagrams, are given of the most satisfactory way in which the many problems encountered in the use of the slabs may be overcome. Although the booklet has been prepared primarily to guide the ever-increasing number of new users, it should be of every-day assistance to those who are already familiar with the slabs. Cafferata slabs have been used recently on a large number of housing schemes and similar contracts throughout the country.

British Manufacturers of South Africa.

Much information concerning the various activities of the British Manufacturers' Representatives' Association of South Africa (Incorporated) is given in the last half-yearly report of the council, a copy of which has come to hand. Efforts are being made by the council to safeguard and promote the interests of overseas firms, and active propaganda work is being undertaken. In connection with the agitation for protective duties the Association has been successful in securing the definite assurance of the Board of Trade and Industries that where necessary the views of importers and others interested in the imported article will be taken before any decision is come to. In addition the Association has taken many other steps in the interests of its members. The membership of the Association continues to increase steadily, and now reaches a total of 440. Mr. H. Edwards is President, and Mr. Fred W. Richmond, hon. secretary. The offices of the Association are at Remington Buildings, 96 St. George's Street, Cape Town.

"Power Plant at a Telephone Factory."

The above is the title of an interesting booklet, which has just been published by Messrs. Francis Polden & Co., Ltd., to describe the prime movers at the Dagenham Works of the Sterling Telephone and Electric Co., Ltd. The exigencies of the war-time expansion created a position in connection with the power plant which was far from satisfactory and necessitated drastic changes when still further demands were made for power. From quite small beginnings the plant had grown until, within the space originally allocated for an output of 70 h.p. plant capable of generating about ten times that figure had been crowded. It was ultimately decided to erect an entirely new engine house and to re-arrange the complete plant upon modern lines, and within the last few months this change-over has been completed. The results that have been achieved reflect great credit upon Mr. W. A. Tookey, M.I.Mech.E., the general consulting engineer for the scheme, and Mr. A. Hugh Bourne M.I.E.E., who was responsible for the electrical side. Mr. J. O. W. Hurd, the power house superintendent of the company, gave general supervision and arranged the details of removal from the old to the new building. Messrs. Francis Polden & Co., Ltd., were the contractors for the whole of the electrical work. Copies of the booklet, which is profusely illustrated, may be obtained from Messrs. Francis Polden & Co., Ltd., 56 Cannon Street, London, E.C.4.

Ruston Oil Engines.

A new and profusely illustrated catalogue of Ruston airless injection cold-starting oil engines has been issued by Messrs. Ruston and Hornsby, Ltd. The Ruston engine is one of the most economical prime movers using low-grade furnace fuel and crude oils in existence, and embodies the results of considerable research and experience. It is an engine with many distinctive features, and it is claimed to be safe in the hands of a man of average intelligence, and that previous knowledge of the engine is not essential. In the catalogue engines of the horizontal type, made in sizes from 15 to 340 b.h.p., are shown, together with testimonies of British and foreign users, and particulars of the successful tests carried out with the engine by a technical representative of the Anglo-Mexican Petroleum Company and by Capt. H. Riall Sankey, C.B., C.B.E., R.E. (ret.), M.Inst.C.E.

To establish the high thermal efficiency of the Ruston airless injection oil engine, the firm invited Capt. Sankey to carry out tests upon one of their standard twin engines of 236-260 b.h.p. erected in their commercial test shop. This engine was placed entirely under his control so that he was in a position to check all measurements and observations made and also the apparatus used during the test. The minimum fuel consumption was as low as ·401 lb. per b.h.p. hour which, with the oil used during the test (calorific value 18,050 B.Th.U.), was equivalent to a high efficiency of 35·3 per cent. Capt. Sankey, in his report, says, "Throughout the trial the engine ran remarkably well and so uniformly that it was impossible to tell by sound what load was on the engine and when such load was changed."

The amalgamation in 1918 of the firms of Ruston, Proctor & Co., Ltd., of Lincoln, and Richard Hornsby and Sons, Ltd., of Grantham, was important from the fact that both had unique experience in the design and manufacture of internal combustion engines, each being recognized as a pioneer in its own branch of work. At the time of the fusion the two companies had collectively produced over 120,000 engines, to work under varying conditions in all parts of the world, and the wealth of experience thus gained, together with the immense resources of the combination, are invaluable in assisting design and the economical production of high-class engines.

Copies of the catalogue may be obtained from Messrs. Ruston and Hornsby, Ltd., engineers, Lincoln.

Scaffolding (Great Britain), Ltd.

Scaffolding (Great Britain), Ltd., have sent us an announcement of the amalgamation under that name of the Tubular Scaffolding Co., Ltd., with the Patent Rapid Scaffold Tie Co., Ltd., which has been carried through to enable them efficiently to cope with the ever-increasing demand for modern patented scaffolding in all branches. They are exceedingly well placed in this respect as the amalgamation puts them in possession of the patent "Scaffixer" scaffold ties and putlogs, which are now extensively used on all scaffoldings, and also of their paten tubular scaffolding and couplers. Th company have also acquired the sol agency for the patent suspended scaffolding as now in use on the New Bush Building, Aldwych. It will thus be seen tha with the aid of the three branches o scaffolding above mentioned the compan holds a strong position and is enable thereby to meet all the requirements o up-to-date scaffolding in all its branches The business of general builders' merchant on terms of sale or hire will continue t be carried on, and builders will find thei requirements in this respect well covere by the ample plant which the compan now have available.

Ancient Egyptian Town Planning

Mr. C. L. Woolley, lecturing at a meeting held in London of the Egyptian Exploration Society, said that during th second season's work at Tell-el-Amarn the exploring party found the ruins of village, which was probably the earlies effort in town planning. He said that peculiar feature of this village was tha the doors of all the houses faced one way a blank wall in each street occupying th opposite side of the narrow thoroughfar The houses were well preserved, and gav a vivid idea of the domestic life of th poorer classes of Egypt in the fourteent century B.C. A further site explored b the party had proved to be uniqu amongst Egyptian discoveries. It was royal pleasure garden of a religiou nature, where, amid trees and flower bed surrounding an ornamental lake, wer grouped a number of buildings in ston or mud brick.

Mr. Woolley also mentioned the discovery of a range of buildings which appeared to have served as a home farm In sheds were discovered the bones cows, and close by was a kennel full dead greyhounds.

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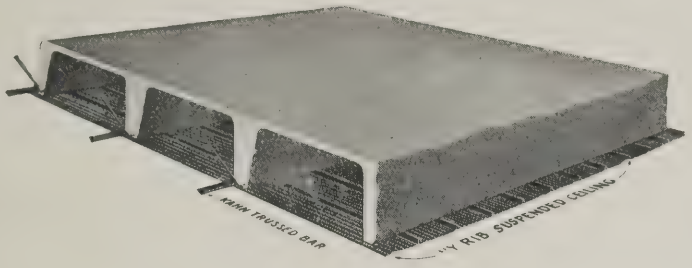

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Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING.

August 24.—**JOINERY WORK. Wigan.**—Joinery work required to be executed in connection with the construction of a portable floor to cover the second-class plunge bath at the Municipal Public Baths, Millgate, Wigan. Apply Mr. R. B. Donald, M.I.C.E., Borough Engineer, Municipal Buildings, Wigan. Deposit £1 1s.

August 24.—**HOUSES. Rosyth.**—Carpenter and joiner, glazier, slater, and roughcast, of 15 shops, with eight houses over same, at Rosyth, with addition of 40 houses, also at Rosyth. Apply Mr. A. H. Mottram, A.R.I.B.A., Scottish National Housing Co., Ltd., Parkgate, Rosyth, Dunfermline.

August 24.—**CONVENIENCES. Manchester.**—Erection of ladies' and gentlemen's conveniences at Southern Cemetery, for the Parks and Cemeteries Committee. Apply City Architect, Town Hall. Deposit 10s. 6d.

August 25.—**SORTING OFFICE. Ludlow.**—Erection of a sorting office at Ludlow. Apply Postmaster, Ludlow. Bills of quantities and forms of tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

August 25.—**POST OFFICE. Glossop.**—Post office and telephone exchange at Glossop. Apply Postmaster, Glossop, and at Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

August 25. — **TELEPHONE EXCHANGE. Liverpool.**—Erection of a telephone exchange at Walton, Liverpool. Apply District Surveyor, H.M. Office of Works, James Street, Liverpool.

August 25.—**TELEPHONE EXCHANGE. Addiscombe.**—Erection of a telephone exchange at Addiscombe (Surrey). Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

August 25.—**HOUSES. West Hartlepool.**—Tenders (a) at per pair, and (b) at per block of four; also (c) separate tenders for the various trades, for the erection of 20 additional houses upon the Rift House estate, and (d) for the drainage, paving and fencing for the above 20 houses. Apply Mr. F. Durkin, A.M.Inst.C.E., Borough Engineer, Municipal Buildings, West Hartlepool. Deposit 10s. 6d.

August 25.—**ALTERATIONS. Wednesbury.**—Alterations, &c., at Wednesbury Post Office. Apply District Surveyor, 42 Paradise Street, Birmingham.

August 26.—**SCHOOL. Romsey.**—Erection of a new Council school at Romsey (with army hutting), for the Hants County Council. Apply Mr. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s.

August 26.—**MEMORIAL HALL. Bruton.**—Erection of a memorial hall, library and classrooms, for the Governors of the King's School, Bruton. Apply Mr. A. J. Pictor, F.R.I.B.A., Bruton, and 14 Queen Square, Bath. Deposit £2 2s.

August 26.—**LIBRARY. Maesteg.**—Erection and completion of a library and institute at Cwmdu, Bridgend Road, Maesteg, for the Trustees and Committee of Messrs. Norths' Workmen's Libraries and Institutes. Apply Norths' Memorial Hall, Maesteg, or Mr. Oswald D. Davies, Architect and Surveyor, 18 King's Terrace, Nantyffyllon. Deposit £2 2s.

August 26.—**HOUSES. Hucknall.**—Erection and completion of additional houses (to be built in pairs). Apply Messrs. Sands and Walker, Milton Chambers, Milton Street, Nottingham. Deposit £3 3s.

August 26.—**BRIDGE REPAIRS. Hereford.**—Repair work to 10 bridges in various parts of the County, also the painting of ironwork of seven bridges and the building of one retaining wall, for the Herefordshire County Council. Apply Mr. G. H. Jack, M.Inst.C.E., County Surveyor, High Town, Hereford. Deposit £2 2s.

August 28.—**BATHROOM. Birkenhead.**—Provision of additional bathroom and lavatory accommodation at the Nurses' Home, Union Infirmary, Church Road, Birkenhead, for the Guardians. Apply Mr. A. E. Shennan, Guardian Assurance Buildings, 35 Dale Street, Liverpool. The person whose tender is accepted will be required to enter into a contract with the Guardians and to provide sureties. Rate of wages, &c., clauses to be observed. The contractor will also be required to have special regard to the employment of local (Birkenhead and Wallasey) unemployed persons, and to a preference being given to ex-Service men.

August 28.—**COTTAGES. Kirkconnel.**—Erection of 22 cottages of 3 and 4 apartments in connection with Kelloholm Scheme (second development), for the Thornhill District Committee. Apply, in writing, to Mr. W. Scott, Sanquhar.

August 28.—**REPAIRS. Edinburgh.**—Execution of minor repairs and renewals, involving carpenter work, plumber work, plaster and cement work; also a considerable amount of plain painter work at the Bangour Farm buildings and iron sheds, for the Edinburgh District Board of Control. Apply Mr. J. D. Gibson, Surveyor, 60 Frederick Street, Edinburgh.

August 28.—**WALLS. Edinburgh.**—For (1) Earthwork, retaining walls, &c.; and (2) wood fencing, required for 90 tenement houses at Abercorn, for the Edinburgh Town Council. Apply Mr. J. D. Gibson, F.F.S., 60 Frederick Street.

August 28.—**CLUBHOUSE. Dulwich.**—Erection of a clubhouse and hall at the rear of their present club for the Trustees of the Dulwich Liberal and Radical Club. Apply club premises, 108 and 110 Lordship Lane, East Dulwich, S.E.22.

August 28.—**HOUSES. Northumberland.**—Construction of two dwelling-houses at Low Row, Percy Main, for the Tyne Improvement Commissioners. Apply Mr. J. McDonald Manson, General Manager, Bewick Street, Newcastle-upon-Tyne. Deposit £2 2s.

August 29.—**BOILER - HOUSE. Haverhill.**—Erection of boiler-house, chimney-shaft and boiler setting, &c., at Kedington Institution, near Haverhill, for the Guardians of Risbridge Union. Apply Mr. H. B. Thake, of Haverhill. Deposit £1 1s.

August 30.— **COTTAGES. Llanddeusant.** —Erection of two cottages, one set of farm buildings and the division and adaptation of existing house and buildings at Bronheulog, Llanddeusant. Apply Shire Hall, Llangefni.

August 30.—**FOUNDATIONS. Preston.**—Supply of materials and work necessary in connection with the foundations, buildings, &c., for the Ribble Power Station, for the Corporation. Apply Town Clerk, Town Hall, Preston Deposit £2 2s.

August 30.—**HOUSES. Mansfield.**—Erection of 24 houses, type A, in connection with the housing scheme No. 2, Bull Farm site, for the Town Council. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield.

August 30.—**WALL. Oughtershaw.**—Taking down and rebuilding a retaining wall at Hazelgill, near Oughtershaw, for the Skipton Rural District Council. Apply Mr. A. Rodwell, Surveyor, Skipton.

August 31.—**HOUSES. Musselburgh.**—Erection of 20, or alternatively 10, houses at Monktonhall Terrace, for the Town Council. Apply Mr. W. Constable, 3 Hill Street, Edinburgh.

August 31.—**BUNGALOW. Gravesend.**—Construction of a bungalow and kiosk on the Gordon Promenade, for the Town Council. Apply Borough Surveyor's Office.

August 31.—**REPAIRS, &c. Pontllanfraith, Mon.**—Carrying out of certain repairs and painting to their council office and caretaker's house, Pontllanfraith, Mon., for the Mynyddislwyn Urban District Council. Apply Council Offices, Pontllanfraith, Mon. Deposit £1 1s.

August 31.—**WARDS. Stowmarket.**—Erection of two new wards and offices at the Isolation Hospitals, Bury Road, Stowmarket, for the Stowmarket Urban District Council. Apply Messrs. Hunt and Coates, Abbeygate Street, Bury St. Edmund's.

August 31.—**SMITHFIELD. Wem.**—Erection of a new smithfield at Wem, Shropshire. Apply Mr. R. Matthews, F.M.S.A., L.R.I.B.A., architect and Surveyor, Parr's Bank Chambers, Nantwich. Deposit £2 2s.

September 1.—**REPAIRS AND MATERIALS. Aldershot.**—Works contracts from October 1, 1922, at the stations mentioned below in the North Aldershot Royal Engineer District of the Aldershot Command. Address of Royal Engineer's Office, Marlborough Lines, North Aldershot, Hants. (1) North Aldershot, including Marlborough Lines, Pinehurst and Mytchett; (2) Blackdown and Deepcut, including Woking, Pirbright, and Cobham; (3) Sandhurst and Arborfield. Apply Royal Engineer Office.

September 2.—**HOUSES. Tyldesley.**—Erection and completion of 26 houses in connection with the Tyldesley (Sale Lane) housing scheme, for the Urban District Council. Apply Mr. F. E. Jones, M.I.M. and Cy. E., Council Offices, Tyldesley. Deposit £2 2s.

September 7.—**COTTAGES. Cottesbrooke.**—Erection of two cottages on a site adjoining the Northampton-Welford main road, in the parish of Cottesbrooke, for the Northampton Town Council. Apply Water Engineer's Office, Fish Street, Northampton.

September 8.—**HOUSES. Norwich.** — Erection of 24 houses on the Mile Cross Estate, Norwich, for the Corporation. The work is divided between the following architects :—Mr. S. G. Livock, A.R.I.B.A., 128 Unthank Road, Norwich; Messrs. A. F. Scott and Sons, A.A., A.R.I.B.A., 24 Castle Meadow, Norwich; Mr. G. J. Skipper, F.R.I.B.A., 7 London Street, Norwich; Mr. S. J. Wearing, A.R.I.B.A., 3 Redwell Street, Norwich. Contractors are invited to tender for one or more sections. Forms of tender may be obtained on application to the architects, at whose offices copies of specifications and drawings can be seen.

September 11.—**HOUSES. Walthamstow.**—Erection of 14 houses on their Forest Road (Fitzwygram) housing site, for the Walthamstow Urban District Council. Apply Mr. G. W. Holmes, A.M.I.C.E., Town Hall Annexe, Walthamstow. Deposit £1.

September 12.—**HOUSES. Purston.**—Erection of 12 houses on the Church Fields site, Purston, for the Featherstone Urban District Council. Apply Mr. S. Chesney, A.R.I.B.A., Council Offices, Featherstone, near Pontefract. Deposit £2 2s.

September 19.—**HOUSES. Gosforth.**—Erection of 20 semi-detached houses on road No. 6 of the Corlodge Housing site for the U.D.C. Apply Mr. George Nelson, A.M.I.C.E., Engineer and Surveyor, to the Council, Council Chambers, High Street.

September 19.— **ALTERATIONS. Durham.** — High Houghall Farm (1) alterations to cottages; (2) conversion of farm buildings into poultry station. Apply Mr. F. Willey, F.R.I.B.A., 34 Old Elvet, Durham.

ELECTRICAL.

August 30.—**TELEPHONES. Hendon and Tooting.**—(a) The installation of telephones at Colindale Hospital Hendon, N.W.9; (b) the supply and erection of an electric storage battery at the Grove Fever Hospital, Tooting Grove, S.W.17. Apply Office of the Metropolitan Asylums Board, Embankment, E.C.4. Deposit £1.

August 31.—**TURBO-ALTERNATOR, &c. Wimbledon.**—Supply, delivery, and erection at their electricity works, Durnsford Road, Wimbledon, of a 3,000-kw. turbo-alternator, condensing plant and auxiliaries, for the Town Council. Apply Mr. A. E. McKenzie, M.I.E.E., Borough Electrical Engineer, Electricity Works, Durnsford Road, Wimbledon, S.W.19. Deposit £2 2s.

September 5.—**CRANES. Edinburgh.**—Conversion of two overhead cranes from mechanical to electrical operation, for the Corporation. Apply Tramways Manager, 2 St James Square, Edinburgh.

September 5. — **ELECTRICAL EQUIPMENT. Edinburgh.**—Supply and delivery to Shrubhill Tramway Depot, Leith Walk, Edinburgh, of electrical equipment for 80 electric cars, for the Corporation. Apply Tramways Manager, 2 St. James Square, Edinburgh.

September 6.—**ELECTRIC LIGHT FITTINGS. Portsmouth.**—Supply and fixing of various fittings in connection with the electric light installations of the housing schemes carried out by the Corporation under the Housing Acts—such fittings do not include the lamps and shades, for the Corporation. Apply Town Clerk, Town Hall, Portsmouth.

September 27.—**TELEPHONE APPARATUS AND PARTS. Brisbane.**—For supply and delivery of telephone apparatus and parts, schedule No. 561, for Deputy Postmaster-General at Brisbane. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

October 18.—**TRANSFORMER. Melbourne.**—Supply and delivery at the Electric Light and Pintsch Gas Station, Spencer Street, Melbourne, of a static transformer complete with oil, and a motor generator set complete with accessories. (Contract No. 35089.) Apply Room 49 of the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

ENGINEERING

August 24.—**WATER MAINS. Edlington.**—Laying about 300 yards of 3 in. cast-iron water mains at the New Village, Edlington (above Thompson Avenue), for the Doncaster Rural District Council. Apply Mr. W. R. Crabtree, Union Offices, Nether Hall, Doncaster.

August 25.—**HEATING. London.**—Complete installation of hot-water heating and domestic supply in a large block of flats now being erected in Maida Vale, London, for the Central London Building Company, of 24 Grove End Road, St. John's Wood, N.W.3. Apply Mr. W. C. C. Hawtayne, Consulting Engineer, 9 Queen Street, Place, London, E.C. Deposit £3 3s.

August 25.—**STEEL CASTINGS. Johannesburg.**—Supply at Zwartkopjes pumping station, Selborne Siding No. 114, of 38 steel castings, 456 phosphor-bronze valves, and other materials for the inverted vertical marine-type pumping engines of that station. (Contract 229). Apply Department of Overseas Trade (Room 50a), 35 Old Queen Street, S.W.1.

August 30.—**BOILER. Newcastle-upon-Tyne.**—Supply and delivery of one boiler for their locomotive tank engine No. 11 at the Albert Edward Dock, North Shields, for the Tyne Improvement Commissioners. Apply Mr. J. McDonald Manson, General Manager and Secretary, Bewick Street, Newcastle-on-Tyne. Deposit £1.

August 30.—**CROSSINGS. Newcastle-on-Tyne.**—Supply and delivery of four diamond crossings for their railways at the Albert Edward Dock, North Shields, for the Tyne Improvement Commissioners. Apply Mr. J. McDonald Manson, General Manager and Secretary, Bewick Street, Newcastle-upon-Tyne. Deposit £1.

August 31.—**PLANT, &c. Grimsby.**—Installation of new centralized heating and hot-water supply plant, fuel economizer, water-softening plant, and additions to cooking apparatus at the Scartho Road Institution, Grimsby, for the Guardians. Apply Mr. J. F. Wintringham, Clerk, St. Mary's Chambers, Great Grimsby. Deposit £2 2s.

September 1.–**BRIDGE SUPER-STRUCTURE, &c. Sydney, N.S.W.**—**Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milsons Point, for Govt. of N.S.W. Application to the Agent-General. Mr. J. J. C. Bradfield, Chief Engineer, will be in London during June and July, 1922, address care of the Agent-General for New South Wales, Australia House, Strand, London, W.C.2.**

(*Continued on page* xxiv.)

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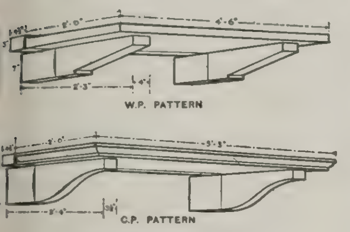

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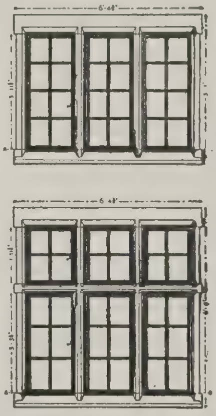

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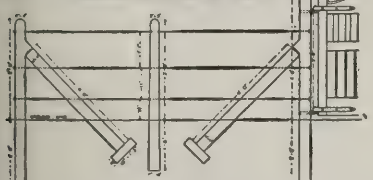

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September 1.—**RATE OF FLOW CONTROLLER. Victoria.**—Supply and delivery of a rate of flow controller for the Victoria Water Supply. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, S.W.1.

September 1.—**BRIDGE. Basingstoke.**—Reconstruction of Basing Wharf Bridge, about two miles from Basingstoke Station, for the Basingstoke Rural District Council :—Contract No. (1) The demolition of the existing brick arch and the construction of a new widened steel plate girder bridge; (1a) the steelwork for the above. Apply Mr. J. Portsmouth, 15 Victoria Street, S.W.1.

September 2.—**DECK JOISTS. Bournemouth.**—New deck joists, decking, &c., required on the Bournemouth Pier, for the Town Council. Apply Mr. F. P. Dolamore, Town Hall, Bournemouth. Deposit £1 1s.

September 4.—**SCREENING PLANT. Mansfield.**—Supplying and erecting of refuse screening plant, including elevators, conveyors, rotary screen, hoppers, &c., at the Health Depot, Lime Tree Place, Mansfield, for the Corporation. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield. Deposit £2 2s.

September 5.—**CHASSIS. Bethnal Green.**—Supply of a 25-30-h.p. Crossley chassis, with specially reinforced springs, twin wheels and tyres at rear, complete with electric starter and lighting set and lamps, full kit of tools, spare wheel and tyre, fitted with standard L.C.C. style ambulance body of the following inside dimensions: length 7 ft. 2 in., height 5 ft. 6 in., width 4 ft. 8 in.; finished in colour to be chosen, with two stretchers and cushions and pillows for same, the whole to be ready for immediate use on the road, for the Bethnal Green Board of Guardians. Full specification and illustration, to Mr. C. F. Jones, Clerk, Guardians' Administrative Offices, 79a Bishop's Road, Bethnal Green, E.2.

September 13.—**MACHINERY. Surbiton.**—Supply and erection at their Surbiton pumping station, Surrey, of one steam turbine with centrifugal pumps having a maximum capacity of 20 million gallons per 24 hours, for the Metropolitan Water Board. Apply Offices of the Board (Room 182), Chief Engineer's Department, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £3 3s.

September 13.—**MACHINERY. Eynsford, Kent.**—Supply and erection of two Diesel or high compression solid injection oil engines, with well and surface pumps, &c., at their Eynsford Works, Kent, for the Metropolitan Water Board. Apply Offices of the Board (Room 182), Chief Engineer's Department, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £3 3s.

September 15.—**WHARF. Guayaquil.**—Construction of a Custom-house wharf at Guayaquil, for the Government of Ecuador. Apply Consul-General of Ecuador, 23 College Hill, Cannon Street, E.C.

September 18.—**BEACON. Edinburgh.**—Construction of a concrete beacon on a tidal rock which lies off the northern end of South Rona, for the Commissioners of Northern Lighthouses. Apply Mr. D. A. Stevenson, 84 George Street, Edinburgh. Deposit £1.

September 29.—**LATHES. Birmingham.**—Supply delivery and erection of power-driven lathes, machine tools, line shafting and pulleys at the Nechells generating station, for the Birmingham Electric Supply Department. Apply Mr. E. J. Jennings, Secretary, 14 Dale End, Birmingham. Deposit £1 1s.

PAINTING.

August 25. — **CLEANING AND PAINTING Chelmsford.**—Cleaning and painting the interior of the scarlet fever block and the military pavilion, for the Chelmsford Joint Hospital Board. Apply Messrs. C. and W. H. Pertwee and Howard, London Road, Chelmsford.

August 25.—**PAINTING. Barrow-in-Furness.**—Painting of dwelling-houses and outbuildings, &c., on the small holdings, Bridgegate estate, for the Corporation. Apply Borough Engineer's Office, Town Hall.

August 26.—**PAINTING. Meriden.**—Painting and decorating of parts of the Poor Law Institution at Meriden, for the Guardians of Meriden Union. Apply House Master at the Institution.

August 26.—**PAINTING. Outwood.**—Painting of the exterior of the cemetery house, outside premises, gates, railings, &c., for the Outwood Burial Board. Apply Curator at the Cemetery.

August 26.—**PAINTING. Woodford.**—Painting and repairs at the fire stations, Woodford Green and South Woodford, for the Woodford Urban District Council. Apply Mr. W. Farrington, Surveyor, Council Offices, Woodford Green.

August 28.—**PAINTING. Leeds.**—Painting required to be done at St. James's Market, cold stores and abattoirs, and also for the external painting required at various schools, for the Corporation. Apply City Architect, Town Hall, Bradford.

ROADS AND SEWERS.

August 24.—**DRAINAGE. Harrietsham.**—New cesspool drainage at Holm Mill, Harrietsham, for the Hollingbourn Rural District Council. Apply Mr. F. Miskin, clerk, 33 Earl Street, Maidstone.

August 25.—**DRAIN. New Edlington.**—Laying about 206 yards of 9-in. sewer, 164 yards of 9-in. surface water drain and 66 yards of 6-in. surface water drain at New Edlington (above Thompson Avenue), for the Doncaster Rural District Council. Apply Mr. W. R. Crabtree, Union Offices, Nether Hall, Doncaster.

August 26.—**SEWER EXTENSION. Sutton-on-Sea.**—Laying reinforced concrete pipe sewers, necessary manholes and fittings, &c., in connection with extension of Trusthorpe Road sewer, Sutton-on-Sea, for the Spilsby Rural District Council. Apply Mr. J. E. Bolt, Council Offices, Boston Road, Spilsby.

August 26.—**TARSPRAYING. Newark.**—Tarspraying about 17,000 sup. yds. of road one to three miles north of Collingham Station, M.R., for the Newark Rural District Council. The tar is to be in accordance with Road Board Specification No. 1. Apply Surveyor, 27 Winchelsea Avenue, Newark.

August 28.—**REPAIRS. Barnet.**—Carrying ou temporary repairs to Normandy Avenue, for the Barne Urban District Council. Apply Mr. W. B. Chancello M.I.M.C.E., Surveyor, Municipal Offices, Wood Stree Barnet.

August 28.—**WIDENING. Willesden.**—Work o widening part of Dudden Hill Lane and Neasden Lane including the reconstruction in reinforced concrete o a bridge carrying Neasden Lane over the River Brent also the reconstruction of the culvert conveying th canal feeder under Neasden Lane, for the Willesde Urban District Council. Apply Mr. F. Wilkinson M.I.C.E., Town Hall, Dyne Road, Kilburn, N.W. Deposit £2 2s.

August 28. — **CONVERSIONS. Burslem.** — Execution of works required to be done in the conversio into water closets of 140 privy cesspools, or thereabouts in Burslem. Apply Health Department, St. Peter' Chambers, Glebe Street, Stoke-on-Trent. The successfu contractor will be required to conform to the regulation of the Council as to payment of the standard rate o wages, the employment of a percentage of disable ex-service men, sub-letting, &c.

TENDER.

Farm Buildings, Rainham. For the erection o farm buildings at East Moor Street Farm, Rainham, th Kent County Council have received the following tenders. Mr. W. H. Robinson, F.S.Arc., is the architect :—

	Price per set.					
	Wood.			Brick.		
	£	s.	d.	£	s.	d.
W. J. Parker, 5 Victoria Street, London, S.W.1	277	0	0	313	0	
National Building Guild, 112 Week Street, Maidstone ..	237	5	0	281	15	
H. R. Cowell, 37-9 Rose Street, Sheerness	237	17	6	250	0	
J. W. Ellingham, Dartford ..	210	0	0	246	0	
W. Pattinson and Sons, 38 Parliament Street, London, S.W.	210	0	0	245	0	
Y. J. Lovell and Son ..	207	0	0	237	0	
F. L. Honess, Yalding, Kent ..	205	0	0	230	0	
Merton Hughes, 25 St. Dunstan's Road, Baron's Court, W.6 ..	174	0	0	210	0	
Cox Bros., 22 Lower Stone Street, Maidstone	170	0	0	194	0	
Norman Smith and Son, Brunswick Street East, Maidstone	166	5	0	189	5	
Alexander Osborne, 160 High Street, Rochester	168	12	0	187	3	
C. E. Skinner and Son, Railway Street, Chatham	166	0	0	184	0	
G. Gates and Sons, Frindsbury, Rochester	161	0	0	170	0	
Kemp Bros., Rainham ..	144	7	6	154	0	
West Bros., Ltd., Cuxton Road, Strood*	149	15	0	149	15	

* Submitted to Ministry of Agriculture for approval

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The Week's News

Restoration of Lincoln Cathedral.

The fund for the restoration of Lincoln thedral has reached £17,747.

More Houses for Oswestry.

Twenty-five houses are to be erected the Oswestry Town Council.

Housing at Aylesbury.

The Ministry of Health have sanctioned urther loan of £6,585 for housing.

A.A. School of Architecture.

The autumn term of the A.A. School Architecture commences on October 2.

London Building Trades Guild.

Mr. Malcolm Sparkes, founder and retary of the London Building Trades ild, has resigned.

Oswestry Cottage Hospital.

Plans for the extension of the cottage spital have been passed by the vestry Town Council.

Housing at Brighton.

Moulscombe Estate, the principal using scheme of the Brighton Corpora-n, is now nearly completed.

New Church for Newcastle.

he United Methodist Church members Fence Houses have approved a scheme erect a new church and Sunday schools, a cost of £4,500.

Housing at Blackpool.

Blackpool Corporation have erected houses, and will proceed with the ction of another 100, with the sanction the Ministry of Health.

Doncaster Infirmary Extensions.

he Doncaster Board of Guardians e instructed Mr. Morton, architect, to pare plans for the extension of the r Law Institution Infirmary, at an mated cost of £67,212.

Ballantrae War Memorial.

memorial has been unveiled at lantrae to the men of the parish who in the war. The memorial is 22 ft. n and was designed by Sir Robert imer.

Great Amwell Church Tower.

he tower of Great Amwell Church, ch is over 1,000 years old, is showing siderable signs of decay. Repairs are be executed. The architect is Dudley Newman.

R.I.B.A. Kalendar.

he R.I.B.A. Kalendar for the coming ion is now in course of preparation, changes of address, etc., should be fied to the Secretary, R.I.B.A., nduit Street, W.1, as soon as possible.

Memorial Church for Ilford.

rogress is being made with the plans ne Bishop Jacob Memorial Church at d. The architect's design has been oved, and it is hoped that the money and will be sufficient to warrant the nning of the building of the complete ch early next spring.

Battle Memorial at Thiepval.

The application of the 18th Division to erect a battle memorial at Thiepval has been approved by the Battle Exploits Memorial Committee and by the Imperial War Graves Commission. The exact site of the memorial to be raised has, however, not yet been finally determined.

New Church for Hammersmith.

The Lord Mayor of London will lay the foundation stone of the new Church of St. Catherine, in Western Avenue, Hammersmith, next month. It is to be built from funds to be derived from the sale of the site of the old City church, St. Catherine Coleman, in Fenchurch Street, now being demolished.

Wooden Buildings and Fire.

The report of the American Board of Fire Underwriters states that in eighty-three American cities, with a population of over 20,000, 16·5 fires per thousand were in timber frame buildings, 24·3 fires per thousand in brick and stone buildings and 25·0 fires per thousand in buildings other than brick and stone.

Cenotaph for Toronto.

The War Memorial Committee of the Legislature are completing plans for the erection of a cenotaph at Toronto in memory of the soldiers of Ontario who gave their lives during the war. It is expected that the monument will cost in the neighbourhood of $40,000. Efforts will be made to have it an exact replica of the Cenotaph in London.

Brighton Road Widening.

Considerable progress has been made with the widening of the Brighton Road over the six miles stretch between Patcham and Pyecombe. The work was undertaken at the instigation of the Ministry of Labour in order to provide employment for a large number of unemployed. Brighton contributed £35,000 towards the cost.

Proposed New Town Hall at Pretoria.

According to a newspaper report forwarded from the office of H.M. Senior Trade Commissioner at Johannesburg, the Chairman of the Finance Committee of the Pretoria Town Council, when seeking for formal authority to raise a loan of £750,000, stated that it is anticipated that the Council will soon have in hand some £200,000, which it is proposed to devote to the construction of a town hall.

The R.I.B.A. Visit to Hampton Court.

Except in the number of those who took part the visit of the R.I.B.A. to Hampton Court was a complete success. Mr. Goodison, of the Office of Works, undertook the duty of guiding the party. Professor Adshead and Mr. F. R. Hiorns (who represented the Art Standing Committee) expressed to Mr. Goodison the thanks of those present for all that he had done.

Beckenham Cottage Hospital.

The Committee of the Beckenham Cottage Hospital have decided to proceed with the extension of the institution, proposed some time ago as a war memorial. The work has been commenced, and will cost £17,000, of which £12,500 has been obtained. The Committee have secured the services of Mr. W. A. Pite, F.R.I.B.A., the architect of King's College Hospital at Denmark Hill, to design and superintend the work.

New Sports Ground at Folkestone.

The Folkestone Council have decided to proceed with the provision of a new sports ground at Cheriton Road. They have decided to purchase 30 acres of land, including the present cricket and football ground, from Lord Radnor for £13,650. It is anticipated that £5,000 can easily be spent on levelling and preparing the ground and so providing remunerative employment for unemployed labour during the coming winter.

The Privy Council for Scientific and Industrial Research.

Engineer Vice-Admiral Sir George Goodwin, K.C.B., late Engineer-in-Chief of the Fleet, and Dr. James Colquhoun Irvine, C.B.E., F.R.S., Vice-Chancellor and Principal of St. Andrews University, have been appointed by an Order of Council, dated the 10th day of August 1922, to be members of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research.

University College School of Architecture.

In connection with the Bartlett School of Architecture of the University of London, the new building for the atelier, presented by Messrs. Goodman and Lorden, will be open in October. The new building is situated in Malet Street, immediately north of the British Museum. The atelier is intended for the study of advanced architectural design, and will be open to those who have already obtained their first qualifications in architecture.

New Cottage Hospital for Towyn.

Sir Osmond Williams, Lord-Lieutenant of Merionethshire, has officially opened the new cottage hospital which has been erected at Towyn as a war memorial. The building accommodates eight beds, is equipped with electric lighting and central heating, and contains an operating theatre. The cost was £8,000. A bronze tablet inside the building bears the names of the sailors, soldiers, and nurses from the town and district who laid down their lives in the war. Mr. F. Howorth was the architect.

New Partnership.

Mr. Thomas Adams, F.S.I., and Mr. Longstreth Thompson, B.Sc. (Eng.Lond.), have entered into partnership and will practise as town-planning consultants. Mr. Thomas Adams is Past President of the Town Planning Institute of England and Canada; hon. member of the Institute of Municipal and County Engineers; town-planning adviser to the Canadian Government and the West Middlesex Town Planning Committee; lecturer on Civic Design to the Massachusetts Institute of Technology; and formerly was town-planning inspector of the Local Government Board.

Mr. Longstreth Thompson, who is a Chadwick Gold Medallist in Municipal Engineering (Univ. Coll. Lond.), holds the following distinctions: A.M.Inst.C.E., P.A.S.I., Member of the Town Planning Institute, and formerly was assistant architect to the Housing Department, Ministry of Health. The firm will act in close collaboration with Messrs. Thomas H. Mawson and Sons, architects and landscape architects, of Lancaster. The offices of the firm are at 121 Victoria Street, Westminster, S.W.1 (Telephone: Victoria 7087), and 16 East 41st Street, New York.

Birmingham Exhibition of Hubbard Etchings.

During the whole of September and October there will be on view in the foyer of the Birmingham Repertory Theatre an exhibition of etchings and drawings by Mr. E. Hesketh Hubbard, R.O.I., A.R.W.A. Mr. Hubbard is the founder of The Print Society, an international society of etchers and print collectors, and the editor of an authoritative work on etching. We understand he is at present engaged on another work on etchings, and is making a series of drawings of "Building Modern London."

Hull Town Planning Scheme.

An inspector of the Ministry of Health, Mr. C. H. Eyles, F.S.I., has held an inquiry at Hull into preliminary proposals in connection with a town planning scheme prepared by the Hull Corporation for the south-eastern area of Hull, which includes a portion of the city and the adjoining district. The chief feature of the scheme is a road from Hull to Hedon through land purchased by the North-Eastern Railway for commercial purposes. There is another main road proposed for the East Hull housing site to a point north of Hedon, which would allow the traffic to avoid passing through Hedon. There is also proposed another main road from the corner of Sutton and Hedon main road to Paull Road. Objections were raised on behalf of the Pegton Parish Council, the Sculcoates Rural District Council, and private landowners. Ald. T. B. Atkinson (the chairman of the City Improvement Committee) stated that the scheme had the approval of all the local authorities interested.

Architect wanted for Hong Kong.

The Secretary of the R.I.B.A. has received the following cablegram from Messrs. Little, Adams & Wood of Hong Kong:—

"Kindly select for us energetic competent essentially real architect businesslike able to take charge designer essential single age under thirty efficiently vouched for professionally and personally salary 350 Mexican dollars monthly yearly increment twenty - five dollars three years' engagement free quarters or allowance fifty dollars free passage early partnership prospects refer selected candidate Pollock Lloyds Avenue for engagement.—Little Adams & Wood."

Any architect desirous of applying for this post should write at once to the Secretary, R.I.B.A., 9 Conduit Street W.1.

S.E. and C.R. Electrification.

The Electricity Commissioners, who held an inquiry into the application of the South-Eastern and Chatham Railway for consent to the establishment of a generating station at Angerstein's Wharf, Charlton, and of the West Kent Electric Co., Ltd., for the establishment of a generating station at Belvedere, have adjourned their decision to enable the parties to have a further opportunity of conferring in order to arrange a mutually acceptable contract. During the inquiry offers to supply the railway company were made by the West Kent Company and by the County of London Electric Supply Company, and the Commissioners decided in the affirmative the question which arose under the Act as to whether there was an undertaking in a position to give the railway company an adequate supply. The S.E. and C.R. expect to complete the first stage of the electrification of their lines by June, 1925.

A.A. Annual Excursion.

The first A.A. Annual Excursion held since 1914 will take place between September 22 and 30, and will be to Holland. It is proposed that Amsterdam should be the centre from whence various excursions will be made to Haarlem, Delft, Zuyder Zee, etc. The old and modern architecture of Amsterdam will be visited under the guidance of Dutch architects and also the great housing schemes which have aroused much interest. There will be various social functions. Full details will be announced later, but members wishing to join the excursion are requested to send in their names to the Secretary immediately as the number of the party will of necessity be limited. The cost will be about £15, but this amount will be settled definitely in due course.

London Housing.

Regulations have been issued by the Minister of Health with reference to losses by metropolitan borough councils in connection with the London County Council assisted housing scheme. For the purposes of the schemes of borough councils the loss in the carrying out of which is repayable by the L.C.C. under Section 8 of the Housing Act, 1921, the councils are directed to keep separate accounts, which will be submitted to the Ministry of Health. The Minister, who will notify the L.C.C. of the amount which is to repaid by it, takes power to direct the making of payments on account of probable deficits of the borough councils. Differences of opinion will be referred to the tribunal appointed under Article 7 of the regulations of 1919, and its decision will be final and conclusive

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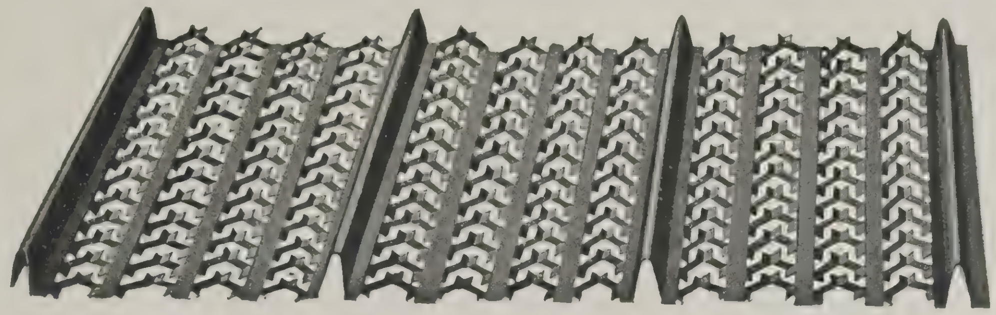

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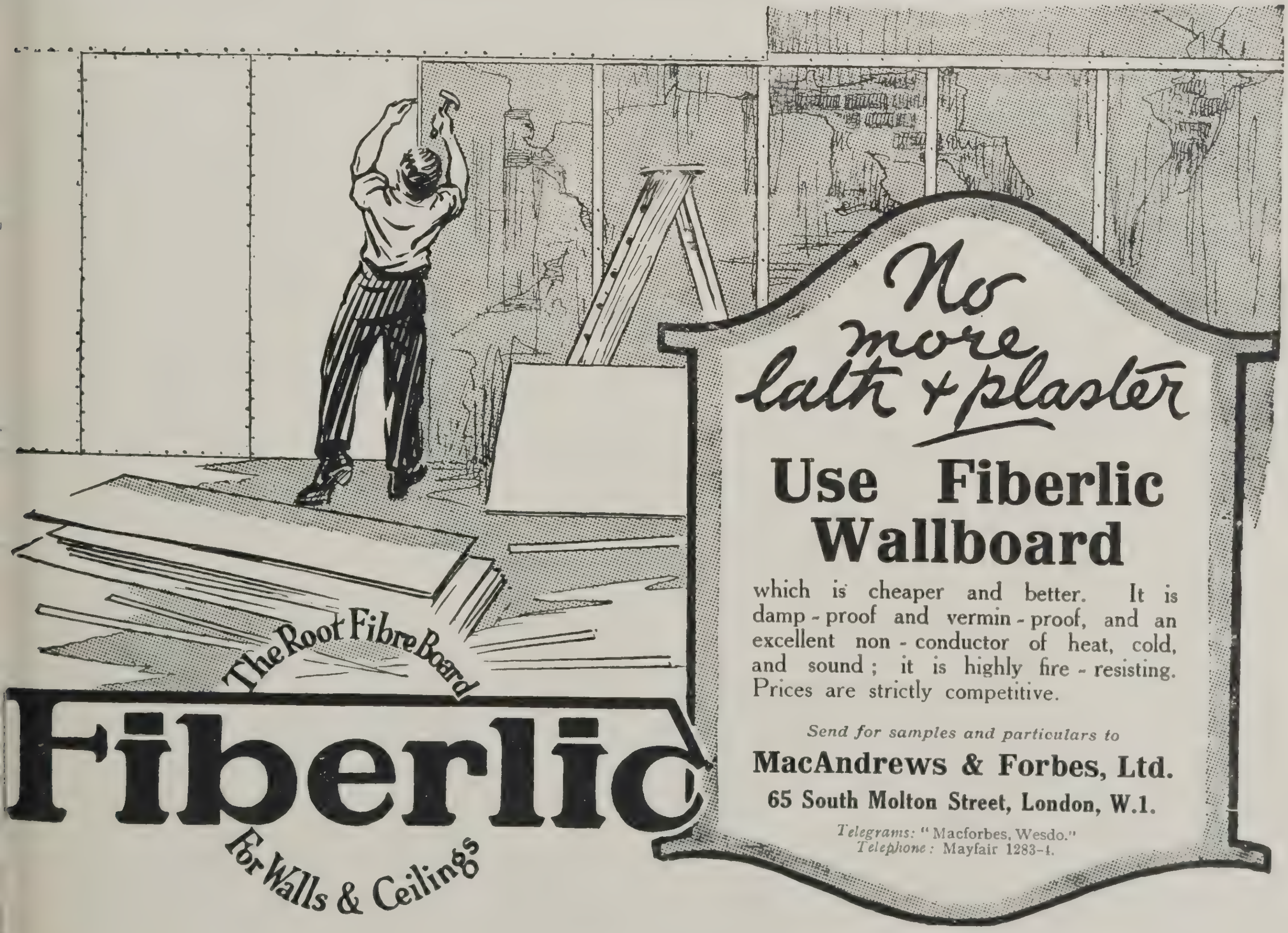

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BUILDING.

August 31.—**HOUSES. Musselburgh.**—Erection of 20, or alternatively 10, houses at Monktonhall Terrace, for the Town Council. Apply Mr. W. Constable, 3 Hill Street, Edinburgh.

August 31.—**BUNGALOW. Gravesend.**—Construction of a bungalow and kiosk on the Gordon Promenade, for the Town Council. Apply Borough Surveyor's Office.

August 31.—**REPAIRS, &c. Pontllanfraith, Mon.**—Carrying out of certain repairs and painting to their council office and caretaker's house, Pontllanfraith, Mon., for the Mynyddislwyn Urban District Council. Apply Council Offices, Pontllanfraith, Mon. Deposit £1 1s.

August 31.—**WARDS. Stowmarket.**—Erection of two new wards and offices at the Isolation Hospitals, Bury Road, Stowmarket, for the Stowmarket Urban District Council. Apply Messrs. Hunt and Coates, Abbeygate Street, Bury St. Edmund's.

August 31.—**SMITHFIELD. Wem.**—Erection of a new smithfield at Wem, Shropshire. Apply Mr. R. Matthews, F.M.S.A., L.R.I.B.A., architect and Surveyor, Parr's Bank Chambers, Nantwich. Deposit £2 2s.

August 31.—**ALTERATIONS. Blandford.**—Alterations to the Blandford Secondary School in Damory Street, Blandford. Apply Mr. W. H. Wilson, Salisbury Street, Blandford, Clerk to the Governors.

August 31.—**TELEPHONE EXCHANGE. Hounslow.**—Erection of a telephone exchange at Hounslow, Middlesex. Bills of quantities and forms of tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1, on payment of £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

August 31.—**WAR MEMORIAL. Ipswich.**—War memorial wing at the East Suffolk and Ipswich Hospital, Ipswich. Apply Mr. H. M. Cautley, A.R.I.B.A., Architect, The Thorofare, Ipswich. Deposit £25 Bank of England note (cheques not accepted.)

August 31.—**HOUSES. Jarrow.**—Erection of semi-detached houses on the Monkton housing site, for the Town Council. Apply Mr. J. S. Weir, A.M.I.C.E., Borough Engineer, Jarrow.

August 31.—**REPAIRS. Leinthall Earles.**—Repairs at Leinthall Earles School, which is situated about 5¼ miles from Kingsland Station, for the Herefordshire County Council. Apply Mr. G. H. Jack, M.I.C.E., County Surveyor, High Town, Hereford.

August 31.—**ALTERATIONS. Par.**—Alterations and additions to the Territorial Drill Hall, Par, Cornwall. Apply Mr. A. J. Cornelius, F.S.Arc., Architect and Surveyor, Truro.

August 31.—**REPAIRS. Rugby.**—Repairs and painting required at the slaughter-houses, &c., and mortuary, Rugby, for the Rugby Urban District Council. Apply Mr. J. H. Sharp, M.I.M.C.E., Surveyor, Benn Buildings, High Street, Rugby.

September 1.—**REPAIRS AND MATERIALS. Aldershot.**—Works contracts from October 1, 1922, at the stations mentioned below in the North Aldershot Royal Engineer District of the Aldershot Command. Address of Royal Engineer's Office, Marlborough Lines, North Aldershot, Hants. (1) North Aldershot, including Marlborough Lines, Pinehurst and Mytchett; (2) Blackdown and Deepcut, including Woking, Pirbright, and Cobham; (3) Sandhurst and Arborfield. Apply Royal Engineer Office.

September 1.—**ALTERATIONS. Llandrygarn.**—Alterations and repairs at Seion C.M. Chapel, Llandrygarn. Apply Caretaker of Moriah C.M. Chapel, Llangefni.

September 1.—**BRICKS. London.**—Supply of common bricks to Llantrissant housing scheme, S. Wales. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1.

September 1.—**PLASTERING. Pelton.**—Plastering work at Perkinsville (Pelton) housing scheme, Co. Durham. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1.

September 1.—**REPAIRING. Tondu.**—Repairing and painting the Jerusalem Welsh Baptist Church, Tondu. Apply Mr. D. Watkin David, Hillgate, Aberkenfig.

September 2.—**HOUSES. Tyldesley.**—Erection and completion of 26 houses in connection with the Tyldesley (Sale Lane) housing scheme, for the Urban District Council. Apply Mr. F. E. Jones, M.I.M. and Cy. E., Council Offices, Tyldesley. Deposit £2 2s.

September 2.—**DWELLINGS. Huddersfield.**—Erection of 32 workmen's dwellings in Newsome Road, Huddersfield, for the Corporation. Apply Offices of the Borough Architect, 1 Peel Street, Huddersfield.

September 4.—**BUILDING. West Bromwich.**—Wood and brick building in Great Barr Park, size about 81 ft. by 30 ft., for the Walsall and West Bromwich Unions Joint Committee. Apply Mr. A. H. Ward, Clerk, 22 Lombard Street, West Bromwich. Deposit £1 1s.

September 4.—**SUB-STATION. Caerphilly.**—Erection of a sub-station at Caerphilly in connection with the Caerphilly electric lighting scheme, for the Caerphilly Urban District Council. Apply Mr. T. H. Richards, Surveyor, Caerphilly. Deposit £1 1s.

September 5.—**CONVENIENCES. Warrington.**—Erection and completion of sanitary conveniences at Bridge Foot, Bank Park, &c., for the Sanitary Works Committee. Apply Borough Surveyor, Town Hall. Deposit £2 2s.

September 5.—**TELEPHONE EXCHANGE. Woodford Green.**—Erection of a telephone exchange, Woodford Green, Essex. Bills of quantities and forms of tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1, on payment of £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

September 5.—**HOUSES. Fochriw.**—Erection of 12 houses on the Fochriw site, for the Gellygaer Urban District Council. Apply Mr. P. Jones Williams, Architect, Council Offices, Hengoed, Glam. Deposit £2 2s.

September 5.—**HOUSES. Mansfield Woodhouse.**—Erection and completion, on a site at Pump Hollow, Forest Town, of six non-parlour type houses (in pairs), similar to those erected on the Butt Lane estate, for the Mansfield Woodhouse Urban District Council. Tenders are to be lump-sum tenders, firm for labour and materials. Apply Mr. L. Walker, M.I.M.C.E., Council Offices, Mansfield Woodhouse.

September 6.—**TELEPHONE REPEATER STATION. Derby.**—Erection of a telephone repeater station at Derby. Apply Postmaster, Derby. Bills of quantities and forms of tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1, on payment of £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

September 6.—**POST OFFICE. Bridgend.**—Erection of a post office at Bridgend. Apply Postmaster, Bridgend. Bills of quantities and forms of tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1, on payment of £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

September 6.—**SHOP. Newark.**—Erection of a branch shop and other premises in Earp Avenue, Newark, for the Newark Co-operative Society, Ltd. Apply Mr. J. Saunders, L.R.I.B.A., Architect, 4 Spring Gardens, Newark.

September 6.—**EXTENSION OF TELEPHONE EXCHANGE. Streatham.**—Extension of Streatham telephone exchange. Bills of quantities and form of tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1, on payment of £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

September 7.—**COTTAGES. Cottesbrooke.**—Erection of two cottages on a site adjoining the Northampton-Welford main road, in the parish of Cottesbrooke, for the Northampton Town Council. Apply Water Engineer's Office, Fish Street, Northampton.

September 7.—**HOUSES. Padiham.**—Erection of 10 houses as follows, for the Padiham Urban District Council: One pair of parlour type with three bedrooms; two blocks of four houses, non-parlour type, with three bedrooms. Apply Surveyor's Office, Council Offices, Padiham. A separate tender must be given for each type of house.

September 8.—**HOUSES. Norwich.**—Erection of 24 houses on the Mile Cross Estate, Norwich, for the Corporation. The work is divided between the following architects:—Mr. S. G. Livock, A.R.I.B.A., 128 Unthank Road, Norwich; Messrs. A. F. Scott and Sons, A.A., A.R.I.B.A., 24 Castle Meadow, Norwich; Mr. G. J. Skipper, F.R.I.B.A., 7 London Street, Norwich; Mr. S. J. Wearing, A.R.I.B.A., 3 Redwell Street, Norwich. Contractors are invited to tender for one or more sections. Forms of tender may be obtained on application to the architects, at whose offices copies of specifications and drawings can be seen.

September 9.—**HOUSES. Attleborough.**—Erection of four houses at Attleborough, for the Wayland Rural District Council. Apply Mr. F. Robinson, Clerk, Watton.

September 9.—**CLOSETS. Meltham, Yorks.**—Mason's, plumber's, and joiner's work in connection with the erection of five water closets at Victoria Buildings, Meltham, for the Meltham Urban District Council. Apply Mr. J. Hinchliffe, Surveyor and Sanitary Inspector, Town Hall, Meltham.

September 9.—**POLICE COURT. Pontlottyn.**—(1) The erection of a new police court at Pontlottyn; (2) internal and external painting and repairs at Cwmgwrach police station; (3) internal and external painting, colouring, and repairs at Senghenydd police station; (4) internal and external painting, colouring, repairs, &c., at Seven Sisters police station; (5) internal painting, colouring, repairs, &c., at Treherbert police station. Rates of wages, &c., clauses to be observed. Apply, for work No. 1, at the Police Station, Pontlottyn, and at the County Hall, Cardiff; and for works Nos. 2, 3, 4, and 5, at the respective Police Stations and at the County Hall, Cardiff.

September 11.—**HOUSES. Walthamstow.**—Erection of 14 houses on their Forest Road (Fitzwygram) housing site, for the Walthamstow Urban District Council. Apply Mr. G. W. Holmes, A.M.I.C.E., Town Hall Annexe, Walthamstow. Deposit £1.

September 12.—**HOUSES. Purston.**—Erection of 12 houses on the Church Fields site, Purston, for the Featherstone Urban District Council. Apply Mr. S. Chesney, A.R.I.B.A., Council Offices, Featherstone, near Pontefract. Deposit £2 2s.

September 14.—**ENGINE AND COMPRESSOR HOUSE. Lymm.**—(1) Erection of an engine and compressor house constructed in either brickwork or ferro-concrete at the Gasworks, Lymm; (2) supply and erection of one 25-h.p. gas engine, also one compound belt-driven air compressor capable of compressing air to a pressure of 35 lb. per square inch and dealing with 9,000 cubic feet of free air per hour, also necessary shafting, pulleys, and belting. Apply Surveyor, Council Offices, Lymm.

September 15.—**EXTENSIONS. Batley.**—Mason's, joiner's, plumber's, plasterer's, slater's, painter's, heating engineer's, and electrical engineer's work in the erection of extensions to the Batley and District Hospital. Apply Messrs. W. Hanstock and Son, Hon. Architects, Branch Road, Batley. Deposit 5s.

September 19.—**ALTERATIONS TO COTTAGES. High Houghall.**—Builder's work in connection with the following: High Houghall Farm—(1) alterations to cottages; (2) conversion of farm buildings into poultry station. Apply Mr. F. Willey, F.R.I.B.A., 34 Old Elvet, Durham.

September 19.—**HOUSES. Gosforth.**—Erection of 20 semi-detached houses on road No. 6 of the Corlodge Housing site for the U.D.C. Apply Mr. George Nelson, A.M.I.C.E., Engineer and Surveyor, to the Council, Council Chambers, High Street.

ELECTRICAL.

August 31.—**TURBO-ALTERNATOR, &c. Wimbledon.**—Supply, delivery, and erection at their electricity works, Durnsford Road, Wimbledon, of a 3,000-kw. turbo-alternator, condensing plant and auxiliaries, for the Town Council. Apply Mr. A. E. McKenzie, M.I.E.E., Borough Electrical Engineer, Electricity Works, Durnsford Road, Wimbledon, S.W.19. Deposit £2 2s.

August 31.—**WIRING. Wakefield.**—Wiring of Holmfield House for electric lighting, for the Wakefield Corporation. Apply Mr. A. C. Allibone, Town Clerk, Town Hall, Wakefield.

September 5.—**CRANES. Edinburgh.**—Conversion of two overhead cranes from mechanical to electrical operation, for the Corporation. Apply Tramways Manager, 2 St James Square, Edinburgh.

September 5.—**ELECTRICAL EQUIPMENT. Edinburgh.**—Supply and delivery to Shrubhill Tramway Depot, Leith Walk, Edinburgh, of electrical equipment for 80 electric cars, for the Corporation. Apply Tramways Manager, 2 St. James Square, Edinburgh.

September 6.—**ELECTRIC LIGHT FITTINGS. Portsmouth.**—Supply and fixing of various fittings in connection with the electric light installations of the housing schemes carried out by the Corporation under the Housing Acts—such fittings do not include the lamps and shades, for the Corporation. Apply Town Clerk, Town Hall, Portsmouth.

September 7.—**TRANSFORMERS. Hammersmith.**—(a) Transformers, oil-cooled and air-cooled; (b) cables, E.H.T.; and (c) switchgear, E.H.T. and H.T. Apply Mr. G. G. Bell, Engineer and Manager, Electricity Works, 85 Fulham Palace Road, W.6.

September 26.—**TELEPHONE PARTS. Australia.**—Supply (by the dates named) of telephone parts, schedule V.53 (September 26); telephone apparatus and parts, schedule 561 (September 27). Apply Room 101, Australia House, Strand, London, W.C.2.

September 27.—**TELEPHONE APPARATUS AND PARTS. Brisbane.**—For supply and delivery of telephone apparatus and parts, schedule No. 561, for Deputy Postmaster-General at Brisbane. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

ENGINEERING

August 31.—**PLANT, &c. Grimsby.**—Installation of new centralized heating and hot-water supply plant, fuel economizer, water-softening plant, and additions to cooking apparatus at the Scartho Road Institution, Grimsby, for the Guardians. Apply Mr. J. F. Wintringham, Clerk, St. Mary's Chambers, Great Grimsby. Deposit £2 2s.

August 31.—**HEATING APPARATUS. Ipswich.**—Installation of heating apparatus at the New Sorting Office, Ipswich. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Secretary, H.M. Office of Works.)

September 1.—**BRIDGE SUPER-STRUCTURE, &c. Sydney, N.S.W.**—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milson's Point, for Govt. of N.S.W. Application to the Agent-General. Mr. J. J. C. Bradfield, Chief Engineer, will be in London during June and July, 1922, address care of the Agent-General for New South Wales, Australia House, Strand, London, W.C.2.

September 1.—**RATE OF FLOW CONTROLLER. Victoria.**—Supply and delivery of a rate of flow controller for the Victoria Water Supply. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, S.W.1.

September 1.—**BRIDGE. Basingstoke.**—Reconstruction of Basing Wharf Bridge, about two miles from Basingstoke Station, for the Basingstoke Rural District Council:—Contract No. (1) The demolition of the existing brick arch and the construction of a new widened steel plate girder bridge; (1a) the steelwork for the above. Apply Mr. J. Portsmouth, 15 Victoria Street, S.W.1.

(*Continued on page* xxiv.)

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September 2.—**DECK JOISTS. Bournemouth.**—New deck joists, decking, &c., required on the Bournemouth Pier, for the Town Council. Apply Mr. F. P. Dolamore, Town Hall, Bournemouth. Deposit £1 1s.

September 2.—**WATER MAINS. Pinchbeck.**—Construction of about three and a half miles of new water mains, 3 in. in diameter, in the parish of Pinchbeck, for the Spalding Rural District Council. Apply Mr. E. J. Silcock, M.I.C.E., 10 Park Row, Leeds. Deposit £5.

September 2. — **STRENGTHENING BRIDGE. Wakefield.**—(1) Strengthening of Dowham Bridge including concrete saddle and necessary road works: Bowland Rural District on a district road in the village of Rimington; (2) surface water drainage works at Bentley, consisting of about 600 yards of cast iron and stoneware pipes of various sizes, excavations, &c., Bentley-with-Arksey Urban District Doncaster and Selby main road; (3) surface-water drainage works at Knottingley, consisting of about 1,000 yards of cast iron and stoneware pipes of various sizes, excavations, &c., Knottingley Urban District Wakefield and Weeland main road; and (4) paving works at Swinton, including reinforced concrete foundations, granite, paving and footpath works, Swinton Urban District Wombwell Lane main road. Apply Mr. H. R. Hepworth, A.M.I.C.E., West Riding Surveyor, County Hall, Wakefield. Deposit £1 each contract.

September 4.—**SCREENING PLANT. Mansfield.**—Supplying and erecting of refuse screening plant, including elevators, conveyors, rotary screen, hoppers, &c., at the Health Depot, Lime Tree Place, Mansfield, for the Corporation. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield. Deposit £2 2s.

September 4.—**STEELWORK. Salford.**—Supply of materials and work necessary in connection with the following contracts for Agecroft Power Station: (1) Contract A.P.S. 4, for steelwork, &c.; (2) Contract A.P.S. 5, foundations, aqueducts, &c., for the Corporation. Apply Borough Electrical Engineer, Electricity Works, Frederick Road, Salford. Deposit £2 2s. each contract.

September 5.—**CHASSIS. Bethnal Green.**—Supply of a 25-30-h.p. Crossley chassis, with specially reinforced springs, twin wheels and tyres at rear, complete with electric starter and lighting set and lamps, full kit of tools, spare wheel and tyre, fitted with standard L.C.C. style ambulance body of the following inside dimensions: length 7 ft. 2 in., height 5 ft. 6 in., width 4 ft. 8 in.; finished in colour to be chosen, with two stretchers and cushions and pillows for same, the whole to be ready for immediate use on the road, for the Bethnal Green Board of Guardians. Full specification and illustration, to Mr. C. F. Jones, Clerk, Guardians' Administrative Offices, 79a Bishop's Road, Bethnal Green, E.2.

September 6.—**WATER CISTERN. Wetwang.**—Construction of an underground rain-water cistern in reinforced concrete at Wetwang, for the Driffield Rural District Council. Apply Mr. G. Harker, Clerk, 17 Exchange Street, Driffield.

September 6.—**CLEANING OUT WELL. Driffield.**—Cleaning out of a well at Butterwick, in their district, for the Driffield Rural District Council. Apply Mr. G. Harker, Clerk, 17 Exchange Street, Driffield.

September 6. — **DREDGING. Inverness.**—For dredging in Inverness Harbour: (1) For dredging 27,900 cubic yards; and (2) for dredging 35,000 cubic yards, or more if required. Apply Mr. J. Fraser, C.E., 106 Castle Street, Inverness.

PAINTING.

August 31.—**PAINTING. Birmingham.**—Painting and repairs at the Vestry Hall, Islington Row, for the Overseers. Apply Mr. H. Humphries, M.I.C.E., City Engineer and Surveyor, Council House, Birmingham. Deposit £1.

August 31.—**PAINTING. London.**—Execution of internal painting at the Training Centre, Carlow Street, Camden Town, N.W. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

August 31.—**PAINTING. Wakefield.**—Painter's work required to be executed at the Registry of Deeds, Wakefield, for the West Riding Law and Parliamentary Committee. Apply West Riding Architect, County Hall, Wakefield.

September 5.—**PAINTING. Sunderland.**—Execution of internal and external painting at the Ministry of Pensions Hospital, Sunderland. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

September 6.—**PAINTING. Normanton.**—Painting and decorating the interior of the scarlet fever and typhoid wards for the Normanton and District Joint Isolation Hospital Committee. Apply Mr. J. W. Martin, Clerk, Council Offices, Normanton.

September 11.—**PAINTING. Pudsey.**—Painting the exterior of the Pudsey Worsted Mill, New Street, Pudsey. Apply Mr. W. Shackleton, Architect, Manor House Street, Pudsey.

ROADS AND SEWERS.

August 31.—**RECONSTRUCTING. Romsey.**—Work in Church Road, Romsey, for the Corporation. Apply Borough Surveyor's Office, Town Hall.

August 31.—**ROAD IMPROVEMENT. Nantymoel.**—Excavating and removing approximately 1,000 cubic yards of earth, with incidental works necessary to widen the approach road to Blandy Terrace, Nantymoel, for the Ogmore and Garw Urban District Council. Apply Mr. A. H. Jenkins, P.A.S.I., Housing and Town Planning Surveyor, Council Offices, Brynmenyn.

September 1.—**ASPHALTE MACADAM. Bournemouth.**—Laying Trinidad asphalte macadam in the following roads:—The Square, Avenue Road, Seamoor Road, Gervis Place, St. Peter's Road, and Fir Vale Road, for the Town Council. Apply Borough Engineer, Mr. F. P. Dolamore. Deposit £1 1s.

September 4.—**SEWERS. Rotherham.**—Labour and materials required in the construction of (1) 9 in. stoneware pipe sewer, manholes, vent column, &c., in Narrow Lane, Brinsworth, and (2) 9 in. and 12 in. stoneware pipe sewers, building manholes, and the construction of piers for a lattice girder bridge over the River Rother at Canklow, in the parishes of Brinsworth and Whiston, for the Rotherham Rural District Council. Apply Mr. C. O. Rawstron, Engineer and Surveyor, Imperial Buildings, Rotherham. Deposit £3 3s.

September 4.—**SEWAGE DISPOSAL WORKS. Mansfield.**—Contract No. 1. Construction of a bio-aeration tank, capacity 330,000 gallons, three settling and three humus tanks of the Dortmund type, engine-house and sludge well, sludge and effluent drains and sundry works at the Mansfield sewage disposal works, near Old Mill Lane, in the parish of Mansfield Woodhouse. Contract No. 2. Supplying and fixing of two 12½-b.h.p. and two 5-b.h.p. electric motors, two 4-in. centrifugal pumps, three rotary distributors, sixteen 10 ft. diameter paddle wheels, cast-iron pipes, shafting, &c., and supplying penstocks, gauge plates, cast-iron pipes, manhole covers, and frames, &c., at the Mansfield sewage disposal works, near Old Mill Lane, in the parish of Mansfield Woodhouse. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield. Deposit £2 2s.

September 5.—**ROAD WORKS. Rugby.**—Works of improvement of Deerings Road, Hillmorton, near Rugby, consisting of approximately 420 lin. yds. 6 in. surface-water sewer, 700 sq. yds. w.b.m. carriageway, construction of footpath, &c., for the Rugby Rural District Council. Apply Mr. E. G. Timbrell, A.M.I.C.E., Hillmorton, Rugby. Deposit £1.

September 6.—**SEWERS. Whitchurch.**—Construction of about 530 lineal yards of 12 in. and 9 in. earthenware pipe surface-water sewers, with manholes, &c., at Church Road, Whitchurch, for the Llandaff and Dinas Powis Rural District Council. Apply Mr. W. Farrow, Park House, 20 Park Place, Cardiff.

September 6.—**ROAD WORK. Hove.**—Making-up the roadway, forming footway, and other works in connection therewith in part of Boundary Road, between the railway and Hallyburton Road, for the Town Council. Apply Borough Surveyor, Town Hall, Hove.

September 6.—**SEWERS. Neath.**—Construction of storm-water sewers, laying and jointing earthenware pipes, erection of manholes, gully gratings, laying kerbing, channelling, paving, ballasting and metalling, &c., as required by the Private Street Works Act, 1892, together with all other work required in the reconstruction of John Street and adjoining roads, Tonmawr, for the Neath Rural District Council. Apply Mr. D. M. Davies, Engineer, Council Offices, Neath. Deposit £2 2s.

September 13. — **PAVING. Rochdale.** — Paving, &c., work required in certain portions of Kitter Street; for the Paving, &c., Committee. Apply Borough Surveyor's Office, Town Hall, Rochdale.

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SOUTHWARK STREET, LONDON, S.E.

Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only, and should be confirmed by Trade inquiry. The Labour Rates are ose current at the time of issue and are the Union Rates The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary. The measured prices are based upon the foregoing, and include usual Builders' profit.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

XCAVATOR AND CONCRETOR.

LABOUR RATES AND MATERIAL PRICES.

- xcavator, 1s. 3d. per hour.
- abourer, 1s. 3d. per hour.
- avvy, 1s. 3d. per hour.
- imberman, 1s. 5d. per hour.
- caffolder, 1s. 4d. per hour.
- atchman, 6s. 6d. per shift.

- roken brick or stone, 2 in., 10s. per yd.
- hames ballast, 13s. per yd.
- it gravel, 17s. 6d. per yd.
- it sand, 16s. per yd.
- ashed sand, 18s. per yd.
- creened ballast or gravel, add 10 per cent. per yd.
- linker, breeze, etc., prices according to locality.
- ortland cement, 74s. per ton.
- ias lime, 59s. per ton.
- acks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.
- ransport hire per day :
  - Cart and horse, 22s.
  - 3-ton motor lorry, £4.
  - Steam lorry, 5-ton, £4 10s.
  - Trailer, 20s.
  - Steam roller, £4 5s.
  - Water cart, 25s.

MEASURED WORK PRICES.

- Excavating and throwing out in ordinary earth not exceeding 6 ft. deep basis price 3s. 3d. per yd. cube.
- Exceeding 6 ft., but under 12 ft., add 25 per cent.
- In stiff clay, add 50 per cent.
- In underpinning, add 120 per cent.
- In rock, including blasting, add 225 per cent.
- If basketed out, add 80 per cent. to 150 per cent.
- Headings, including timbering, add 400 per cent.
- Return, fill, and ram, ordinary earth, 3s. 9d. per yd.
- Spread and level, including wheeling, 3s. 6d. per yd.
- Planking, 4½d. per ft. sup.
- Do. over 10 ft. deep, add for each 5 ft. depth 40 per cent.
- Hardcore, 2 in. ring, filled and rammed 4 in. thick, 2s. 9d. per yd. sup.
- Do. 6 in. thick, 3s. 8d. per yd. sup.
- Puddling, 28s. per yd. cube.
- Cement concrete, 4-2-1, 47s. per yd. cube.
- Do. 6-2-1, 38s. per yd. cube.
- Do. in upper floors, add 15 per cent.
- Do. in ferro-concrete work, add 20 per cent.
- Do. in underpinning, add 60 per cent.
- Lias lime concrete, 36s. per yd. cube.
- Breeze concrete, 30s. per yd. cube.
- Do. in lintols, etc., 2s. 3d. per ft. cube.

RAINER.

LABOUR RATES AND MATERIAL PRICES.

- abourer, 1s. 3d. per hour.
- imberman, 1s. 5d. per hour.
- ricklayer, 1s. 8d. per hour.
- lumber, 1s. 8½d. per hour.
- atchman, 6s. 6d. per shift.

- toneware pipes, tested quality, 4-in. 1s. 6d., 6-in. 3s., 9-in. 4s. 3d. per yd.
- ast iron pipes, coated, 9-ft. lengths, 4-in. 5s. 6d., 6-in. 8s. 0d. per yd.
- ortland cement and sand, see " Excavator " above.
- ead for caulking, 34s. 6d. per cwt.
- askin, 6d. per lb.

MEASURED WORK PRICES.

- Stoneware drains. jointed in cement, tested pipes, 4 in. 2s. 6d., 6 in. 3s. 6d., 9 in. 4s. 9d. per ft.
- Cast-iron drains, jointed in lead, 4 in. 10s. 0d., 6 in. 14s. per ft.
- Note.—These prices include digging and filling for normal depths, and are average prices.
- Fittings in Stoneware and Iron according to type. *See* Trade Lists.

RICKLAYER.

LABOUR RATES AND MATERIAL PRICES.

- ricklayer, 1s. 8d. per hour.
- abourer, 1s. 3d. per hour.
- caffolder, 1s. 4d. per hour.

- ondon stocks, 82s. per M.
- lettons, 61s. per M.
- taffordshire blue, 200s. per M.
- irebricks, 2½ in., 225s. per M.
- lazed salt, white, and ivory stretchers, £24 per M.
- o. headers, £23 10s. per M.
- olours, extra, 110s. per M.
- econds, less, £1 per M.
- ement and sand, see " Excavator " above.
- ime, grey stone, 61s. per ton.
- ixed lime mortar, 24s. per yd.
- amp course, in rolls of 4½ in. 4s. per roll.
  9 in. 6s. 6d., 14 in. 8s., 18 in. 9s. 3d. per roll.

MEASURED WORK PRICES.

- Brickwork in stone lime mortar, Flettons, or equal £35 per rod
- Do. in cement do., £38 per rod.
- Do. in stocks, add 25 per cent. per rod.
- Do. in blues, add 120 per cent. per rod.
- Do. circular on plan, add 12½ per cent. per rod.
- Facings, half Brick fair, 1½d. per ft. sup. extra.
- Do. picked Flettons, 2d. per ft. sup. extra.
- Do. picked stocks, 1½d. per ft. sup. extra.
- Do. salt, white or ivory glazed, 5s. 6d. per ft. sup. extra.
- Tuck pointing, 1s. per ft. sup. extra.
- Weather pointing, 2d. per ft. sup. extra.
- Granolithic and Cement paving, 1 in. 3s. 3d. per yd. sup.
- Do. 1½ in., 4s. per yd. sup.
- Do. 2 in., 4s. 9d. per yd. sup.
- Fixing only damp course, ex rolls, 1d. per ft. sup.
- Asphalt, damp course, ½ in., 9s. 6d. per yd. sup.
- Do. vertical, 13s. 0d. per yd. sup.
- Slate damp course, 1s. 3d. per ft. sup.
- Asphalt Roofing (Mastic) in two thicknesses, ¾ in., 9s. 6d. per yd.
- Skirting, 6 in., 1s.
- 2½ in. Breeze Partition Blocks, set in Cement, 6s. 3d. per yd. sup.
- 3 in. do. do. 8s.

ASON (INCLUDING SLATE).

LABOUR RATES AND MATERIAL PRICES.

- ason, 1s. 8d. per hour.
- o. fixer, 1s. 9d. per hour.
- abourer, 1s. 3d. per hour.
- caffolder, 1s. 4d. per hour.

- ortland stone :
  - Whitbed, 4s. 7d. per ft. cube.
  - Basebed, 4s. 8d. per ft. cube.
- ath stone, 3s. 1d. per ft. cube.
  - Usual trade extras for large blocks.

MEASURED WORK PRICES.

- Hoisting and setting stone, 2s. 0d. per ft. cube.
- Do. for every 10 ft. above 30 ft., add 15 per cent.
- Plain face Portland basis, 2s. 6d. per ft. sup.
- Do. circular, 3s. 8d. per ft. sup.
- Sunk face, 3s. 4d. per ft. sup.
- Do. circular, 4s. 0d. per ft. sup.
- Joints, arch, 2s. 0d. per ft. sup.
- Do. sunk, 2s. 1d. per ft. sup.
- Do. do. circular, 3s. 8d. per ft. sup.
- Circular-circular work, 18s. 0d. per ft. sup.
- Plain moulding, straight, per inch of girth, 10½d. per ft. run.
- Do. circular, do. 1s. 2d. per ft. run.
- Half sawing, 1s. 1d. per ft. sup.
- Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

MASON—continued.

LABOUR RATES AND MATERIAL PRICES.

- York paving, av. 2½ in. 9s. 6d. per yd. super.
- York templates sawn, per ft. cube, 13s.
- Slate shelves, rubbed, 1 in., 2s. 1d. per ft. sup.
- Cement and sand, see " Excavator," etc., above.

MEASURED WORK PRICES.

- Do. Mansfield, 12½ per cent.
- Deduct for Bath, 33⅓ per cent.
- Do. for Chilmark, 5 per cent.
- Setting 1 in. slate shelving in cement, 7d. per ft. sup.
- Rubbed round nosing to do., 8d. per ft. lin.
- York steps, rubbed T. & R., 33s. ft. cub. fixed.
- York Sills W. & T. 36s. ft. cub. fixed.

SLATING AND TILING.

LABOUR RATES AND MATERIAL PRICES.

- Slater, 1s. 7d. per hour.
- Tiler, 1s. 7d. per hour.
- Scaffolder, 1s. 4d. per hour.
- Labourer, 1s. 3d. per hour.
- N.B.—Tiling is often " Piecework"

- Slates, 1st quality, per M. :
  - Portmadoc Ladies £18, Countess £39, Duchess £47.

- Clips, lead, 4½d. per lb
- Clips, copper, 2s. 4d. per lb.
- Nails, compo, 28s per cwt.
- Nails, copper, 2s. 3d. per lb.
- Cement and sand, see " Excavator," etc., above.
- Handmade tiles, 170s. per M.
- Machine-made tiles, 155s. per M.
- Westmorland slates, large, 240s. per ton, Peggies 185s. per ton.

MEASURED WORK PRICES.

- Slating, 3 in. gauge, compo nails, Portmadoc or equal :
  - Ladies 93s., Countess 105s., Duchess 110s. 0d. per square.
- Westmorland, in diminishing courses, 140s. per square.
- Cornish do., 128s. per square.
- Add, if vertical, 10s. per square approx.
- Add, if with copper nails, 7½ per cent. per square approx.
- Double course at eaves, 1s. 3d. per ft. approx.
- Tiling, 4 in. gauge, 5th course nailed, in hand-made tiles, average 125s. per square.
- Do., machine-made do., 115s. per square.
- Vertical Tiling, including pointing, add 30s. per sq.
- Fixing lead soakers, 9d. per dozen.
- Stripping old slates and stacking for re-use, and clearing away surplus and rubbish, 8s. 6d. per sq.
- Labour only in laying slates, but including nails, 18s. 6d. per sq.
- *See* Sundries for Asbestos Tiling.

CARPENTER AND JOINER.

LABOUR RATES AND MATERIAL PRICES.

- Carpenter, 1s. 8d. per hour.
- Joiner, 1s. 8d. per hour.
- Labourer, 1s. 3d. per hour.

- Timber, average prices at Docks, London Standard.

- Scandinavian, etc. (equal to 2nds) :
  - 7 × 3, £25 per std. to 11 × 4, £36 per std.
- Memel or Equal.
  - Slightly less than foregoing.
- Flooring P.E., 1-in., 25s. per sq.
- Do. T. and G., 1 in. 25s. per sq.
- Planed Boards, 1 in. × 11 in. £46 per std.
- Wainscot oak, 2s. 9d. per ft. sup. of 1 in.
- Mahogany, 2s. 6d. per ft. sup. of 1 in.
- Do. Cuba, 3s. 9d. per ft. sup. of 1 in.
- Teak, 3s. per ft. sup. of 1 in.

MEASURED WORK PRICES.

- Fir fixed in wall plates, lintels, sleepers, etc., 6s. 0d. per ft. cube.
- Do. framed in floors, roofs, etc., 8s. per ft. cube.
- Do., framed in trusses, etc., including ironwork, 9s. 6d. per ft. cube.
- Pitch pine, add 33⅓ per cent.
- Fixing only boarding in floors, roofs, etc., 15s. 0d. per sq.
- Sarking felt laid, 1 ply 1s. 6d., 3-ply 1s. 8d. per yd.
- Centering for concrete, etc., including horsing and striking, 65s. per sq.
- Slate battening, 21s. per sq.
- 1 in. deal gutter board on firring, 90s. per sq.
- 1¾ in. moulded casements in 4 sqs., glazing beads and hung, 2s. 10d. per ft. sup.
- 2 in. do. do., 3s. 0d. per ft. sup.
- Deal cased frames, oak sills, 2 in. D.H. sashes, brass-faced pulleys, etc., 4s. 0d. per ft. sup.
- Doors, 4 pan. sq. b.s., 2 in. 2s. 10d. per ft. sup.
- Do. do. do., 1½ in. 2s. 9d. per ft. sup.
- Do. do., moulded b.s., 2 in. 3s. 3d. per ft. sup.
- Do. do. do., 1½ in. 2s. 10d. per ft. sup.
- If in oak multiply 6 times.
- If in mahogany multiply 6 times.
- If in teak multiply 7 times.
- Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, 1 in. 14s. 0d., 1¼ in. 16s. 0d. per yd. sup., average.
- Do. do., 1¼ in. Maple blocks, 19s. 6d.
- Staircase work, deal :
  - 1 in. riser, 1¼ in. tread, fixed, 3s. 3d. per ft. sup.
  - 2 in. deal strings, fixed, 3s. 6d. per ft. sup.

PLUMBER AND RAIN-WATER GOODS.

LABOUR RATES AND MATERIAL PRICES.

- Plumber, 1s. 8½d. per hour
- Mate or labourer, 1s. 3d. per hour.

- Lead, milled sheet, 34s. 6d. per cwt.
- Do. drawn pipes, 35s. per cwt.
- Do. soil pipe, 37s. 6d. per cwt.
- Do. scrap, 21s. per cwt.
- Copper, sheet, 2s. 4d. per lb.
- Solder, plumbers, 10d. per lb.
- Do. fine, 1s. per lb.
- Cast-iron pipes, etc. :
  - L.C.C. soil, 3 in. 5s. 6d., 4 in. 6s. 11d. per yd.
  - R.W.P., 2½ in. 3s. 3d., 3 in. 3s. 11d., 4 in. 5s. 2d. per yd.
- Gutter, 4 in. H.R., 3s. 3d., 4 in. O.G., 4s. per yd.

MEASURED WORK PRICES.

- Milled lead and labour in gutters, flashings, etc. 57s.
- Lead pipe, fixed, including running joints bends, and tacks, ½ in., 1s. 6d. per ft.
- Do., ¾ in., 1s. 10d. per ft.
- Do., 1 in., 2s. 3d. per ft.
- Do., 1¼ in., 2s. 10d. per ft.
- Lead waste or soil, fixed as above, complete, 2½ in. 4s. 3d. per ft.
- Do., 3 in., 5s. 3d. per ft.
- Do., 4 in., 6s. per ft.
- Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½ in., 2s. per ft.
- Do., 3 in., 2s. 4d. per ft.
- Do., 4 in., 2s. 8d. per ft.
- Cast-iron H.R. gutter, fixed, with all clips, etc. 4 in., 2s. 4d. per ft.
- Do., O.G., 4 in., 3s. per ft.
- Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4 in., 6s. 6d. per ft.
- Do., 3 in., 5s. 6d. per ft.
- Fixing only :
  - W.C. pans and all joints, P. or S., and including joints to water waste preventers, 41s. 0d. each.
  - Baths only, with all joints, 37s.
  - Lavatory basins only, with all joints on brackets, 28s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, 1s. 7½d. per hour. Glass : 4th in crates : Clear, 21 oz. 5½d., 26 oz. 6⅝d. Cathedral white, 5½d. per ft. Polished Plate, British ¼ in., up to 2 ft. sup. 2s. 0d., 3 ft. sup. 2s. 6d., 7 ft. sup. 4s., 25 ft. sup. 4s. 0d., 100 ft. sup. 5s. 0d. Rough plate, $\frac{3}{16}$ in., 4⅞d., ¼ in. 6½d. per ft. Linseed oil putty, 16s. per cwt.	Glazing in putty, clear sheet, 21 oz. 10d., 26 oz. 11d. Glazing in beads, 21 oz. 1s. 0d., 26 oz. 1s. 3d. per ft. Patent glazing in rough plate, normal span, 1s. 7½d. to 2s. 0d. per ft. Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 3s. 6d., and up, per ft. sup. Glazing only, polished plate, 6d. to 7½d. per ft., according to size.
PLASTERER.	
Plasterer, 1s. 8d. per hour. Labourer, 1s. 3d. per hour.	Lathing with sawn laths, 1s. 5d. per yd. Metal lathing, 1s. 10d. per yd. Floating in Portland, 1 to 3, for tiling or wood-block, ¾ in., 2s. 6d. per yd. Do., vertical, 2s. 10d. per yd. Render, on brickwork, 1 to 3, 2s. per yd.
Chalk lime, 57s. per ton. Hair, 25s. per cwt. Sand and cement, see "Excavator," etc., above. Lime putty, 3s. 9d. per cwt. Hair mortar, 28s. per yd. Fine stuff, 35s. per yd. Sawn laths, 3s. 9d. per bdl. Keene's cement, 117s. per ton. Sirapite, 76s. per ton. Do. fine, 84s. per ton. Plaster, 73s. per ton. Do. fine, 74s. per ton. Thistle plaster, 69s. per ton. Lath nails, 5d. per lb.	Render in Portland and set in fine stuff, 3s. per yd. Render, float, and set, trowelled, 2s. 9d. per yd. Render and set in Sirapite, 2s. 6d. per yd. Do., in Thistle plaster, 2s. 6d. per yd. Extra, if on but not including lathing, any of foregoing, 5½d. per yd. Extra, if on ceilings, 7d. per yd. Angles, rounded Keene's on Portland, 6d. per ft. lin. Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin. White glazed tiling set in Portland and jointed in Parian, 30s. per yd. Fibrous plaster slabs, 2s. per yd.
DECORATOR.	
Painter, 1s. 7d. per hour. Labourer, 1s. 3d. per hour. French polisher, 1s. 10d. per hour. Paperhanger, 1s. 8d. per hour.	Lime whiting 6d. per yd. sup. Wash, stop, and whiten, 7d. per yd. sup. Do., and 2 coats distemper with proprietary distemper, 1s. 0d. per yd. sup. Knot, stop, and prime 6d. per yd. sup. Plain painting, including mouldings, and on plaster or joinery, 1st coat, 11d. per yd. sup. Do., subsequent coats, 9d. per yd. sup. Do., enamel coat, 1s. 3d. per yd. sup.
Genuine white lead, 54s. 6d. per cwt. Linseed oil, raw, 3s. 9d. per gall. Do. boiled, 4s. 1d. per gall. Turpentine, 6s. per gall. Liquid driers, 13s. per gall. Knotting, 35s. per gall. Distemper, washable, in ordinary colours, 53s. per cwt. and up. Double size, 4s. per firkin. Pumice stone, 7d. per lb. Varnish, hard oak, 14s. per gall. and up. Gold Leaf (Transferable), 2s. 4d. per book.	Brush-grain, and 2 coats varnish, 3s. 9d. per yd. sup. Figured do. do., 5s. 6d. per yd. sup. French polishing, 1s. 6d. per ft. sup. Stripping old paper and preparing, 1s. 6d. per piece. Hanging paper, ordinary, 1s. 9d. per piece. Do., fine, 2s. 3d. and upwards per piece. Varnishing paper, 1 coat, 10s. per piece. Canvas, strained and fixed, 2s. 9d. per yd. sup. Varnishing, hard oak, 1st coat, 1s. 3d. yd. sup. Do., each subsequent coat, 1s. per yd. sup.
DECORATOR—continued.	
Varnish copal, 20s. per gall. and up. Do. Flat, 20s. per gall. Do. Paper, 17s. per gall. French polish, 29s. per gall. Ready mixed paints, 12s. per gall. and up.	
STEELWORK, SMITHWORK, etc.	
Smith, Weekly Rate = 1s. 7¾d. per hour. Mate, Do. 1s. 3d. Erector, 1s. 7¾d. per hour. Fitter, 1s. 7¾d. per hour. Labourer, 1s. 3d. per hour.	Mild steel in trusses, etc., erected, £28 per ton. Do., in small sections as reinforcement, £18 p ton. Do., in compounds, £20 per ton. Do., in bar or rod reinforcement, £21 per ton. Wrot. iron in chimney bars, etc., including buildi in, 40s. per cwt. Do., in light railings and balusters, 47s. per cwt. Fixing only corrugated sheeting, including washe and driving screws, 2s. per yd.
Mild steel in British standard sections, £14 per ton. Sheet steel : Flat sheets, black, £28 per ton. Do. Galvd., £32 per ton. Corrugated sheets, galvd., £28 per ton. Driving screws, galvd., 2s. 10d. per grs. Washers, galvd., 1s. 10d. per grs. Bolts and nuts, 45s. per cwt. and up.	
SUNDRIES.	
Fibre or wood pulp boardings, 3½d. per ft. sup.	Fibre boardings, fixed on, but not including stu or grounds, 6d. per ft. sup.
Plaster Board, 1s. 9d. per yd. sup.	Plaster Board, fixed as last, 2s. 6d. per yd. sup.
Asbestos sheeting, $\frac{5}{32}$ in., grey flat, 3s. 0d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 3s. 9d. p yd. sup.
Do. corrugated, 5s. 0d. per yd. sup.	Do. do., corrugated, 5s. 10d. per yd. sup.
Asbestos composition. Flooring :	Laid in two coats, average ¾ in. thick, in plain colou 10s. 0d. per yd. sup. Do. ½ in. thick, suitab for domestic work unpolished, 7s. 6d. per yd.
Metal casements for wood frames, domestic sizes, 1s. 9d. per ft. sup.	Hanging only metal casements in, but not includin wood frames, 2s. 6d. each.
Do. in metal frames, 2s. per ft. sup.	Building in metal casement frames 6d. per ft. sup.
Asbestos cement slates or tiles. $\frac{5}{32}$ in. punched per M. grey £18, red £20.	Asbestos slating or tiling on, but not includin battens, or boards, plain "diamond" per squar grey 55s. 0d., red 60s. 0d.
Waterproofing compounds for cement.	Add about 75 per cent. to 100 per cent. to the co of cement used.
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3 m/m Alder 2¼d. per ft. sup. 4½ m/m Amer. White 3¾d. per ft. sup. 5 m/m Figured Ash 5d. per ft. sup. 4½ m/m 3rd Quality, Composite Birch 1½d. per ft. sup.	

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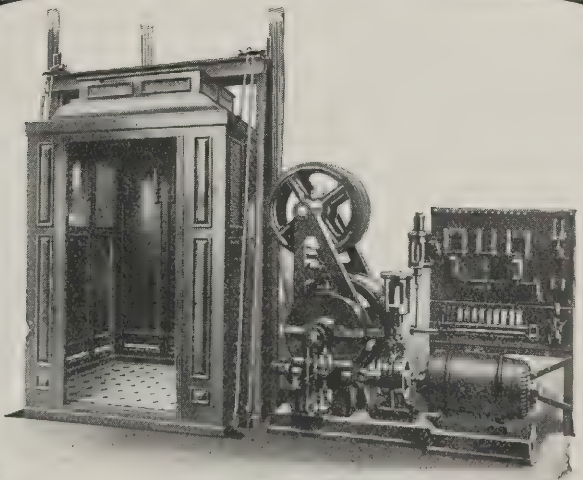

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BUILDING.

September 7.—**COTTAGES. Cottesbrooke.**—Erection of two cottages on a site adjoining the Northampton-Welford main road, in the parish of Cottesbrooke, for the Northampton Town Council. Apply Water Engineer's Office, Fish Street, Northampton.

September 7.—**HOUSES. Padiham.**—Erection of 10 houses as follows, for the Padiham Urban District Council: One pair of parlour type with three bedrooms; two blocks of four houses, non-parlour type, with three bedrooms. Apply Surveyor's Office, Council Offices, Padiham. A separate tender must be given for each type of house.

September 8.—**HOUSES. Norwich.**—Erection of 24 houses on the Mile Cross Estate, Norwich, for the Corporation. The work is divided between the following architects:—Mr. S. G. Livock, A.R.I.B.A., 128 Unthank Road, Norwich; Messrs. A. F. Scott and Sons, A.A., A.R.I.B.A., 24 Castle Meadow, Norwich; Mr. G. J. Skipper, F.R.I.B.A., 7 London Street, Norwich; Mr. S. J. Wearing, A.R.I.B.A., 3 Redwell Street, Norwich. Contractors are invited to tender for one or more sections. Forms of tender may be obtained on application to the architects, at whose offices copies of specifications and drawings can be seen.

September 8.—**HOUSES. Lanark.**—Excavator, mason, brick, &c.; carpenter, joiner, and ironmongery; glazier, slater, and roughcast; plumber, plaster, and concrete; painter and fencing, &c., works of 16 dwelling-houses proposed to be erected at Stepps and 24 at Garnkirk, for the District Committee of the Lower Ward of the County of Lanark. Apply Mr. J. A. M'Callum, District Clerk, 15 West George Street, Glasgow. Deposit £1 1s. each schedule.

September 8.—**HOUSES. Ayr.**—For the following works: (1) Excavator, brick and mason work; (2) carpenter and joiner work; (3) glazier work; (4) slater and roughcast work; (5) plumber work; and (6) plaster and cement work, comprising 12 dwelling-houses to be erected on Woodfield site, Ayr, with alternative tenders for 24 and 36 houses, for the Town Council. Apply Messrs. J. Service and Son, Measurers, 55 Newmarket Street, Ayr. Deposit £1 1s. each schedule.

September 9.—**HOUSES. Attleborough.**—Erection of four houses at Attleborough, for the Wayland Rural District Council. Apply Mr. F. Robinson, Clerk, Watton.

September 9.—**CLOSETS. Meltham, Yorks.**—Mason's, plumber's, and joiner's work in connection with the erection of five water closets at Victoria Buildings, Meltham, for the Meltham Urban District Council. Apply Mr. J. Hinchliffe, Surveyor and Sanitary Inspector, Town Hall, Meltham.

September 9.—**POLICE COURT. Pontlottyn.**—(1) The erection of a new police court at Pontlottyn; (2) internal and external painting and repairs at Cwmgwrach police station; (3) internal and external painting, colouring, and repairs at Senghenydd police station; (4) internal and external painting, colouring, repairs, &c., at Seven Sisters police station; (5) internal painting, colouring, repairs, &c., at Treherbert police station. Rates of wages, &c., clauses to be observed. Apply, for work No. 1, at the Police Station, Pontlottyn, and at the County Hall, Cardiff; and for works Nos. 2, 3, 4, and 5, at the respective Police Stations and at the County Hall, Cardiff.

September 9.—**HOUSES. Shiremoor.**—Erection of six houses on the Buckworth housing site, Castle Park, for the Earsdon Urban District Council. Apply Mr. J. R. MacMillen, Council Offices, Shiremoor.

September 11.—**HOUSES. Walthamstow.**—Erection of 14 houses on their Forest Road (Fitzwygram) housing site, for the Walthamstow Urban District Council. Apply Mr. G. W. Holmes, A.M.I.C.E., Town Hall Annexe, Walthamstow. Deposit £1.

September 11.—**COTTAGES. Loughborough.**—Erection of 15 cottages in Granville and Chestnut Streets (Extensions), for the Town Council. Apply Mr. A. H. Walker, A.M.I.C.E., Borough Surveyor, Town Hall, Loughborough. Deposit £3 3s.

September 11.—**WALL. Goole.**—Completion of new boundary wall and erection of gates in Capstan Street, for the Goole Urban District Council. Apply Manager, Gas Works, Doyle Street, Goole.

September 11.—**HUT. Brighton.**—Construction and erection of a recreation hut of galvanized iron, and lined with wood, at the tramway depot, Lewes Road, Brighton. Apply Tramways Engineer, Lewes Road, Brighton.

September 12.—**COTTAGES. Chelsfield.**—Erection of 23 detached cottages at Skeet Hill, Chelsfield, Kent. Apply to the Architect, Mr. W. H. Robinson, F.S.A., Sessions House, Maidstone. Deposit £5.

September 12.—**COTTAGE. Mattingley.**—Erection of a detached cottage at Mattingley, for the Southampton County Council. Apply Mr. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s.

September 12.—**ALTERATIONS. Kennington.**—Execution of the following works at their Lambeth Hospital at Kennington, for the Lambeth Board of Guardians:—(a) Alterations to female observation wards, (b) alterations to sanitary fittings. Deposit £2 in respect of each work. Apply Mr. J. Goldspink, Clerk, Guardians' Board Room and Offices, Brook Street, Kennington Road, S.E.11.

September 12.—**HOUSES. Purston.**—Erection of 12 houses on the Church Fields site, Purston, for the Featherstone Urban District Council. Apply Mr. S. Chesney, A.R.I.B.A., Council Offices, Featherstone, near Pontefract. Deposit £2 2s.

September 12.—**CONVENIENCES. Sutton.**—Erection of public conveniences in the Manor Park, Sutton, for the Urban District Council. The contract will include the erection of the building, men's and women's lavatories, entrance gates, drainage, paths, &c. Apply Mr. W. H. Grieves, Surveyor, Municipal Offices, Sutton, Surrey. Deposit £2 2s.

September 12.—**POLICE STATION. Thurso.**—Mason, slater, carpenter, plumber, ironfounder, and lath, plaster and concrete works of new police station and constables' dwelling-houses to be erected in Thurso, for the Caithness County Council. Apply Mr. Sinclair Macdonald, Thurso.

September 13.—**URINAL. Wombwell.**—Extension of urinal at Wombwell John Street Council School, for the West Riding Education Committee. Apply Education Department, County Hall, Wakefield.

September 14.—**DWELLINGS. Bethnal Green.**—Erection of a block of dwellings in Collingwood Street, Bethnal Green, for the London County Council. Apply Architect to the Council, County Hall, Westminster Bridge, S.E.1. Deposit £3.

September 14.—**ALTERATIONS. Nantwich.**—Alterations and additions to buildings at the Nantwich Workhouse, for the Guardians. Apply Mr. C. E. Davenport, Architect, 152 Hospital Street, Nantwich. Deposit 10s.

September 14.—**HOUSES. Prickwillow.**—Erection of houses at Prickwillow, near Ely, for the Ely Urban District Council. Apply Mr. A. K. Campbell, Clerk, Market Square, Ely. Deposit £1 1s.

September 14.—**RENOVATION. Llandudno.**—Renovation and decoration of the Assembly Room, Town Hall, for the Urban District Council. Apply Mr. W. T. Ward, Engineer and Surveyor, Town Hall, Llandudno.

September 14.—**ENGINE AND COMPRESSOR HOUSE. Lymm.**—(1) Erection of an engine and compressor house constructed in either brickwork or ferro-concrete at the Gasworks, Lymm; (2) supply and erection of one 25-h.p. gas engine, also one compound belt-driven air compressor capable of compressing air to a pressure of 35 lb. per square inch and dealing with 9,000 cubic feet of free air per hour, also necessary shafting, pulleys, and belting. Apply Surveyor, Council Offices, Lymm.

September 15.—**COTTAGES. Croydon.** Erection of two cottages at the Selhurst well and pumping station; three ditto at the Addington well and pumping station; one ditto at the Russell Hill reservoir, for the Croydon Town Council. Apply Office of the Borough Engineer, Town Hall. Deposit £1 1s. each set of quantities.

September 15.—**EXTENSIONS. Batley.**—Mason's, joiner's, plumber's, plasterer's, slater's, painter's, heating engineer's, and electrical engineer's work in the erection of extensions to the Batley and District Hospital. Apply Messrs. W. Hanstock and Son, Hon. Architects, Branch Road, Batley. Deposit 5s.

September 16.—**ALTERATIONS. Clacton-on-Sea.**—Alterations and additions to Headquarters, 5th Battalion Essex Regiment, "Green Lodge," Old Road, Clacton-on-Sea, for the Territorial Army Association of Essex. Apply, accompanied by a cheque for £2 2s., to the Secretary, Essex Territorial Army Association, Market Road, Chelmsford.

September 18.—**HOUSES. Grimsby.**—Building 24 houses in blocks of four, of non-parlour and-or parlour types, in Laceby Road, Grimsby, for the Housing Committee. Contractors may tender for a block of four or the whole of the 24 houses, regard being had to the necessity for the completion of the 24 houses before January 31, 1923. Apply Town Clerk. Deposit £2 2s.

September 19.—**ALTERATIONS TO COTTAGES. High Houghall.**—Builder's work in connection with the following: High Houghall Farm—(1) alterations to cottages; (2) conversion of farm buildings into poultry station. Apply Mr. F. Willey, F.R.I.B.A., 34 Old Elvet, Durham.

September 19.—**HOUSES. Gosforth.**—Erection of 20 semi-detached houses on road No. 6 of the Corlodge Housing site for the U.D.C. Apply Mr. George Nelson, A.M.I.C.E., Engineer and Surveyor, to the Council, Council Chambers, High Street.

ELECTRICAL.

September 7.—**WIRING. Blackpool.**—Electric wiring of the abattoirs, New Road, for the Public Health Committee. Apply Electricity Works Offices, West Caroline Street.

September 7.—**SWITCHGEAR. Holmfirth.**—Supply, erection, and delivery of e.h.t. switchgear, l.t. switchgear, transformers, underground cables and feeder pillars, for the Holmfirth Urban District Council. Apply Mr. H. H. Parker, A.M.I.E.E., Electrical Engineer, Electricity Works, Holmfirth. Deposit £1 1s.

September 7.—**TRANSFORMERS. Hammersmith.**—(a) Transformers, oil-cooled and air-cooled; (b) cables, E.H.T.; and (c) switchgear, E.H.T. and H.T. Apply Mr. G. G. Bell, Engineer and Manager, Electricity Works, 85 Fulham Palace Road, W.6.

September 9.—**COMPRESSOR. Manchester.** Supply of one electrically driven air compressor, for t Waterworks Committee. Apply Secretary, Waterwor Offices, Town Hall, Manchester. Deposit £2 2s.

September 26.—**TELEPHONE PARTS. Austr lia.**—Supply (by the dates named) of telephone par schedule V.53 (September 26); telephone apparatus a parts, schedule 561 (September 27). Apply Room 1 Australia House, Strand, London, W.C.2.

September 27.—**TELEPHONE APPARATUS AN PARTS. Brisbane.**—For supply and delivery telephone apparatus and parts, schedule No. 561, f Deputy Postmaster-General at Brisbane. Apply D partment of Overseas Trade (Room 49), 35 Old Que Street, London, S.W.1.

October 4.—**ELECTRIC LIFT. Hastings.**—Supp and erection of an electric passenger and goods lift their Frederick Road Infirmary, Hastings, for t Guardians. Apply Mr. S. Bumstead, Clerk, Union Offic Hastings.

October 11.—**STORAGE BATTERY. Melbourn** —Supply and delivery at the Electric Light Stati Spencer Street, Melbourne, of an electric storage batte with accessories and spares. (Contract No. 3509 Apply Room 49 of the Department of Overseas Tra 35 Old Queen Street, London, S.W.1.

October 18.—**TURBO-ALTERNATORS. Bar ing.**—Supply and erection of steam turbo-alternat for their Barking power station, for the County of Lond Electric Supply Co., Ltd. Apply Mr. F. C. McQuow Manager and Secretary, on payment of £5 5s. for t first copy, and £2 2s. for every subsequent copy.

ENGINEERING.

September 8.—**PIPES. Swansea.**—Supply delivery of the following for three months ending Dec ber 31, 1922, for the Swansea Town Council, viz.: Cast-iron pipes and specials; (2) waterworks applian including valves, hydrants, &c.; (3) water met Apply Water Engineer and Manager, Guildhall, Swans

September 8.—**BOILER. Garforth.**—Installatio a new boiler at Garforth Council School, for the W Riding Education Committee. Apply Education Dep ment, County Hall, Wakefield.

September 13.—**MACHINERY. Surbiton.**—Sup and erection at their Surbiton pumping station, Sur of one steam turbine with centrifugal pumps havin maximum capacity of 20 million gallons per 24 hours, the Metropolitan Water Board. Apply Offices of Board (Room 182), Chief Engineer's Department, Rosebery Avenue, Clerkenwell, E.C.1. Deposit £3 3s

September 13.—**MACHINERY. Eynsford, Kent** Supply and erection of two Diesel or high compress solid injection oil engines, with well and surface pum &c., at their Eynsford Works, Kent, for the Metropoli Water Board. Apply Offices of the Board (Room 18 Chief Engineer's Department, 173 Rosebery Aven Clerkenwell, E.C.1. Deposit £3 3s.

September 15.—**WHARF. Guayaquil.**—Construct of a Custom-house wharf at Guayaquil, for the Gove ment of Ecuador. Apply Consul-General of Ecuad 23 College Hill, Cannon Street, E.C.

September 15.—**RESERVOIR. Rowberrow** Construction of a covered service reservoir to cont 500,000 gallons at Rowberrow, for the Directors of Bristol Waterworks Co. Apply at the Office of the C pany at Telephone Avenue, Bristol, or at the Offic Messrs. T. and C. Hawksley, Civil Engineers, 62 Br way, Westminster, S.W. Deposit £3 3s.

September 18.—**BEACON. Edinburgh.**—C struction of a concrete beacon on a tidal rock which off the northern end of South Rona, for the Comm sioners of Northern Lighthouses. Apply Mr. D. Stevenson, 84 George Street, Edinburgh. Deposit £1

September 18.—**STEAM GENERATING PLA Brighton.**—Supply, delivery, and erection at t power station, Southwick, near Brighton, of two wa tube boilers, superheater, economiser, steel chimn fans, feed pumps, and other accessories complete foundations to be provided by the contractor, toget with range of steam pipes and valves, to be also inclu in the same contract, for the Corporation. Apply J. Christie, Electricity Department, North R Brighton. Deposit £2 2s.

September 18.—**WATER MAINS. Ruskington** Supply, laying, and jointing of about 2⅞ miles of 2 diameter cast-iron main, irregulars, valves, and ot works of water supply, for the Ruskington Urban trict Council. Apply Mr. S. F. Clare, Engineer to Council, Sleaford. Deposit £1 1s.

September 19.—**PIPELAYING. Liverpool.**— ing of cast-iron pipes of 42 in. and 40 in. internal diam and other ancillary works as follows, for the Liver Corporation, viz.: From the Prescot reservoirs of Liverpool Corporation to Rathbone Road, Liverpoo the county of Lancaster, for a distance of about miles. Apply Water Engineer's Office, Alexandra Bu ings, 55 Dale Street, Liverpool. Deposit £5 5s.

September 20.—**BOILERS. Islington.**—Manu ture, supply, and erection at their electric genera station, 50 Eden Grove, Holloway, N.7, of (a) water-tube boilers, with the necessary stokers, dra system, steel chimneys, steam piping, and other ac sories, and (b) cooling towers, ponds, pipework, other accessories, for the Islington Borough Cou Apply Chief Engineer, 50 Eden Grove, Holloway, N

(*Continued on page xxii.*)

List of Competitions Open

Date of Delivery.	Competition.
Sept. 16	Nurses' Home, Chelsea Hospital for Women. Premiums: £150, £100, and £50. Assessor, Mr. H. V. Ashley, F.R.I.B.A. Names by above date to Mr. H. H. Jennings, Secretary, Chelsea Hospital for Women, Arthur Street, Chelsea, S.W. 3.
Sept. 29	Laying out 200 acres of land as a Park for the Province of Antwerp. Premiums 10,000 and 8,000 francs.
Nov. 1	Labour saving Bungalows. Prizes of £300, £125, and £75 are offered by "The Daily Mail." Apply to "Ideal Bungalow," "Daily Mail," 130 Fleet Street, London, E.C. 4, by above date.
Nov. 1	New Building for the "Chicago Tribune." Prizes total 100,000 dollars. Applications had to be sent to "Chicago Tribune," 5 Rue Lamartine, Paris, by Aug. 1.
No Date	Designs and Estimates for a Public Hall and Baths, etc., to be erected at Lytham. Premiums of 100, 50, and 25 guineas will be awarded under the advice of Mr. A. W. S. Cross, M.A., Vice-President of the R.I.B.A., as professional Assessor. Apply Mr. Chas. A. Myers, Clerk to the Council, Council Offices, Lytham. Deposit £1 1s.
No Date	Bournemouth. Plans for a pavilion to cost £100,000 at Pier Approach. Premiums £300, £200, and £100. Apply Municipal Offices, Bournemouth.

Trade and Craft

An Artistic Catalogue.

Although Messrs. F. and C. Osler, Ltd., of 100 Oxford Street, are one of the oldest established firms in London, they have always kept well abreast of the times. In their new catalogue of electric light fittings, just published, the range and variety of designs shown is quite remarkable. Adam, Sheraton, Chippendale, Queen Anne, Dutch, and Georgian styles have all been cleverly and artistically adapted to modern lighting purposes. Examples of fittings suitable for every type of building—country cottages, large and small private houses, public halls, banks, and churches—are shown, and the work of the artist is evident in even the simplest of the designs. Alabaster is used with great success, and the cut-glass fittings are charming. The introduction of the half-watt lamp has made dish lighting in either glass or alabaster particularly pleasant and effective in softening the tone of the light. There are a number of really inexpensive fittings, but the design and workmanship is equally good in all. One of the best all-round collection of electric fittings in London can be seen at Messrs. Osler's galleries.

THE TUDOR ROOM AT MESSRS. F. AND C. OSLER, LTD.

Eliminate the Dust Evil!

This is the title of a circular which has been issued by the Dusmo Company, Ltd., of West Ham Lane, Stratford, E.15, to show how the dangers of disease carrying dust in business and public buildings may be overcome. It is pointed out that the daily use of Dusmo when sweeping floors or carpets will absorb every particle of dust. Further, it is claimed that Dusmo will so clean plain floors as to render wet scrubbing a quite unnecessary expense.

Marseilles Roofing Tiles.

An interesting illustrated booklet describing the many advantages to be obtained by the use of Marseilles roofing tiles has just been issued by Messrs. Langley London. These tiles are claimed to be the only ones for which non-ferrous red clay is used. This material is said to exist only in one place, namely, Marseilles, and it is in this district that the tiles are produced. Their extreme hardness is due to the high temperature needed to fire non-ferrous red clay. Kilns have to be raised to 1,800° F. The tiles weather well, and assume a delightfully mottled and mellow appearance with age. It is stated that roofs laid fifty and more years ago have never had a penny spent upon them, and are as good to-day as when they were put on. And there are still finer records of long service, for Marseilles roofing tiles have been made without intermission since the reign of William IV.

What will interest both architect and client alike are the economies claimed to be effected by using Marseilles roofing tiles. During the past year over 4,000 houses in the United Kingdom have been covered with Marseilles tiles—not to mention numerous churches, schools, hotels, cinemas, and public buildings. Some idea of their popularity can be gauged from the fact that the present annual output of the works exceeds 240 million pieces. Copies of the booklet may be obtained from Messrs. Langley London, at 161 Borough High Street, London, S.E.1.

Medway's Electric Pulley Block.

Messrs. Medway's Safety Lift Co., Ltd., have just issued an illustrated pamphlet describing their patent electric pulley block. Made in two sizes, capable of lifting loads up to one and two tons respectively; this pulley block is claimed to possess the following advantages: It occupies the minimum of headroom; loads are lifted by a single hook; no fall block is necessary; it is absolutely foolproof; loads are self-sustained without the use of brakes; it is practically silent in working; all parts are efficiently lubricated; the loads are easily controlled; and it cannot over-run, either in lowering or lifting. Copies of the leaflet may be obtained from the sales department of the Company, 35 Surrey Street, Strand, W.C.2.

"The Waterproofing of Concrete"

Messrs. Kerner-Greenwood & Co., Ltd., of King's Lynn, have sent us the following communication:—

The contributor of the article under the above heading, published in your issue for August 16, states that, although at one time sceptical, his experience in actual work under field conditions convinced him that "integral waterproofing is a useful and trustworthy process, yielding satisfactory results."

This experience is one which has been shared by some of our most eminent constructional engineers who to-day consistently employ waterproofed concrete and renderings, yet prior to their first use of this material were frankly distrustful of the claims made for it.

Your contributor rightly attaches greater importance to the results obtained in actual field work than to results which are the outcome of laboratory experiments, but it is unlikely that a material which failed under the carefully controlled conditions which are possible in the testing laboratory, would achieve better results under the less favourable circumstances which are inseparable from field work. We agree that it is possible to conduct experiments on such a small scale and in such a manner that the results do not give a true indication of the behaviour of the materials concerned under working conditions, but the highly skilled research worker is careful to avoid falling into such errors.

To those of your readers who are interested, we should be pleased to send particulars of various tests which have been carried out, both in this country and abroad, by authorities of the highest eminence, for instance by Messrs. David Kirkaldy and Son, and by Messrs. Henry Faija and Co. These tests fully establish the claims made regarding the waterproofing qualities of "Pudlo" brand powder. The results of the tests made with both concrete and mortar demonstrate the reason for the success which has always attended the use of this well-known waterproofer, even under the most drastic conditions.

New Inventions

Latest Patent Applications.

23135.—Alderman, A. E. — Building blocks. August 25.

23040.—Archer, A. G.—Joints and couplings of pipes and tubes for scaffolding, etc. August 29.

23006.—Bennett, J. D. — Collapsible flooring. August 24.

23043.—Bryce, V. F. P.—Roads, pathways, etc. August 24.

23158.—Esperstedt, K. — Means for mounting and securing sheets of glass, marble, etc., to walls, etc. August 25.

22841.—Hultin, V. K.—Artificial building blocks, etc. August 22.

Specifications Published.

183905.—Moller, E. P.—Builders' hoists.

183914.—Tabary, R.A. — Manufacture of bituminous compositions suitable for buildings and for forming roads or like surfaces.

183985.—Jefferies, A. F.—Scaffolding and staging for use in the erection of buildings and other structures.

184002.—Acock, R.—Pavement lights and the like.

184058.—Bloomfield, R. — Moulds for building concrete and the like structures by moulding in situ.

184198.—Mills, B.—Heating systems.

184273.—Barnes, A. H.—Method of constructing concrete walls in situ.

184361.—Abraham, H. — Interlocking roofing shingles.

176758.—Hurlin, U. M.—Manufacture of wainscots or panelling.

Abstracts Published.

182345.—Roof scaffolding.—Kinsey, W., 61 Upper Moss Lane, Hulme, Manchester.—In roof scaffolding, the stepping-board is supported by means adapted to bear on the opposite incline, or vertical wall in a single incline roof, and clear the ridge tiles. For this purpose, brackets 2 attached to the stepping-board are pivoted to a pin 6 carried by arms 7, the distance between which can be varied to receive different widths of board. By adjusting the angle between the brackets and the arms, the arms bear on the opposite incline or the vertical wall and clear the ridge 17. The arms may have hooks 15 to support a ladder 16 or for hooking to a rope or the like. The parts of the pivot 6 may be provided with toothed gripping faces or conical friction surfaces.

FIG 3

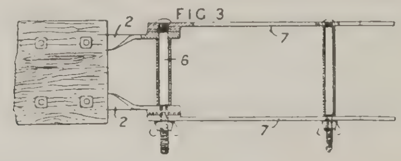
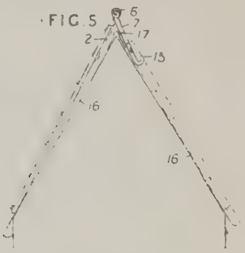


FIG 5



182640.—Indiarubber paving.—Hawthorn, H., of 16 Upper Gloucester Place, and Huntley, H. A., of 28 Budge Row, Cannon Street, both in London.—Rubber or like slabs for paving roads, tennis courts, and other surfaces are formed with integral studs or projections on the under surface, and with metal cone-shaped anchoring devices, with flanged heads embedded in the slab, which, with the studs, are adapted to enter and key into a concrete foundation. For this purpose the upper foundation layer is of finely sieved concrete into which, while in a plastic condition, the slabs are pressed. The slabs may be formed of layers of different resiliences, and may be reinforced with canvas, wire gauze, or the like, and coloured or ornamented. An adhesive or preservative medium may be introduced between the slabs and the foundation. Fig. 2 shows the underside of a slab *a*, having projecting studs a^2. The anchoring device has a flange b^1 embedded in the slab *a*, and has openings b^3 in the sides to permit the concrete to be distributed evenly round the cone. The edges of the slabs are bevelled at a^4 to form a groove for a cementing medium; alternatively these edges may interlock.

FIG.2.

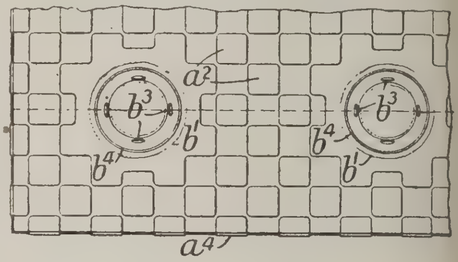
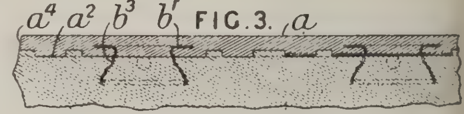


FIG.3.



The above particulars are specially prepared by Messrs. Rayner & Co., registered patent agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

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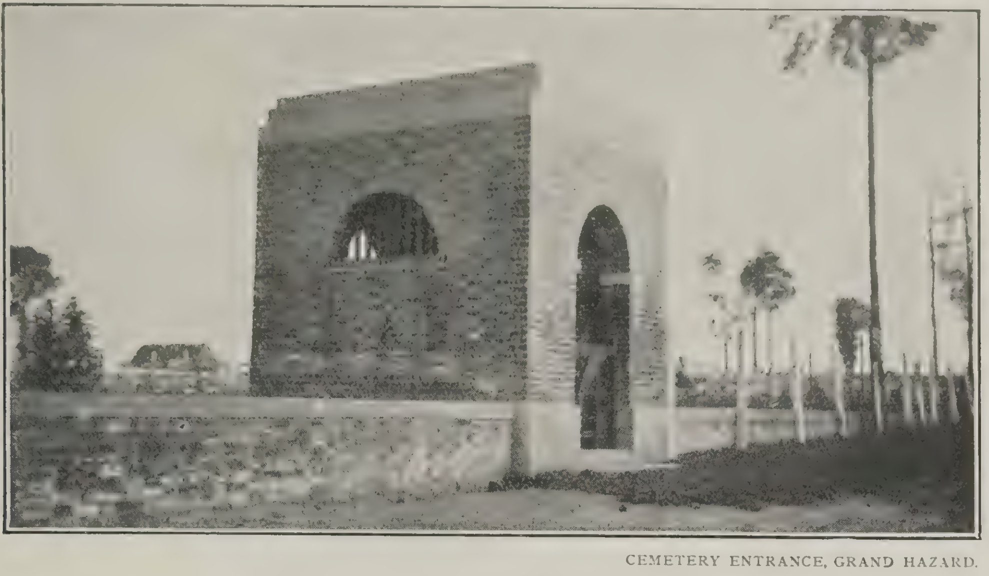
ARCHITECTURAL REFERENCE LIBRARY.

The attention of Architects, and of those interested in Architecture, is called to the facilities afforded by the specially appointed Reading Room at 27–29, Tothill Street, Westminster.

This Room has been set apart in order that the numerous Works in the Library may be referred to in quietude and ease.

Overseas Members of the Profession, and also Architectural Students, are cordially invited to make the fullest use of the Library.



CEMETERY ENTRANCE, GRAND HAZARD.

"Somewhere" in France

The photographs herewith illustrate portions of large and important contracts now being completed in France for the Imperial War Graves Commission, and in some degree illustrate the diversity and the activities of the Somerville organization. The work has been carried out on all the old battle fronts in the heart of the devastated areas, and on sites as far apart as Etaples and Poperinghe.

It was necessary, owing to the isolated position of many of the sites, to construct roads, and also to provide housing and canteen arrangements for the workmen. The success of the work, with the multiplicity of detail involved, has only been made possible by the organization evolved by D. G. Somerville & Co. Ltd. from their experience in France and Belgium during the War.

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CEMETERY ENTRANCE AT NORBEDGUE

Electrical Notes

Electrical Developments at Glasgow.

Ultimately the electrical requirements of Glasgow will render necessary the erection of another power station. This prediction was made by Mr. R. B. Mitchell, chief engineer of the Glasgow Electricity Department, in a lecture to the Rotary Club. After tracing the growth of the department since its inception, the lecturer said that he thought the recently inaugurated station at Dalmarnock would not satisfy the requirements of the community for all time. In due course a site for another station would have to be acquired—probably in the western district of the city.

With regard to the development of the domestic uses of electricity, Mr. Mitchell said he believed there was a great future in that direction. The rapid growth of the use of electricity in the industrial spheres had been phenomenal, but it was more than probable that the domestic load would ultimately, and before long, be greater than the industrial load. The prospects of the domestic field were almost illimitable. Meanwhile that field had hardly been touched, but the day was not far off when the terms "Ideal Home" and "The Home Electrical" would be synonymous.

Dealing with electrical heating by accumulation, Mr. Mitchell said that the solution of the problem was the provision of appliances which would accumulate energy when the generating plant was not fully loaded, and release it when required by the consumer. He was glad to say that so far as the heating load was concerned there were indications that such appliances would soon be on the market. If heat-accumulating methods developed as expected the effect on supply undertakings would be of boundless importance.

Australia and Electricity.

Great progress is being made in Australia with the Morwell scheme. According to a report sent to the Department of Overseas Trade by H.M. Senior Trade Commissioner in Australia, all the principal contracts for the plant and machinery for the main power station at Yallourn have been placed, and the reports indicate that the progress with the manufacture of the machinery is good. A considerable portion of the transformers, switchgear, etc., has already been delivered, while the manufacture of the five large turbo-alternators and of the condensing plant, Victoria, is well advanced.

The greater part of the preparatory work of the site has been completed; the contractors for the steel work for the power station are at work on the ground, and steel work is now arriving. Gangs have been organised for the erection of the transmission line (over a distance of 112 miles) for which much of the material has now arrived. The erection of the auxiliary station at Newport is proceeding satisfactorily and justifies the anticipation that the station will be in operation by May, 1923, as originally intended.

On the coal-winning operations, the removal of overburden has already commenced, and it is expected that the winning of coal will be commenced by the end of this year. The plant and machinery is expected to be operating by the end of 1923.

The Government has authorised the erection of a model township at Yallourn, on the site of the works, and this is being put in hand with all speed. The township scheme, which is estimated to cost £224,000 provides, in its first stages, for accommodation being made available for the Commission's employees by the erection of 200 tenements, but the final scheme makes provision for a population of 3,000.

Rural Telephones Development.

The Post Office is actively engaged in developing telephonic facilities in rural districts. It is estimated that out of 3,110 existing exchanges, 1,930 serve purely rural districts. In addition, the service has been extended in the form of a public call office to 2,250 villages where no exchange exists. Since the beginning of May last 151 rural call offices have been opened. A prominent feature of the urban telephone system is the development of a private branch exchange service. There are upwards of 990,000 telephones in the Post Office system; 142,163 provincial stations are joined up to private branch exchanges and 106,464 London stations are similarly connected. The Post Office is devoting a good deal of attention to the subject of automatic telephony.

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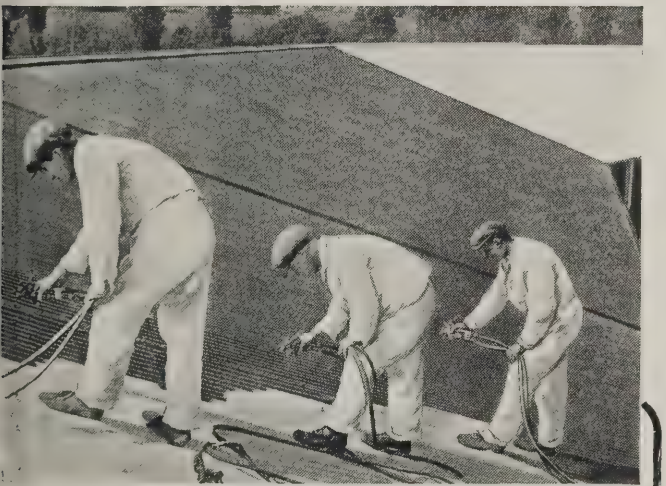

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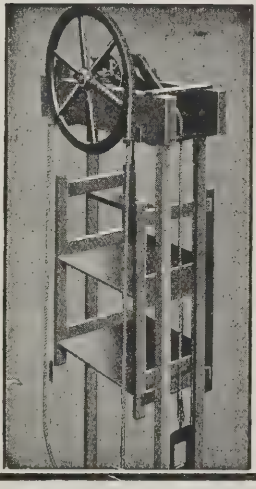

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BUILDING.

September 13.—**URINAL. Wombwell.**—Extension of urinal at Wombwell John Street Council School, for the West Riding Education Committee. Apply Education Department, County Hall, Wakefield.

September 14.—**DWELLINGS. Bethnal Green.**—Erection of a block of dwellings in Collingwood Street, Bethnal Green, for the London County Council. Apply Architect to the Council, County Hall, Westminster Bridge, S.E.1. Deposit £3.

September 14.—**ALTERATIONS. Nantwich.**—Alterations and additions to buildings at the Nantwich Workhouse, for the Guardians. Apply Mr. C. E. Davenport, Architect, 152 Hospital Street, Nantwich. Deposit 10s.

September 14.—**HOUSES. Prickwillow.**—Erection of houses at Prickwillow, near Ely, for the Ely Urban District Council. Apply Mr. A. K. Campbell, Clerk, Market Square, Ely. Deposit £1 1s.

September 14.—**RENOVATION. Llandudno.**—Renovation and decoration of the Assembly Room, Town Hall, for the Urban District Council. Apply Mr. W. T. Ward, Engineer and Surveyor, Town Hall, Llandudno.

September 14.—**ENGINE AND COMPRESSOR HOUSE. Lymm.**—(1) Erection of an engine and compressor house constructed in either brickwork or ferro-concrete at the Gasworks, Lymm; (2) supply and erection of one 25-h.p. gas engine, also one compound belt-driven air compressor capable of compressing air to a pressure of 35 lb. per square inch and dealing with 9,000 cubic feet of free air per hour, also necessary shafting, pulleys, and belting. Apply Surveyor, Council Offices, Lymm.

September 15.—**COTTAGES. Croydon.** Erection of two cottages at the Selhurst well and pumping station; three ditto at the Addington well and pumping station; one ditto at the Russell Hill reservoir, for the Croydon Town Council. Apply Office of the Borough Engineer, Town Hall. Deposit £1 1s. each set of quantities.

September 15.—**EXTENSIONS. Batley.**—Mason's, joiner's, plumber's, plasterer's, slater's, painter's, heating engineer's, and electrical engineer's work in the erection of extensions to the Batley and District Hospital. Apply Messrs. W. Hanstock and Son, Hon. Architects, Branch Road, Batley. Deposit 5s.

September 15.—**REBUILDING BRIDGE. Lanchester.**—For rebuilding the parapet and spandril walls, &c., of the Fenhall Bridge, near Lanchester, for the Durham County Council. Apply Mr. A. E. Brookes, M.Inst.C.E., County Engineer and Surveyor, Shire Hall, Durham.

September 15.—**REPAIRING, &c. Welney, Norfolk.**—Adapting and repairing the farm buildings at Young and Dyson's Farm, Welney, near Wisbech, Norfolk, for the County Small Holdings Committee. Apply County Land Agent, Shirehouse, Norwich. Deposit £1 1s.

September 15.—**GENERATING STATION. Bideford.**—Construction of the new generating station at Nutaberry Works, Bideford, for Bideford and District Electric Supply Co., Ltd. Apply Mr. R. Blackmore, Secretary, Alexandra House, Bideford.

September 16.—**REPAIRING. Aberdour.**—Works required in repairing the church manse and manse offices at Aberdour. Apply Mr. G. B. Mitchell, Architect, 1 West Craibstone Street, Bon-Accord Square, Aberdeen.

September 16.—**RESIDENCE. Usk.**—Erection of a principal's residence on the Institute Farm, Usk, for the Monmouthshire Agricultural Institution. Apply Mr. J. Bain, F.R.I.B.A., County Hall, Newport. Deposit £2 2s.

September 16.—**REPAIRS. Semer, Suffolk.**—Repairs to the roof of their institution at Semer, for the Guardians of Cosford Union. Apply Master of the Workhouse, or Mr. A. Newman, Clerk, 6 Churchgate Street, Hadleigh.

September 16.—**REBUILDING. Sherburn Hill.**—Various works in connection with the proposed rebuilding of the Sherburn Hill Workmen's Club at Sherburn Hill. Apply Mr. F. Charlesworth, Heather View, Littletown, near Durham.

September 16.—**BUNGALOW. Silloth, Cumberland.**—Erection of a bungalow at Silloth for Mr. T. J. Osborn. Apply Mr. G. Armstrong, Architect and Surveyor, 24 Bank Street, Carlisle.

September 16.—**HOUSES. Rotherham.**—Erection of a further 52 houses on section D of the Doncaster Road housing site, for the Housing Committee. Apply Mr. C. A. Broadhead, Housing Architect, St. George's Hall, Rotherham. Deposit £2 2s.

September 16.—**ALTERATIONS. Clacton-on-Sea.**—Alterations and additions to Headquarters, 5th Battalion Essex Regiment, "Green Lodge," Old Road, Clacton-on-Sea, for the Territorial Army Association of Essex. Apply, accompanied by a cheque for £2 2s., to the Secretary, Essex Territorial Army Association, Market Road, Chelmsford.

September 18.—**HOUSES. Azette, Jersey.**—Erection of 35 houses at Greve-d. Azette, Jersey, for Mr. Trevor J. Matthews. Apply Mr. S. Newcombe, Architect, 52 Ravenscourt Gardens, London, W.6. Deposit £2 2s.

September 18.—**HOUSES. Grimsby.**—Building 24 houses in blocks of four, of non-parlour and-or parlour types, in Laceby Road, Grimsby, for the Housing Committee. Contractors may tender for a block of four or the whole of the 24 houses, regard being had to the necessity for the completion of the 24 houses before January 31, 1923. Apply Town Clerk. Deposit £2 2s.

September 18.—**SUB-STATION. Barrow-in-Furness.**—Erection of an electricity sub-station at Rampside, for the Corporation. Apply Borough Engineer, Town Hall.

September 18.—**SCHOOL. Bexley, Kent.**—Erection of a Council school at Bexley (Welling), in the county of Kent, for the Kent Education Committee. Apply Mr. W. H. Robinson, F.S.A., Room 69, Sessions House, Maidstone. Deposit £2.

September 18.—**ALTERATIONS, &c. Conisborough.**—Alteration to Council offices; heating to Council offices; wiring, &c., for electric lighting to Council offices; erection of a public convenience, Denaby Main, for the Conisborough U.D.C. Apply Office of the Surveyor, Mr. H. Shirlwell, Council Offices, Old Albion House, Conisborough, via Rotherham.

September 18.—**ALTERATIONS AND ADDITIONS. Forfar.**—Alterations and additions at Forfar Post Office, for H.M.O.W. Apply Post Office, Forfar, or H.M. Office of Works, 4-5 Drumsheugh Gardens, Edinburgh. Deposit £1 1s.

September 18.—**HALL. Otterburn, Scotland.** – Erection of a hall at Otterburn, for the Otterburn Memorial Hall Committee. Apply Mr. C. F. Murphy, Lloyds Bank Chambers, Morpeth, or Mr. G. MacDougal, Tower Cottage, Otterburn.

September 18.—**HOUSES. Rhydfelen.**—Building of 20 houses on the Duffryn Land, Rhydfelen, for the Pontypridd Urban District Council. Apply Mr. W. E. Lowe, Engineer and Surveyor, Municipal Buildings, Pontypridd. Deposit £3 3s.

September 19.—**HOUSES. Glasgow.**—Erection of 68 houses of the cottage and terrace type in Cathcart Road, for the Corporation. Apply Town Clerk, Glasgow.

September 19.—**CONVERTING. Chingford.**—Works, for the Chingford Urban District Council, viz. :—(1) Conversion of an existing building formerly used as a brick kiln into a cottage bungalow; (2) erection of a suitable covering over the refuse incinerators; (3) erection of new storage sheds. Apply Mr. L. C. Bowen, Clerk, Council Offices, Chingford, E.4. Deposit £2 2s.

September 19.—**HOUSES, &c. Bolton-upon-Dearne.**—For erection of 78 dwelling-houses of various types, and the construction of roads and sewers in connection therewith in Furlong Road, Bolton-upon-Dearne, for the Bolton-upon-Dearne Urban District Council. Apply Messrs. Garside and Pennington, Ropergate, Pontefract.

September 19.—**ALTERATIONS TO COTTAGES. High Houghall.**—Builder's work in connection with the following: High Houghall Farm—(1) alterations to cottages; (2) conversion of farm buildings into poultry station. Apply Mr. F. Willey, F.R.I.B.A., 34 Old Elvet, Durham.

September 19.—HOUSES. Gosforth.—Erection of 20 semi-detached houses on road No. 6 of the Corlodge Housing site for the U.D.C. Apply Mr. George Nelson, A.M.I.C.E., Engineer and Surveyor, to the Council, Council Chambers, High Street.

September 19.—**HOUSES. Heywood.**—Erection of 20 houses (in pairs) at Barley Hall, Heywood, for the Corporation. Apply Mr. J. B. Nuttall, Borough Surveyor. Deposit £2 2s.

September 19.—**HOUSES. Hull.**—Erection of 50 houses on the Cottingham Road Estate, for the Corporation. Apply City Architect's Office.

September 19.—**WORKS AND REPAIRS. Windsor.**—Execution of ordinary works and repairs in the Windsor district, for H.M.O.W. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £3 3s.

September 20.—**POST OFFICE. Chepstow.**—Erection of a post office at Chepstow, for the Commissioners of His Majesty's Works, &c. Apply Post Office, Chepstow, or Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

September 20.—**CLASSROOMS. Hemsworth.**—Erection of three additional classrooms at Hemsworth, Kinsley Council School. Trades :—Excavator, concretor, and bricklayer, carpenter and joiner, slater, plumber and glazier, plasterer, painter. Apply Education Department, County Hall, Wakefield.

September 20.—**POST OFFICE EXTENSION. Maidenhead.**—Extension of the post office, Maidenhead, for the Commissioners of His Majesty's Works. Apply Head Post Office, Maidenhead, and Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

September 20.—**EMPLOYMENT EXCHANGE. London.**—Erection of an employment exchange in the Borough, London, S.E., for H.M.O.W. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

September 25.—**RECONSTRUCTING BATHS. Buxton.**—Reconstruction of the natural mineral water baths, situate in The Crescent, Buxton, for the Corporation. Apply Mr. F. Langley, Borough Engineer and Surveyor, Town Hall, Buxton. Deposit £5 5s.

September 25.—**CUBICLE BLOCK. Stoke-on-Trent.**—Erection of a new cubicle block, &c., at th Bucknall Infectious Diseases Hospital, for the Corporation. Apply Mr. E. Jones, F.S.A., 10 Albion Street Hanley; or Messrs. Martin, Martin and W. H. Ward Architects, 106 Colmore Row, Birmingham.

September 29.—**COTTAGES, &c. Littleton, Staines** —Demolition of 14 cottages and farm buildings, includin outbuildings, walls, fences, and paving, &c., and also th construction of 12 cottages, formation of drainage fences, paving, and paths, &c., at Littleton, in the rura district of Staines, Middlesex, for the Metropolitan Wate Board. Apply Offices of the Board, Chief Engineer' Department (Room 201), Metropolitan Water Board New River Head, 173 Rosebery Avenue, Clerkenwell E.C.1. Deposit £5.

October 2.—**SANITARY CONVENIENCES. Lichfield.**—Erection of sanitary conveniences in the Marke Place, Lichfield. Apply Mr. P. A. Benn, F.S.I., City Surveyor, Guildhall, Lichfield. Deposit £2 2s.

October 3.—**COTTAGES. Putney.**.—Erection on the Roehampton Estate, Putney, of 168 cottages, comprised in contracts, as follows :—(a) 99 cottages; (b) 43 cottages; (c) 26 cottages, for the London County Council Apply Architect to the Council, County Hall, Westminster Bridge, S.E.1. Deposit £3.

October 3.—**COTTAGES. Hemel Hempsted.**—Erection of 10 cottages, for the Corporation. Apply Mr. W. R. Locke, Borough Engineer and Surveyor, Market Square, Hemel Hempsted. Deposit £1 1s.

No Date.—**ADDITIONS, &c. Westacre, Norfolk.** —Additions and alterations to residence, Westacre, Norfolk. Apply Mr. L. F. Eagleton, 38 King Street, King's Lynn.

No Date.—**STABLES. Wigan.**—Erection of stables and garages at 86 Standishgate, Wigan, for Messrs. Hartley's (Wigan), Ltd. Apply above address.

No Date.—**HOUSE. Kent's Bank, Lancs.**—Erection of house, Kentsford Road, Kent's Bank, for Mr. L. P. Jackson, J.P. Apply Messrs. Settle and Brundritt, A.R.I.B.A., Architects, Ulverston.

No Date.—**ADDITION. Ryhill.**—Addition t Ryhill Church Institute (erection of room 60 ft. by 37 ft. Apply Mr. H. Smith, Station Road, Ryhill.

ELECTRICAL.

September 15. — **CABLE. Newcastle - under - Lyme.**—Supply and laying of a feeder approximately 320 yards of 0.4, 0.15, 0.4, l.t. paper-lead covered cable, for the Electricity Supply Department. Apply Mr. A. J. C. De Renzi, Borough Electrical Engineer.

September 26.—TELEPHONE PARTS. Australia.—Supply (by the dates named) of telephone parts, schedule V.53 (September 26); telephone apparatus and parts, schedule 561 (September 27). Apply Room 101, Australia House, Strand, London, W.C.2.

September 27.—TELEPHONE APPARATUS AND PARTS. Brisbane.—For supply and delivery of telephone apparatus and parts, schedule No. 561, for Deputy Postmaster-General at Brisbane. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, London, S.W.1.

October 4.—**ELECTRIC LIFT. Hastings.**—Supply and erection of an electric passenger and goods lift at their Frederick Road Infirmary, Hastings, for the Guardians. Apply Mr. S. Bumstead, Clerk, Union Offices, Hastings.

ENGINEERING.

September 15.—**WHARF. Guayaquil.**—Construction of a Custom-house wharf at Guayaquil, for the Government of Ecuador. Apply Consul-General of Ecuador, 23 College Hill, Cannon Street, E.C.

September 15.—**RESERVOIR. Rowberrow.**—Construction of a covered service reservoir to contain 500,000 gallons at Rowberrow, for the Directors of the Bristol Waterworks Co. Apply at the Office of the Company at Telephone Avenue, Bristol, or at the Office of Messrs. T. and C. Hawksley, Civil Engineers, 62 Broadway, Westminster, S.W. Deposit £3 3s.

September 16.—**HEATING, &c. Ely, Cambs.**—Alteration and rearrangement of their steam heating hot-water supply, and cooking apparatus (including the supply and fixing of two new vertical multitubular steam boilers, at the Poor Law Institution, Ely, for the Guardians. Apply Guardians' Offices, 11 Lynn Road, Ely.

September 18.—**STEAM GENERATING PLANT. Brighton.**—Supply, delivery, and erection at their power station, Southwick, near Brighton, of two water-tube boilers, superheater, economiser, steel chimneys, fans, feed pumps, and other accessories complete on foundations to be provided by the contractor, together with range of steam pipes and valves, to be also included in the same contract, for the Corporation. Apply Mr. J. Christie, Electricity Department, North Road, Brighton. Deposit £2 2s.

September 18.—**WATER MAINS. Ruskington.**—Supply, laying, and jointing of about 2⅞ miles of 2 in. diameter cast-iron main, irregulars, valves, and other works of water supply, for the Ruskington Urban District Council. Apply Mr. S. F. Clare, Engineer to the Council, Sleaford. Deposit £1 1s.

(*Continued on page* xxxii.)

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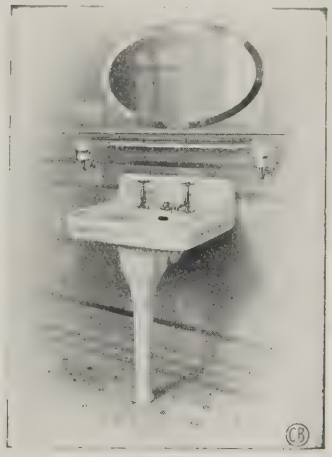

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September 18.—**BEACON. Edinburgh.**—Construction of a concrete beacon on a tidal rock which lies off the northern end of South Rona, for the Commissioners of Northern Lighthouses. Apply Mr. D. A. Stevenson, 84 George Street, Edinburgh. Deposit £1.

September 19.—**PIPELAYING. Liverpool.**—Laying of cast-iron pipes of 42 in. and 40 in. internal diameter and other ancillary works as follows, for the Liverpool Corporation, viz.: From the Prescot reservoirs of the Liverpool Corporation to Rathbone Road, Liverpool, in the county of Lancaster, for a distance of about six miles. Apply Water Engineer's Office, Alexandra Buildings, 55 Dale Street, Liverpool. Deposit £5 5s.

September 20.—**BOILERS. Islington.**—Manufacture, supply, and erection at their electric generating station, 50 Eden Grove, Holloway, N.7, of (a) two water-tube boilers, with the necessary stokers, draught system, steel chimneys, steam piping, and other accessories, and (b) cooling towers, ponds, pipework, and other accessories, for the Islington Borough Council. Apply Chief Engineer, 50 Eden Grove, Holloway, N.7.

September 20.—**ENGINES, &c. Richmond.**—Contract No. 1, supply, erecting, and setting to work at the Water Lane pumping station of two steam pumping engines; No. 2, supply of one electrically driven centrifugal booster pump for the high-level district supply, for the Town Council. Apply Mr. H. W. Apted, A.M.I.C.E., Water Engineer, Waterworks, Richmond (Surrey). Deposit £1 1s.

September 20. — **RECONSTRUCTING HOT-WATER PIPES. Ashton-under-Lyne.**—Reconstruction of the domestic hot-water distribution pipes in the Male Pavilion of the Lake Hospital, for the Guardians. Apply Mr. H. H. Daley, Clerk, St. Michael's Square, Ashton-under-Lyne.

September 20.—**FOUNDATIONS. Bristol.**—Construction of foundations for No. 15 turbo-alternator at the Feeder Road Generating Station, St. Philip's, Bristol, for the Electrical Committee. Apply Mr. H. Faraday Proctor, M.I.C.E., M.I.E.E., Chief Engineer and General Manager, The Exchange, Corn Street, Bristol. Deposit £2 2s.

September 21.—**HOT-WATER SYSTEM. Abergavenny.**—Installation of a new hot-water system at their Institution at Abergavenny, for the Guardians. Apply Mr. W. Prichard, 16 Monk Street, Abergavenny.

September 22.—**WATERWORKS. Nantwich.**—(Contract No. 1) for cast-iron water pipes, branches, and other pieces; (contract No. 2) for hydrants, sluice valves, fittings, &c.; and (contract No. 3) for excavating and aying, fixing and jointing cast-iron water mains, and all the necessary sluice valves, hydrants, fittings, &c., for purposes of water supply for the parish of Willaston. Separate tenders will be required for each contract, but one contractor may tender for the whole. Apply Mr. H. Crabtree, Engineer, 1 Dysart Buildings, Nantwich. Deposit 10s.

September 22.—**REPAIRS TO PUMPS. Warminster.**—Executing repairs to the pumps at the Smallbrook Pumping Station, for the Warminster Urban District Council. Apply Mr. T. J. Rushton, Clerk, Urban Council Offices, Warminster.

September 29.—**LATHES. Birmingham.**—Supply, delivery and erection of power-driven lathes, machine tools, line shafting and pulleys at the Nechells generating station, for the Birmingham Electric Supply Department. Apply Mr. E. J. Jennings, Secretary, 14 Dale End, Birmingham. Deposit £1 1s.

October 1.—**BRIDGE SUPERSTRUCTURES. Bangkok.**—Supply of superstructures of steel railway bridges, B.E.2465, for the Siam State Railways. Apply Messrs. C. P. Sandberg, 40 Grosvenor Gardens, London, S.W.1.

October 14.—**FURNACE. Johannesburg.**—Supply and erection of a pig singeing furnace at the abattoirs, for Municipal Council of Johannesburg. Apply Room 91, Municipal Offices, Johannesburg. Deposit £1 1s.

November 28.—**CRANE. Auckland, N.Z.**—Supply and delivery of one-ton fixed pedestal crane for King's Wharf, for the Auckland Harbour Board. Apply Messrs. W. and A. McArthur, Ltd., 18–19 Silk Street, Cripplegate, London, E.C.2. Deposit £1 1s.

PAINTING.

September 15.—**PAINTING. Chopwell.**—Outside painting of the Chopwell Workmen's Social Club and Steward's House. Apply 4 Hilford Terrace, Chopwell.

September 16.—**PAINTING, &c. Bristol.**—Painting and decorating the whole of the new wards, bathrooms, lavatories, and other small rooms, &c., at Southmead Infirmary, for the Guardians. Apply Mr. J. A. Coles, Clerk, St. Peter's Hospital, Bristol.

September 18.—**PAINTING. Clitheroe.**—Painting and fixing new gutters at Goosebutts Farm, for the Corporation. Apply Mr. A. R. Bleazard, Borough Engineer, Church Street, Clitheroe.

September 20.—**PAINTING. Barnsley.**—Painting work, &c., at the Mount Vernon Sanatorium, Barnsley, for the Barnsley and Wakefield Joint Sanatorium Committee. The work to be done consists in the painting, &c., of the exterior and interior of the ward pavilion, the exterior of the administrative block, and the exterior of two greenhouses. Apply Borough Engineer, Fairfield House Offices, Barnsley.

September 20.—**PAINTING. Edmonton.**—Internal painting and decoration, &c., of the annexe North Middlesex Hospital, Silver Street, Edmonton, for the Guardians of Edmonton Union. Apply Mr. J. C. S. Mummery, 34 Bloomsbury Square, W.C.1.

September 20.—**CLEANING AND PAINTING. Leeds.**—Cleaning and painting the steel bridge over the River Aire, at Rodney Sewage Works, for the Sewerage Committee. Apply Mr. G. A. Hart, M.Inst.C.E., 8 Park Square, Leeds.

September 20. — **PAINTING. Liverpool.** — F painting to specification at Walton and Smithdown Roa Institutions, for Guardians of West Derby Union. Appl Mr. G. W. Coster, Clerk, Brougham Terrace, Liverpool

September 21.—**PAINTING. Walthamstow.**- External painting the school buildings, for the manage of the North London Industrial School. Apply Mr. T. Penn, Clerk to the Managers, 115 High Street, Walthan stow, E.17.

ROADS AND SEWERS.

September 14.—**RESURFACING. Thirsk.**—R surfacing approximately 5,000 square yards of the higl way leading from Thirsk to Helmsley, in the parish Sutton-under-Whitestonecliffe, for the Thirsk Rur District Council. Apply Surveyor's Office, Castle Gartl Thirsk. Deposit £1 1s.

September 15.—**SETT PAVING. Wednesbury.**- Laying complete of about 12,500 super yards of ne granite sett paving, together with reinforced concret foundations for same, and alteration of kerbing an channelling, &c., on a portion of the Holyhead Roa and Leabrook Road respectively, for the Town Counci Apply Mr. E. M. Scott, Borough Surveyor, Town Hal Wednesbury. Deposit £2.

September 18.—**WOOD PAVING WORKS. Kensington.**—Providing and laying creosoted deal block and, where required, a new concrete foundation i Sydney Place, South Kensington, and the portions Pembridge Villas, Notting Hill, from Portobello Road t Chepstow Crescent and from Chepstow Villas to Wes bourne Grove, for the Kensington Borough Counci Apply Borough Engineer and Surveyor, Town Hal Kensington, W.8.

September 19.—**OUTFALL WORKS. Alton.**- Reconstruction at the Council's outfall works, includin percolating filters, humus tanks, &c., for the Alto Urban District Council. Apply Town Hall, Alto Deposit £2 2s.

September 21.—**SEWAGE DISPOSAL WORKS Dewsbury.**—Construction of a 54 in. diam. storm-wate relief sewer, about 1,100 lin. yards cast-iron sipho under mill stream, and other appurtenant works in connection with the construction of sewage disposal work at Mitchell Laithes, Dewsbury, for the Dewsbury Co poration. Alternative tenders are invited for mas concrete and ferro-concrete construction. Appl Messrs. J. Diggle and Son, 14 Brown Street, Mancheste or Mr. H. Dearden, A.M.I.C.E., Borough Engineer, Tow Hall, Dewsbury. Deposit £3 3s.

September 22.—**ROAD WORKS. Adwick an Bolton.**—Widening and rebuilding of Hound Hi Bridge and the widening of Hound Hill Lane, betwee the corner of Sticking Lane, Adwick, and Bolton Mi Bridge, Bolton, for the Doncaster Rural District Counc and the Urban District Council of Bolton-on-Dearne Apply Mr. W.R. Crabtree, Surveyor, Union Offices, Nethe Hall Road, Doncaster, or from Mr. Adams, Surveyo to the Bolton-on-Dearne U.D.C.

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Library Planning and Design

There has been a great change in the point of view from which the library building is regarded. To-day much less importance is attached to the situation of the site, and it is considered essential that the building should be capable of easy adjustment and internal alteration. To quote from "The Librarian," it is now realized that the public library is in need of constant alteration: that the library of the future may bear little resemblance to the present public library. And for that reason the building should be either of a less permanent nature than the typical erection of the past, raised in brick and stone, with the prospect of a hundred years of changeless and uneventful life; or it should be capable of easy adjustment and alteration internally. The building should be regarded as a mere shell, the walls should be designed from their true standpoint, as a means of protection. The greatest change of the past has been the introduction of open access. How great that change has been, and how little adapted to open access the older buildings were is known to most librarians, at least to those who have had anything to do with the stuffy, smelly old type of building. But this change or development, great as it has been, may be as nothing to the changes that are even now becoming apparent in the future more or less distant.

This shell building may be as solid and as lasting and as ornate as desired. It depends entirely upon the amount of money available. And so long as the interior is not robbed it does not very much matter what happens. In other words, the æsthetic sense of the librarian is not our immediate concern; the question of the outside is a matter to be decided by the local authority familiar with local tastes and the surroundings of the building. Because the relationship of the exterior to the interior has undergone such a vital change during the last few years, the importance of the one is now immeasurably greater than that of the other. But, curiously enough, this change in values justifies the building of the exterior more solidly, with more dignity, and with greater beauty than in the past. The disassociation, as it were, of the exterior from the interior makes it possible to erect a lasting exterior that will not require alteration, however much the interior may be changed. The principle involved may be seen in use in many large business houses throughout the world. From a spacious interior, architectural knowledge, engineering skill and practical craft, can erect and re-erect any desired scheme of rooms, halls or chambers. The architect has this knowledge, but both he and the librarian must realize the possibilities before any great building impetus can take place.

Of course this idea of a shell building is not new. It has been familiar for many years. Even in this country it is to be found in at least two public libraries. But the existing shell buildings are not so developed on these lines as future buildings are likely to be, if only because building science was not so far advanced when these buildings were erected as it is now.

A.A. Design Club

The new session of the Architectural Association Design Club is about to commence, and application for membership should be made at once to the jury and addressed to the hon. secretary. The jury is as follows: Stanley H. Hamp, Chairman; Robert Atkinson, Howard Robertson, Vice-Chairmen; H. Chalton Bradshaw, Hon. Secretary; John Anderson, Ferdnand Billery, L. H. Bucknell, R. A. Duncan, H. S. Goodhart-Rendell, P. D. Hepworth, E. R. Jarrett, V. O. Rees, L. S. Sullivan, L. de Soissons, T. S. Tait, Members' Committee (to be re-elected at a general meeting on October 27); R. J. Troup, J. H. Greenwood, Joint Hon. Treasurers. The subjects will form a graduated course. The subscriptions are £3 3s. for the year and 10s. for subjects, the fees being payable for at least three subjects whether taken or not. No fee is made for the life class, sketch subjects, or lectures. On Wednesdays at 5 p.m. during the session Mr. Robert Atkinson will lecture on theory, on Thursdays from 7.30 to 9.30 p.m. the life class will be held, and on two nights each week two members of the jury will attend during the execution of each subject. Members who receive first mention (M.15) will receive £2. All the meetings will be held at 36 Bedford Square, W.C.1. Appended is a table giving the dates and time allowed for each subject:—

Competition.	Sketch, twelve hours, Sat.-Sun.	Finished Drawings by 10 p.m.	Meeting of Jury, 4 p.m., on Tuesday.	Exhibition and Criticism, 8 p.m., on Tuesday.
Subject I—Three weeks ..	Sept. 30	Oct. 23	Oct. 24	Oct. 24
Twelve hours' sketch	Oct. 14/15	Oct. 16	,,	,,
Subject II—Three weeks ..	Oct. 28/29	Nov. 20	Nov. 21	Nov. 21
Twelve hours' sketch	Nov. 11/12	Nov. 13	,,	,,
Subject III—Three weeks ..	Nov. 25/26	Dec. 18	Dec. 19	Dec. 19
Twelve hours' sketch	Dec. 9/10	Dec. 11	,,	,,
Subject IV—Four weeks ..	Dec. 30/31	Jan. 29	Jan. 30	Jan. 30
Twelve hours' sketch	Jan. 13/14	Jan. 15	,,	,,
Twelve hours' sketch	Jan. 20/21	Jan. 22	,,	,,
Subject V—Four weeks ..	Feb. 3/4	Mar. 5	Mar. 6	Mar. 6
Twelve hours' sketch	Feb. 17/18	Feb. 19	,,	,,
Twelve hours' sketch	Feb. 24/25	Feb. 26	,,	,,
Subject VI—Five weeks ..	Mar. 10/11	April 16	April 17	April 17
Twelve hours' sketch	Mar. 24/25	Mar. 26	,,	,,
Twelve hours' sketch	April 7/8	April 9	,,	,,

The Programme of the A. and S.A.P.U.

The following extracts from the programme of the Architects' and Surveyors' Assistants' Professional Union are set forth on a recruiting circular which has just been issued. The President of the Union is Mr. A. J. Penty, L.R.I.B.A., the Chairman of the Executive Council is Mr. Chas. MacLachlan, A.R.I.B.A., and the General Secretary is Mr. J. Mitchell. The offices of the Union are at 36 Victoria Street, London, S.W.1:—

To organize the salaried architects, surveyors, civil engineers, and technical assistants in all branches of the building professions, e.g., private practice, government service, local government service, statutory and industrial companies, building contractors, etc., and to make our membership 100 per cent. strong in each of the above groups.

To combat the very serious state of overcrowding in the building professions, to press for the regulation of entry into same, and to bring into being the necessary machinery for securing our just aims. To urge the formation of a National Whitley Council for the building professions where employers and employed will meet to solve their common difficulties, and to work for their common welfare.

To secure to all entering the professions an adequate standard of training which shall be under the direct control of the recognized professional bodies.

To eliminate all forms of unpaid and underpaid assistance, whether of pupils or assistants, all of which tend to undermine the status of the average assistant who has to stand on his own feet after training and earn his own living.

To enforce the recognition of an assistant as being a professional man, no matter where or by whom employed, and to dispel from all minds the popular illusion of his being a sort of "technical clerk."

To endeavour to secure the exemption from Income Tax of such charges as—(i) Payments to learned and protective associations (such as this Union); (ii) Out-of-pocket expenses for technical books, instruments, unsuccessful competitions, etc.

To help capable and qualified assistants about to start in practice on their own account, and to raise a fund from which they could borrow if necessary.

To organize and maintain a central employment bureau for all professional and technical assistants connected with the building industry. (Our own bureau during the past fifteen months placed over 200 men in positions.)

To provide for members requiring same the services of our legal advisor. (The Union is ready to support and take up any presentable case.)

To publish a monthly journal containing all information regarding the Union's activities and dealing with all matters of general professional interest. (At present the Journal is published quarterly, but more frequent issues are needed for our requirements.)

To institute the principle of a minimum salary for all assistants. This was fixed by the National Convention of Delegates in 1920 (when the cost of living was

125 per cent. above the 1914 level) at £6 6s. per week for a man of 26 years of age.

To maintain a hostel for the accommodation of members visiting or taking appointments in London which shall also serve as a social centre for London members, and shall include a suite of offices for the Union.

The Cost of Building

"It is more than probable that the cost of housing will become stabilized for some years at a little above pre-war figures." This conclusion is reached by the General Committee of the National Federation of House Builders, in a statement just issued. With regard to Sir Charles Ruthen's remarks on the decrease in the cost of building the Committee state that it is impossible to make a comparison in cost between council houses and those erected to be sold to an occupying owner.

The Committee, in the course of the statement, remark: The cost of building at the present time varies in different parts of the country, but on the average it may be said to be 125 per cent. above the cost in 1914.

It is impossible to state any general figure of cost for a house of given accommodation built for sale to an occupying owner; the cost of houses even of the same size in the same town varies, for the value of the land, the nature of the fittings, and the design of the house all have a direct effect upon the cost of building.

The prospect of any further substantial reduction is remote, for wages are now fixed until March 1, 1923, and the item of wages amounts to 75 per cent. of the total cost of building including the wage on the manufacture of material used in the job. There is little prospect of any great fall in the rate of wages, which is governed by the final law of supply and demand. There are probably only half the number of men available for house building in the immediate future as compared with the number who were engaged in the various trades when building was at its height, and any revival in the trade is bound to lead to a very serious shortage of labour which will prevent any further reduction in the rate of wages.

In conclusion the Committee remark: "The house builders of the country have been prevented by various circumstances from carrying on their business during the past ten years. Investors have been discouraged from buying houses by the various Acts of Parliament affecting house property, which have destroyed all confidence. Prices have been rushed up to impossible figures by reckless schemes, and the people of the country have been encouraged to expect housing conditions which were absolutely unattainable. When all this chaos has subsided and the country realizes that housing must be an economic business governed by hard financial rules, the house builders will be able to resume their business and the acute house famine which we are now experiencing will become a nightmare of the past."

Shop Lighting.

The current number of "A Thousand and One Uses for Gas" (No. 102) contains a series of photographs of shops and shopping parades brilliantly lighted by low and high pressure gas lamps, and contains a wealth of useful advice as to the latest and most efficient types of lamps, burners, reflectors, and shades for shop lighting. Every shopkeeper who is dissatisfied in any way with his existing system, or whose lighting tends to be "eclipsed" by that of his neighbouring competitors, should write for this thoroughly practical little magazine, which will be sent (6d. post free) on application to the Secretary, The British Commercial Gas Association, 30 Grosvenor Gardens, S.W.1.

New Inventions

Latest Patent Applications.

24364.—Bellman, N. S.—Coverings for buildings. September 8.

24126.—Dean, J. H.—Wall tie. September 6.

24113.—Dyson, E.—Concrete for flooring, etc. September 6.

24093.—Lord, F.—Pointing brickwork, etc. September 6.

24070.—Thomson, B.—Building-blocks. September 5.

23947.—Wright, W. N.—Paving-blocks, tiles, etc., and materials for making same. September 4.

Specifications Published.

184910.—Durato Asbestos Flooring Co., Ltd., and Nemeth, A. Z.—Roofing material or tile.

185014.—Bonhardi, A.—Building-blocks.

Abstract Published.

183206.—Lathing.—Heyd, W., Freilassing, Upper Bavaria, Germany.—A plaster lathing comprises rectangular wooden laths *a* set edgeways to and on one side of a wire *b*, which lies in a single undeflected line coincident with the line of tension on the wire.

FIG. 1

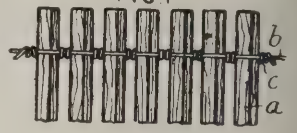
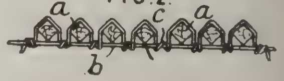


FIG. 2.



The laths are secured to the wire *b* by wires *c* or like fastening, which are not subject to any part of the tension applied to the wires *b*.

The above particulars are prepared specially by Messrs. Rayner & Co., registered patent agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

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BUILDING

September 28.—**DWELLINGS. Southwark.**—Erection of a block of dwellings on the Tabard Gardens Estate, Southwark, for the London County Council. Apply Architect to the Council, The County Hall, Westminster Bridge, S.E.1. Deposit £3.

September 28.—**HOUSES. Ecclesfield, &c., Yorks.**—Erection of the following houses, for the Wortley Rural District Council: Ecclesfield, 10; Mortomley, 14; and Tankerley, 6. Apply Mr. W. Dixon, Architect, 16 St. James's Row, Sheffield. Deposit £2.

September 29.—**COTTAGES, &c. Littleton, Staines.**—Demolition of 14 cottages and farm buildings, including outbuildings, walls, fences, and paving, &c., and also the construction of 12 cottages, formation of drainage, fences, paving, and paths, &c., at Littleton, in the rural district of Staines, Middlesex, for the Metropolitan Water Board. Apply Offices of the Board, Chief Engineer's Department (Room 201), Metropolitan Water Board, New River Head, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £5.

September 29.—**TELEPHONE EXCHANGE. Hyde.**—Erection of new telephone exchange at Hyde for H.M.O.W. Apply the H.P.O., Hyde, or Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

September 29.—**WAR MEMORIAL. Millom.**—Construction of the war memorial, Millom, Cumberland. Apply Messrs. Settle and Brundrit, A.R.I.B.A., Architects Ulverston.

September 30.—**SHELTER. Southend-on-Sea.**—Erection and completion of a shelter on the Western Esplanade for the Corporation. Apply Mr. R. H. Dyer, Borough Engineer, Municipal Buildings, Southend-on-Sea. Deposit £2.

September 30.—**RENOVATIONS. Portland.**—Renovations at Primitive Methodist Chapel, Fortune's Well, Portland. Apply Mr. R. J. Stone's, 32 High Street, Portland.

September 30.—**SCHOOL. Andover.**—For erection of a new Council school at Andover (with Army hutting), for the Hants County Council. Apply Mr. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s.

September 30.—**CONVENIENCE. Edinburgh.**—Erection of a public convenience at North Meadow Walk, for the Town Council. Apply Burgh Engineer, 1 Parliament Square.

September 30.—**POINTING, &c. Halifax.** Execution of pointing, &c., to stonework at Belle Vue Museum and Library, Halifax, for the Public Library Committee of the Halifax Corporation. Apply Mr. A. C. Tipple, Borough Engineer, Crossley Street, Halifax.

September 30.—**HOUSES. Blackpool.**—Erection and completion of 68 houses contained in 17 blocks; also separate tenders for house drainage and fencing respectively in connection therewith, for the Corporation. Apply Mr. E. D. Dennis, 27 Clifton Street, Blackpool. Deposit £4 4s.

September 30.—**HOUSES. Earlestown, Lancs.**—Erection of 16 type "A" houses (in brick) at the South Mesnes, Earlestown, in connection with the Council's housing scheme, for the Newton-in-Makerfield Urban District Council. Apply Surveyor, Town Hall, Earlestown.

October 2.—**SANITARY CONVENIENCES. Lichfield.**—Erection of sanitary conveniences in the Market Place, Lichfield. Apply Mr. P. A. Benn, F.S.I., City Surveyor, Guildhall, Lichfield. Deposit £2 2s.

October 2.—**HOUSES. Glasgow.**—Erection of 226 houses at Hawthorn Street, for the Corporation. Apply Mr. J. Lindsay, Town Clerk, City Chambers, Glasgow.

October 2.—**HOUSES. Hoole, near Chester.**—Erection of 12 houses, consisting of four pairs "A" type, facing Clare Avenue and two pairs "B" type, facing Lime Grove, at Hoole, near Chester, for the Urban District Council. Apply Mr. F. Davies, Architect and Consulting Surveyor to the Council, 14 Newgate Street, Chester.

October 2.—**HALL. Broughton.**—Erection of a proposed village hall at Broughton. Apply Mr. C. W. Hoare, Hon. Secretary, Hall Committee, "Eversfield," Broughton, or from Mr. F. Henshaw, L.R.I.B.A., Architect, Lloyds Bank Chambers, Andover. Deposit £1 1s.

October 2. — **CONVENIENCES. Holmfirth.**—Erection of public conveniences, Town gate, Holmfirth, for the Urban District Council. Apply offices of Messrs. Abbey and Hanson, Architects, 11 Cloth Hall Street, Huddersfield.

October 2.—**POWER STATION. Douglas, Isle of Man.**—Erection and completion of the proposed power station in connection with the Douglas electricity scheme, for the Corporation. Apply Mr. J. E. Teare, F.S.I., Architect and Surveyor, 46 Athol Street, Douglas.

October 3.—**REPAIR, &c. Pensarn.**—Repair, alteration and adaptation of farm buildings and some minor repairs to cottages on the holdings occupied by Messrs. S. G. Lewis and R. O. Peterson at Pensarn, in the parish of Henllys, about 5½ miles from Newport and two miles from Cwmbran, for the Monmouthshire Agricultural Committee. Apply Mr. A. Every-Clayton, County Land Agent, 2 Gold Tops, Newport, Mons. Deposit £1 1s.

October 3.—**COTTAGES. Putney.**—Erection on the Roehampton Estate, Putney, of 168 cottages, comprised in contracts, as follows:—(a) 99 cottages; (b) 43 cottages; (c) 26 cottages, for the London County Council. Apply Architect to the Council, County Hall, Westminster Bridge, S.E.1. Deposit £3.

October 3.—**COTTAGES. Hemel Hempsted.**—Erection of 10 cottages, for the Corporation. Apply Mr. W. R. Locke, Borough Engineer and Surveyor, Market Square, Hemel Hempsted. Deposit £1 1s.

October 4. — **WORKS, REPAIRS, &c. War Department Contract, London, S.W.**—Contracts from November, 1922, at the following places in the Eastern Area of the Eastern Command: No. (1) Colchester; (2) Landguard, including Harwich, Ipswich, &c.; (3) Norwich, including Great Yarmouth; (4) Bury St. Edmund's; (5) Brentwood division. Apply Royal Engineer Office, Colchester. Schedules of prices 15s.

October 5.—**HOUSES. Doncaster.**—Erection of 60 houses of the "A" class in Theobald Avenue and Chequer Avenue, in one or more contracts, for the Corporation. Apply Mr. R. E. Ford, Housing Surveyor, 3 Priory Place, Doncaster. Deposit £2 2s.

October 7.—**LAUNDRY, &c. Oakham.**—Erection of new laundry, &c., for the Guardians. Apply Mr. F. W. Nichols, Market Place, Oakham. Deposit £1 1s.

October 8.—**TOWN HALL, &c. St. David's, Pembroke.**—Erection of a town hall, library, and room, with a caretaker's house, at St. David's. Apply Gwalia.

October 9.—**RECEIVING HOME, &c. Nottingham.**—Erection of a new receiving home and alterations to the infants' home, Hartley, Nottingham, for the Guardians. Apply Messrs. E. R. Sutton and Son, F.R.I.B.A., Albion Chambers, King Street, Nottingham. Deposit £2 2s.

October 9.—**WALLS, &c. Preston.**—Construction and erection of retaining walls, abutments, &c., at Oxheys Bridge, over the L. and N.W. Railway, for the Corporation. Apply office of the Borough Surveyor, Town Hall, Preston. Deposit £1.

October 17.—**HOUSES. Walsall.**—Erection of 20 houses, in two blocks of 10, in Lord Street, Walsall, and 19 houses, in three blocks of six and seven, in Green Lane, Walsall, for the Town Council. Apply Mr. J. Taylor, M.I.C.E., Council House, Walsall. Deposit £1.

November 30.—**PALACE. Barcelona.**—In construction of the Grand Palace of Nations. Apply Don José y Cadafalch, offices of the exhibition (Lerida Street).

No Date.—**CONVERTING. Pontefract.**—Conversion of property into two shops at Ropergate End, Pontefract, for Mr. R. Ramsden. Apply Messrs. Garside and Pennington, Architects and Surveyors, Pontefract.

No Date.—**POINTING. Probus, Cornwall.**—Pointing Probus Church tower. Apply Mr. R. F. Wheatly, 11 Princes Street, Truro; or the Rev. Canon Westmacott, The Sanctuary, Probus.

No Date.—**CINEMA. South Kirkby, Yorks.**—Erection and completion of cinema at South Kirkby, near Wakefield, for the South Kirkby Cinema Co., Ltd. Apply Messrs. Garside and Pennington, Architects and Surveyors, Pontefract.

No Date.—**REPAIRS. Weston Coyney, near Longton, Staffs.**—Repairs to four parish cottages at Cookshill, near Longton, and to the caretaker's house at the Board Room, Weston Coyney, near Longton, for the Caverswall Parish Council. Apply Mr. A. Furnival, Clerk, Cookshill, Stoke-on-Trent.

No Date.—**ALTERATIONS, &c. Leebotwood, Shrewsbury.**—Alterations and additions to farm buildings at Leebotwood. Apply County Land Agent, Shirehall, Shrewsbury.

No Date.—**EXTENSION, &c. Castleford.**—Proposed extension of business premises and enlargement of the Co-operative Hall, &c., Carlton Street, Castleford, for the Castleford Co-operative and Industrial Society, Ltd. Apply Mr. A. Hartley, Architect and Surveyor, County Chambers, Castleford.

No Date.—**HOUSE. New Earswick.**—Erection of a house for Mrs. W. H. Sessions, at New Earswick. Apply Mr. E. C. Elcock, F.R.I.B.A., 17 Spurriergate, York.

ELECTRICAL.

September 28.—**SWITCHGEAR. Reigate.**—Supply of high-pressure switchgear in connection with electricity undertaking, for the Reigate Town Council. Apply Mr. C. H. Wordingham, C.B.E., M.I.C.E., 7 Victoria Street, London, S.W.1. Deposit £3 3s.

September 29.—**ROTARY CONVERTER PLANT, &c. Loughborough.**—The Corporation invite tenders for rotary converter plant—contract No. 4; sub-station switchgear—contract No. 6. Apply Mr. C. H. Wordingham, M.I.C.E., M.I.E.E., either 7 Victoria Street, Westminster, S.W.1, or 11 Mosley Street, Manchester. Deposit £3 3s.

October 3.—**ELECTRIC LIFT. Patricroft.**—Provision and erection of an electric lift at the Union Infirmary, Green Lane, Patricroft, for the Guardians of Barton-upon-Irwell Union. Apply Mr. P. Howard, A.R.I.B.A., 88 Mosley Street, Manchester. Deposit £2 2s.

October 4.—**ELECTRIC LIFT. Hastings.**—Supply and erection of an electric passenger and goods lift at their Frederick Road Infirmary, Hastings, for the Guardians. Apply Mr. S. Bumstead, Clerk, Union Offices, Hastings.

October 11.—**STORAGE BATTERY. Melbourne.**—Supply and delivery at the Electric Light Station, Spencer Street, Melbourne, of an electric storage battery with accessories and spares. (Contract No. 35090.) Apply Room 49 of the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

October 18.—**TELEPHONE EXCHANGE. Ostend.**—Equipment of a manual telephone exchange at Ostend and the provision of 1,200 subscribers' instruments fo connection to the exchange. Apply Department o Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 16733/F.W./E.C.)

October 18.—**TURBO-ALTERNATORS. Barking.**—Supply and erection of steam turbo-alternators for their Barking power station, for the County of London Electric Supply Co., Ltd. Apply Mr. F. C. McQuown, Manager and Secretary, on payment of £5 5s. for the first copy, and £2 2s. for every subsequent copy.

October 23.—**TURBINES AND GENERATORS London, W.C.**—The New South Wales Governmen invite tenders for the manufacture, supply and erectio of two water turbines and generators, required in connection with Barren Jack hydro-electric development Apply Consulting Engineer, 64 Victoria Street, London S.W.1, or at the office of the Agent-General.

November 11.—**TURBO-ALTERNATOR. Montevideo, Uruguay.**—Construction, delivery, and erectio in the State power-house at Montevideo of a turbo-alternator of 10,000-kw. capacity to run at 3,000 r.p.m. together with the necessary condensing plant and accessories, for the State Electric Light Works. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1. (Ref. 3667/F.L./E.P.)

November 28.—**SWITCHGEAR. Mangahao, N.Z**—Supervision of the erection, and of the testing afte erection, of outdoor switchgear (section 21) and indoo switchgear (section 33) for the Khandallah sub-statio forming part of the Mangahao power scheme, for th Public Works Tender Board. Apply Department o Overseas Trade, Room 49, 35 Old Queen Street, West minster, S.W.1. (Ref. 9468/Ed./E.P.) Deposit £100

February 1.—**CRANE. Auckland, N.Z.**—Th Auckland Harbour Board are inviting tenders for on 1-ton pedestal crane to be operated by electric power The crane is to have a fixed base and must have thre motions, namely, lifting, slewing, and luffing, each o which shall be mechanically operated. Tenders will b considered only from British manufacturers who specializ in the construction of electric cranes. Apply Depart ment of Overseas Trade (Room 50), 35 Old Queen Street Westminster, London, S.W.1. (Ref. 9460/E.D./E.P.)

ENGINEERING.

September 26 to October 3-11.—**STORM WATE TANK. Crewe.**—Construction of one storm wate tank, 120 ft. by 60 ft., and one percolating filter, 100 ft diameter, for the Corporation. Apply Mr. L. St. G Wilkinson, M.Sc., A.M.I.C.E., Borough Engineer an Surveyor, Municipal Buildings, Crewe. Deposit £2 2 A representative of the engineer will attend at th Municipal Buildings, Crewe, at 11 a.m. on September 2 and October 3, to conduct intending contractors ove the site of the works.

September 28.—**WATER SUPPLY. Stokenchurch**—The provision and laying of 1,320 yards of 3 in. an 4 in. cast-iron pipes and necessary valves, stand posts excavations, &c., at Stokenchurch, for the Wycomb Rural District Council. Apply Messrs. Lucas and Pyke 39 Victoria Street, S.W.1. Deposit £1.

September 29.—**LATHES. Birmingham.**—Supply delivery and erection of power-driven lathes, machin tools, line shafting and pulleys at the Nechells generatin station, for the Birmingham Electric Supply Depart ment. Apply Mr. E. J. Jennings, Secretary, 14 Dal End, Birmingham. Deposit £1 1s.

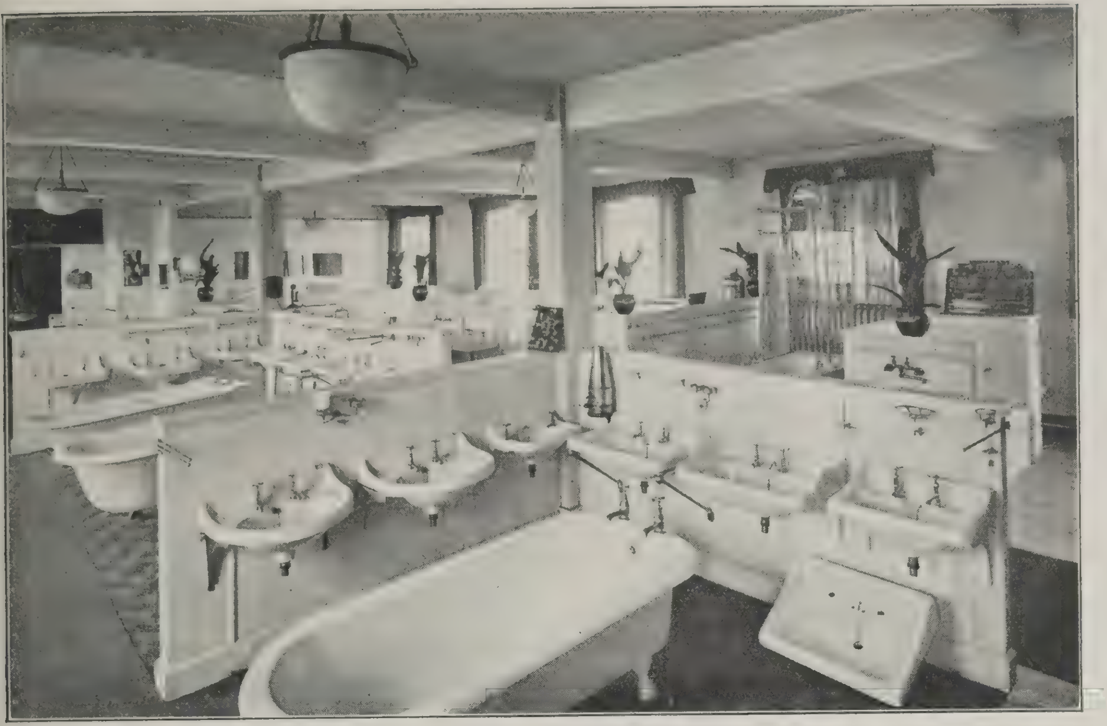
October 1.—**BRIDGE SUPERSTRUCTURES Bangkok.**—Supply of superstructures of steel railwa bridges, B.E.2465, for the Siam State Railways. Appl Messrs. C. P. Sandberg, 40 Grosvenor Gardens, London S.W.1.

October 2.—**LOCK MECHANISM. London E.C.**—The Conjoint Committee of Representatives of th British Waterworks Association and Association Motor Users and Manufacturers invite tenders fro firms of lock and stamping manufacturers, manufa turing engineers and founders for the construction of lock mechanism, and for the subsequent supply of th necessary quantity required by the water undertakin in the county who may adopt the scheme. Appl Mr. J. R. Davidson, M.Sc.M.I.C.E., Water Enginee Liverpool Corporation, Alexandra Buildings, 55 Da Street, Liverpool; Mr. F. J. Dixon, M.I.C.E., M.I.M.E Engineer-in-Chief, South Staffordshire Waterworks Co 26a Paradise Street, Birmingham; or the Secretar British Waterworks Association, Metropolitan Wat Board Offices, 173 Rosebery Avenue, London, E.C.1.

October 2.—**MAINS. Bridgend.**—Providing an laying about 107 lin. yard of 4 in. and 442 lin. yards 3 in. diameter cast-iron mains, with all necessary slui valves, hydrants, &c., at Bridgend housing site, for th Mid-Glamorgan Water Board. Apply Mr. E. W. Davie Superintendent and Manager, Water Board Office Bridgend. Deposit £1 1s.

(*Continued on page* xxvi.)

MODERN SANITARY EQUIPMENT



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October 3.—**HEATING INSTALLATION. Lochmaben.**—Central heating installation at sanatorium about to be erected near Lochmaben, for the Dumfries and Galloway Joint Sanatorium Board. Apply Mr. E. Tweedie, 43 Lady Street, Annan.

October 4.—**GAS COOKING STOVES. London, S.W.**—The National Gas Council of Great Britain and Ireland is prepared to receive tenders for supply of the following: (1) One set of lead master patterns for each of two sizes of stove, viz., No. 2 (unpacked) and No. 3 (packed); (2) sets of original cast-iron patterns for each size of stove; (3) one set of master jigs for each size of stove; (4) 12 specimen cookers of each of the above sizes; (5) complete base stands (two sizes, viz., 4 in. and 24 in. high) in accordance with drawings and specifications to be supplied by the Council; (6) one set of lead master patterns for each size of stand; (7) sets of cast-iron patterns for each size of stand; (8) complete plate racks (including back plate). Apply Mr. W. J. Smith, Secretary, 30 Grosvenor Gardens, London, S.W.1. Deposit £25.

October 4.—**MAINS. Yeovil.**—Execution of works required in carting, excavating, and laying 6,000 yards of 12 in. cast-iron mains, valves, hydrants, &c., for the Yeovil Corporation. Apply Mr. A. J. Price, Borough Surveyor and Engineer, Municipal Offices, Yeovil.

October 9.—**STEELWORK. Preston.**—Supply and erection of steelwork at Oxheys Bridge, over the L. and N.W. Railway, for the Corporation. Apply Office of the Borough Surveyor, Town Hall, Preston. Deposit £1 1s.

October 11.—**AQUEDUCT. Aberdeen.**—Transporting, laying, and jointing of two miles of 48 in. mild steel piping and ancillary works between Gateside of Inchmarlo and Banchory Railway Station, for the Aberdeen Town Council. Apply Water Engineer's Office, 41½ Union Street, Aberdeen. Deposit £5.

October 12.—**VACUUM DUST EXTRACTORS. Johannesburg.**—Supply and delivery of one or more vacuum dust extractors (contract No. 956) of a portable type, having a capacity of approximately 2,000 to 2,500 cubic feet per hour, fitted with suction hose, and suitable for the purpose of sweeping and cleaning down the interiors and exteriors of tramcars and the interiors of motor cases. It is also desired to purchase a similar outfit for cleaning large electrical machinery, particularly Bruce Peebles-La Cour motor converters, the sizes in use being 1,250–2,000-kw. capacity, for which purpose a 220-volt universal motor would be more suitable. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1. (9528/E.D./E.P.)

October 14.—**FURNACE. Johannesburg.**—Supply and erection of a pig singeing furnace at the abattoirs, for Municipal Council of Johannesburg. Apply Room 91, Municipal Offices, Johannesburg. Deposit £1 1s.

October 14.—**SINKING SHAFTS, &c. Margate.**—Sinking of shafts and extending adits for a length of about 1,000 yards in connection with the Margate Corporation waterworks at Wingham, near Canterbury. Apply Mr. E. A. Borg, 13 Grosvenor Place, Margate.

October 18.—**PLANT. London, W.C.**—Supply and erection in South Africa of plant in connection with the electrification of the Glencoe-Pietermaritzburg section of the South African Railways, as follows:—Tender D. 1417, Coal-handling plant for power station. Tender D. 1418, ash-handling plant for power station. Tender D. 1430, circulating water screening plant for power station. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C.2., and Messrs. Merz and McLellan, 32 Victoria Street, London, S.W.1. Deposit £5.

October 21.—**DESTRUCTOR UNIT. Birmingham.**—Supply and erection of a new destructor unit at the Montague Street destructor works, for the Salvage and Stables Committee. Tenders are to include pneumatic suction plants, the dismantling of the existing building and old cells, the erection of new building and approach roadway, also erection and supply of machinery for screening and elevating the refuse. Apply Mr. J. Jackson, Superintendent, Salvage Department, Council House, Birmingham. Deposit £1 1s.

November 28.—**CRANE. Auckland, N.Z.**—Supply and delivery of one-ton fixed pedestal crane for King's Wharf, for the Auckland Harbour Board. Apply Messrs. W. and A. McArthur, Ltd., 18–19 Silk Street, Cripplegate, London, E.C.2. Deposit £1 1s.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria: Specification No. 282: Coal-handling plant for Morwell power station and briquetting works. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2.

PAINTING.

September 28.—**PAINTING. Chatham.**—Painting (1) Sun Pier, (2) cabmen's shelters, Railway Street and Globe Lane, and (3) entrance doors, &c., at fire station, Railway Street, for the Town Council. Apply Borough Surveyor's Office, Town Hall, Chatham.

September 28.—**PAINTING, &c. Oldham.**—Painting, &c., at the markets, for the Markets and Baths Committee. Apply Market Superintendent, Victoria Market, Oldham.

September 29 to October 3.—**PAINTING, &c. Chelsea.**—Internal painting, whitewashing, and repairs to the staircases and corridors of the main block at their Infirmary, Cale Street, Chelsea, for the Guardians. Apply Mr. E. J. Harrison, L.R.I.B.A., 23 Berkeley Road, Crouch End, N.8. Deposit £2.

October 2.—**PAINTING. Normanton.**—Painting (external) stables, council offices, cottages and fire station, Smirthwaite recreation ground lodge, fountain in Market Place, and the internal redecoration of the council offices, for the Urban District Council. Apply Surveyor's Office, Council Offices, Normanton.

October 3.—**PAINTING. Wandsworth.**—Painting, &c., at the intermediate schools, Swaffield Road, Wandsworth, S.W.18, for the Guardians. Apply Mr. F. J. Curtis, Clerk, Union Offices, St. John's Hill, Wandsworth, S.W.17. Deposit £2.

ROADS AND SEWERS.

September 29.—**ROADS, &c. Grange-over-Sands.**—Construction of the road, sewer, manholes, &c., on the Heads Estate, Kents Bank Road, Grange-over-Sands. Apply Messrs. Settle and Brundritt, A.R.I.B.A., Architects, Ulverston.

September 30.—**SEWERAGE WORKS. Rotherham.**—For the labour and materials required in the construction of (1) Sewage disposal works (tanks and filters), and 9 in. stoneware pipe sewer in the parish of Wickersley; (2) sewage disposal works (tanks and filters), and 9 in. stoneware pipe sewer in the parish of Dalton, for the Rotherham R.D.C. Apply Mr. C. O. Rawstron, Engineer and Surveyor, Engineer's Office, Imperial Buildings, Rotherham. Deposit £3 3s.

October 2.—**WIDENING. Hayes.**—Widening of Coldharbour Lane and Station Road, including storm-water sewers, kerbing, paving, &c., for the Hayes Urban District Council. Apply Council Offices, Hayes, Middlesex. Deposit £2 2s.

October 3.—**WIDENING. Sowerby Bridge.**—Widening Pye Nest Road for a length of about 120 yds., for the Sowerby Bridge Urban District Council. Apply Mr. J. Eastwood, A.M.I.C.E., Surveyor, Council Offices, Sowerby Bridge.

TENDER

Village Hall at Claypole.—The following tenders have been received for the erection of a village hall with caretaker's rooms, boundary fences, gates, etc., at Claypole, Lincs., for Mr. H. Coulby, of Cleveland, Ohio, U.S.A. Mr. H. R. Rushbrooke, of 4 Spring Gardens, Newark-on-Trent, is the architect:—

	£	s.	d.	Time. Months.
T. Barlow & Co., Ltd., Nottingham	3,731	0	0	—
W. F. Baines, Lincoln	3,541	4	7	—
Thomas Bow, Nottingham ..	3,383	0	0	—
Rudd and Son, Ltd., Grantham	3,376	5	0	—
P. Kettle & Co., Peterborough ..	3,283	13	0	5 to 6
Thornhill Bros., Lincoln	3,258	0	0	5
J. Coppin and Son, Carlton, near Nottingham	3,178	17	6	6
John Bush, Nottingham	3,147	10	0	9
F. M. Thompson and Sons, Ltd., Louth	3,084	12	6	6
G. H. Blighton, Newark	3,054	0	0	3 to 4
*G. Brown and Son, Newark ..	3,051	10	0	4
William Smith, Newark	2,990	10	0	7
S. and R. Horton and Son, Lincoln	2,917	10	0	—

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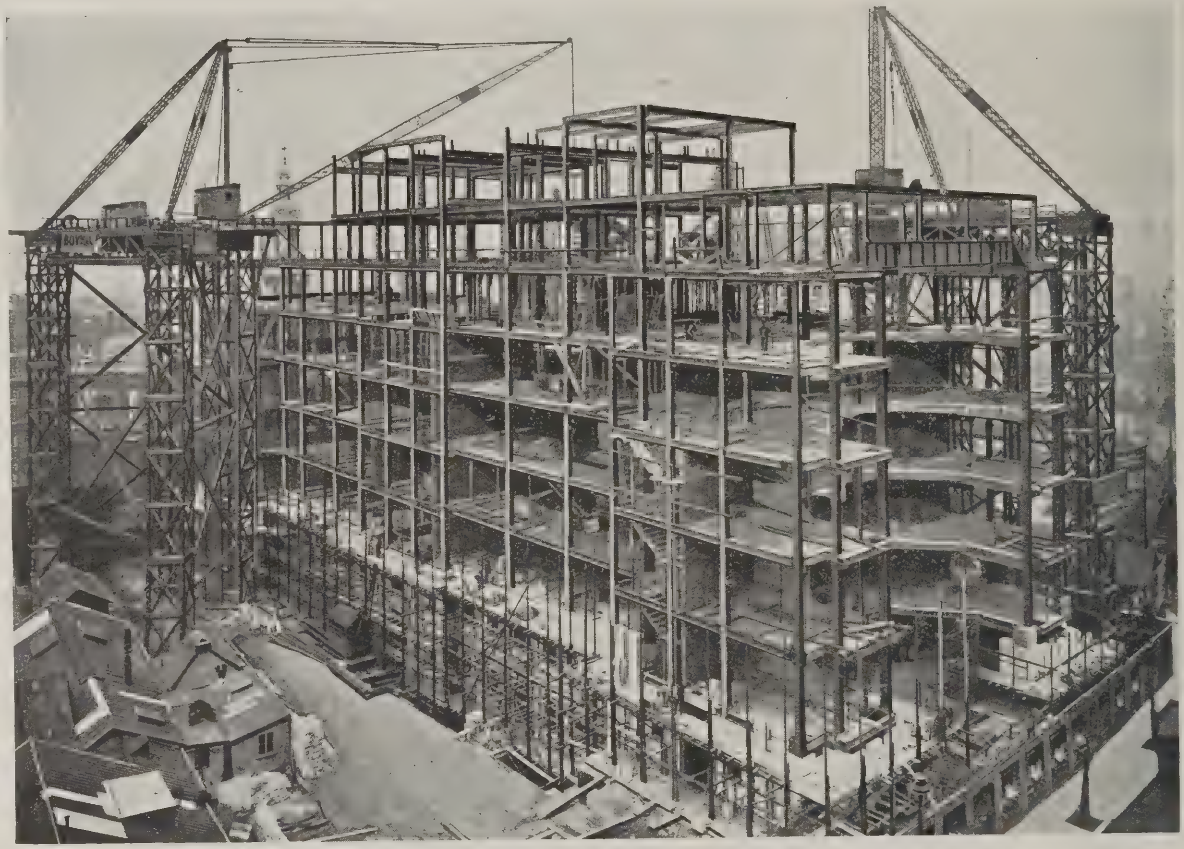

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Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only, and should be confirmed by Trade inquiry. The Labour Rates are hose current at the time of issue and are the Union Rates The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary. The measured prices are based upon the foregoing, and include usual Builders' profit.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
XCAVATOR AND CONCRETOR.	
xcavator, 1s. 3d. per hour. abourer, 1s. 3d. per hour. lavvy, 1s. 3d. per hour. imberman, 1s. 5d. per hour. caffolder, 1s. 4d. per hour. Vatchman, 6s. 6d. per shift. —— roken brick or stone, 2 in., 9s. per yd. hames ballast, 13s. per yd. it gravel, 15s. per yd. it sand, 16s. per yd. Vashed sand, 18s. per yd. creened ballast or gravel, add 10 per cent. per yd. linker, breeze, etc., prices according to locality. ortland cement, 69s. per ton. ias lime, 59s. per ton. acks charged extra at 1s. 9d. each and credited when returned at 1s. 6d. ransport hire per day : Cart and horse, 22s. 3-ton motor lorry, £4. Steam lorry, 5-ton, £4 10s. Trailer, 20s. Steam roller, £4 5s. Water cart, 25s.	Excavating and throwing out in ordinary earth not exceeding 6 ft. deep basis price 3s. 3d. per yd. cube. Exceeding 6 ft., but under 12 ft., add 25 per cent. In stiff clay, add 50 per cent. In underpinning, add 120 per cent. In rock, including blasting, add 225 per cent. If basketed out, add 80 per cent. to 150 per cent. Headings, including timbering, add 400 per cent. Return, fill, and ram, ordinary earth, 3s. 9d. per yd. Spread and level, including wheeling, 3s. 6d. per yd. Planking, 4½d. per ft. sup. Do. over 10 ft. deep, add for each 5 ft. depth 40 per cent. Hardcore, 2 in. ring, filled and rammed 4 in. thick, 2s. 9d. per yd. sup. Do. 6 in. thick, 3s. 8d. per yd. sup. Puddling, 28s. per yd. cube. Cement concrete, 4-2-1, 42s. per yd. cube. Do. 6-2-1, 37s. per yd. cube. Do. in upper floors, add 15 per cent. Do. in ferro-concrete work, add 20 per cent. Do. in underpinning, add 60 per cent. Lias lime concrete, 36s. per yd. cube. Breeze concrete, 28s. per yd. cube. Do. in lintols, etc., 2s. 2d. per ft. cube.
RAINER.	
abourer, 1s. 3d. per hour. imberman, 1s. 5d. per hour. ricklayer, 1s. 8d. per hour. lumber, 1s. 8½d. per hour. Vatchman, 6s. 6d. per shift. —— toneware pipes, tested quality, 4-in. 1s. 6d., 6-in. 3s., 9-in. 4s. 3d. per yd. ast iron pipes, coated, 9-ft. lengths, 4-in. 5s. 6d., 6-in. 8s. 0d. per yd. ortland cement and sand, see "Excavator" above. ead for caulking, 34s. 6d. per cwt. askin, 6d. per lb.	Stoneware drains, jointed in cement, tested pipes, 4 in. 2s. 6d., 6 in. 3s. 6d., 9 in. 4s. 9d. per ft. Cast-iron drains, jointed in lead, 4 in. 10s. 0d., 6 in. 14s. per ft. Note.—These prices include digging and filling for normal depths, and are average prices. Fittings in Stoneware and Iron according to type. *See* Trade Lists.
RICKLAYER.	
ricklayer, 1s. 8d. per hour. abourer, 1s. 3d. per hour. caffolder, 1s. 4d. per hour. —— ondon stocks, 82s. per M. lettons, 61s. per M. taffordshire blue, 205s. per M. irebricks, 2½ in., 225s. per M. lazed salt, white, and ivory stretchers, £24 per M. o. headers, £23 10s. per M. olours, extra, 110s. per M. econds, less, £1 per M. ement and sand, see "Excavator" above. ime, grey stone, 59s. per ton. lixed lime mortar, 28s. per yd. amp course, in rolls of 4½ in. 4s. per roll. 9 in. 6s. 6d., 14 in. 8s., 18 in. 9s. 3d. per roll.	Brickwork in stone lime mortar, Flettons, or equal £34 10s. per rod Do. in cement do., £37 10s. per rod. Do. in stocks, add 25 per cent. per rod. Do. in blues, add 120 per cent. per rod. Do. circular on plan, add 12½ per cent. per rod. Facings, half Brick fair, 1½d. per ft. sup. extra. Do. picked Flettons, 2d. per ft. sup. extra. Do. picked stocks, 1½d. per ft. sup. extra. Do. salt, white or ivory glazed, 5s. 6d. per ft. sup. extra. Tuck pointing, 1s. per ft. sup. extra. Weather pointing, 2d. per ft. sup. extra. Granolithic and Cement paving, 1 in. 3s. 3d. per yd. sup. Do. 1½ in., 4s. per yd. sup. Do. 2 in., 4s. 9d. per yd. sup. Fixing only damp course, ex rolls, 1d. per ft. sup. Asphalt, damp course, ½ in., 9s. 6d. per yd. sup. Do. vertical, 13s. 0d. per yd. sup. Slate damp course, 1s. 3d. per ft. sup. Asphalt Roofing (Mastic) in two thicknesses, ¾ in., 9s. 6d. per yd. Skirting, 6 in., 1s. 2½ in. Breeze Partition Blocks, set in Cement, 6s. 3d. per yd. sup. 3 in. do. do. 8s.
IASON (INCLUDING SLATE).	
lason, 1s. 8d. per hour. o. fixer, 1s. 9d. per hour. abourer, 1s. 3d. per hour. caffolder, 1s. 4d. per hour. —— ortland stone : Whitbed, 4s. 7d. per ft. cube. Basebed, 4s. 8d. per ft. cube. ath stone, 3s. 1d. per ft. cube. Usual trade extras for large blocks.	Hoisting and setting stone, 2s. 0d. per ft. cube. Do. for every 10 ft. above 30 ft., add 15 per cent. Plain face Portland basis, 2s. 6d. per ft. sup. Do. circular, 3s. 8d. per ft. sup. Sunk face, 3s. 4d. per ft. sup. Do. circular, 4s. 0d. per ft. sup. Joints, arch, 2s. 0d. per ft. sup. Do. sunk, 2s. 1d. per ft. sup. Do. do. circular, 3s. 8d. per ft. sup. Circular-circular work, 18s. 0d. per ft. sup. Plain moulding, straight, per inch of girth, 10½d. per ft. run. Do. circular, do. 1s. 2d. per ft. run. Half sawing, 1s. 1d. per ft. sup. Add to the foregoing prices if in York stone 35 per cent.
MASON—continued.	
York paving, av. 2½ in. 9s. 6d. per yd. super. York templates sawn, per ft. cube, 12s. Slate shelves, rubbed, 1 in., 2s. 1d. per ft. sup. Cement and sand, see "Excavator," etc., above.	Do. Mansfield, 12½ per cent. Deduct for Bath, 33⅓ per cent. Do. for Chilmark, 5 per cent. Setting 1 in. slate shelving in cement, 7d. per ft. sup. Rubbed round nosing to do., 8d. per ft. lin. York steps, rubbed T. & R., 33s. ft. cub. fixed. York Sills W. & T. 36s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 1s. 7d. per hour. Tiler, 1s. 7d. per hour. Scaffolder, 1s. 4d. per hour. Labourer, 1s. 3d. per hour. N.B.—Tiling is often "Piecework" —— Slates, 1st quality, per M. : Portmadoc Ladies £18, Countess £39, Duchess £47. Clips, lead, 4½d. per lb Clips, copper, 2s. 4d. per lb. Nails, compo, 28s per cwt. Nails, copper, 2s. 3d. per lb. Cement and sand, see "Excavator," etc., above. Handmade tiles, 140s. per M. Machine-made tiles, 130s. per M. Westmorland slates, large, 210s. per ton, Peggies 170s. per ton.	Slating, 3 in. gauge, compo nails, Portmadoc or equal : Ladies 90s., Countess 100s., Duchess 105s. 0d. per square. Westmorland, in diminishing courses, 135s. per square. Cornish do., 125s. per square. Add, if vertical, 10s. per square approx. Add, if with copper nails, 7½ per cent. per square approx. Double course at eaves, 1s. 3d. per ft. approx. Tiling, 4 in. gauge, 5th course nailed, in hand-made tiles, average 125s. per square. Do., machine-made do., 115s. per square. Vertical Tiling, including pointing, add 30s. per sq. Fixing lead soakers, 9d. per dozen. Stripping old slates and stacking for re-use, and clearing away surplus and rubbish, 8s. 6d. per sq. Labour only in laying slates, but including nails, 18s. 6d. per sq. *See* Sundries for Asbestos Tiling.
CARPENTER AND JOINER.	
Carpenter, 1s. 8d. per hour. Joiner, 1s. 8d. per hour. Labourer, 1s. 3d. per hour. —— Timber, average prices at Docks, London Standard. —— Scandinavian, etc. (equal to 2nds) : 7 × 3, £25 per std. to 11 × 4, £36 per std. Memel or Equal. Slightly less than foregoing. Flooring P.E., 1-in., 25s. per sq. Do. T. and G., 1 in. 25s. per sq. Planed Boards, 1 in. × 11 in. £46 per std. Wainscot oak, 2s. 9d. per ft. sup. of 1 in. Mahogany, 2s. 6d. per ft. sup. of 1 in. Do. Cuba, 3s. 9d. per ft. sup. of 1 in. Teak, 3s. per ft. sup. of 1 in.	Fir fixed in wall plates, lintels, sleepers, etc., 6s. 0d. per ft. cube. Do. framed in floors, roofs, etc., 8s. per ft. cube. Do., framed in trusses, etc., including ironwork, 9s. 6d. per ft. cube. Pitch pine, add 33⅓ per cent. Fixing only boarding in floors, roofs, etc., 15s. 0d. per sq. Sarking felt laid, 1 ply 1s. 6d., 3-ply 1s. 8d. per yd. Centering for concrete, etc., including horsing and striking, 65s. per sq. Slate battening, 21s. per sq. 1 in. deal gutter board on firring, 90s. per sq. 1¾ in. moulded casements in 4 sqs., glazing beads and hung, 2s. 10d. per ft. sup. 2 in. do. do., 3s. 0d. per ft. sup. Deal cased frames, oak sills, 2 in. D.H. sashes, brass-faced pulleys, etc., 4s. 0d. per ft. sup. Doors, 4 pan. sq. b.s., 2 in. 2s. 10d. per ft. sup. Do. do. do., 1½ in. 2s. 9d. per ft. sup. Do. do., moulded b.s., 2 in. 3s. 3d. per ft. sup. Do. do. do., 1½ in. 2s. 10d. per ft. sup. If in oak multiply 6 times. If in mahogany multiply 6 times. If in teak multiply 7 times. Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, 1 in. 14s. 0d., 1¼ in. 16s. 0d. per yd. sup., average. Do. do., 1¼ in. Maple blocks, 19s. 6d. Staircase work, deal : 1 in. riser, 1¼ in. tread, fixed, 3s. 3d. per ft. sup. 2 in. deal strings, fixed, 3s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 1s. 8½d. per hour Mate or labourer, 1s. 3d. per hour. —— Lead, milled sheet, 34s. 6d. per cwt. Do. drawn pipes, 35s. per cwt. Do. soil pipe, 37s. 6d. per cwt. Do. scrap, 21s. per cwt. Copper, sheet, 2s. 4d. per lb. Solder, plumbers, 10d. per lb. Do. fine, 1s. per lb. Cast-iron pipes, etc. : L.C.C. soil, 3 in. 4s. 6d., 4 in 5s. 6d. per yd. R.W.P., 2½ in. 2s. 2d., 3 in. 2s. 7d., 4 in. 3s. 6d. per yd. Gutter, 4 in. H.R., 3s., 4 in. O.G., 3s. 6d. per yd.	Milled lead and labour in gutters, flashings, etc. 57s. Lead pipe, fixed, including running joints bends, and tacks, ½ in., 1s. 6d. per ft. Do., ¾ in., 1s. 10d. per ft. Do., 1 in., 2s. 3d. per ft. Do., 1¼ in., 2s. 10d. per ft. Lead waste or soil, fixed as above, complete, 2½ in. 4s. 3d. per ft. Do., 3 in., 5s. 3d. per ft. Do., 4 in., 6s. per ft. Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½ in., 2s. per ft. Do., 3 in., 2s. 4d. per ft. Do., 4 in., 2s. 8d. per ft. Cast-iron H.R. gutter, fixed, with all clips, etc. 4 in., 2s. 4d. per ft. Do., O.G., 4 in., 3s. per ft. Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4 in., 6s. 6d. per ft. Do., 3 in., 5s. 6d. per ft. Fixing only : W.C. pans and all joints, P. or S., and including joints to water waste preventers, 41s. 0d. each. Baths only, with all joints, 37s. Lavatory basins only, with all joints on brackets, 28s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, 1s. 7½d. per hour. Glass : 4th in crates : Clear, 21 oz. 5d., 26 oz. 6⅝d. Cathedral white, 5½d. per ft. Polished Plate, British ¼ in., up to 2 ft. sup. 1s. 6d., 3 ft. sup. 2s. 0d., 7 ft. sup. 4s., 25 ft. sup. 3s. 6d., 100 ft. sup. 4s. 0d. Rough plate, $\frac{3}{16}$ in., 4⅞d., ¼ in. 6½d. per ft. Linseed oil putty, 17s. per cwt.	Glazing in putty, clear sheet, 21 oz. 10d., 26 oz. 11d. Glazing in beads, 21 oz. 1s. 0d., 26 oz. 1s. 3d. per ft. Patent glazing in rough plate, normal span, 1s. 7½d. to 2s. 0d. per ft. Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 3s. 6d., and up, per ft. sup. Glazing only, polished plate, 6d. to 7½d. per ft., according to size.
PLASTERER.	
Plasterer, 1s. 8d. per hour. Labourer, 1s. 3d. per hour.	Lathing with sawn laths, 1s. 5d. per yd. Metal lathing, 2s. 3d. per yd. Floating in Portland, 1 to 3, for tiling or wood-block, ¾ in., 2s. 6d. per yd. Do., vertical, 2s. 10d. per yd. Render, on brickwork, 1 to 3, 2s. per yd. Render Portland and set in fine stuff, 3s. per yd. Render, float, and set, trowelled, 2s. 9d. per yd. Render and set in Sirapite, 3s. 0d. per yd. Do., in Thistle plaster, 2s. 10d. per yd. Extra, if on but not including lathing, any of foregoing, 7d. per yd. Extra, if on ceilings, 7d. per yd. Angles, rounded Keene's on Portland, 6d. per ft. lin. Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin. White glazed tiling set in Portland and jointed in Parian, 30s. per yd. Fibrous plaster slabs, 2s. per yd.
Chalk lime, 57s. per ton. Hair, 20s. per cwt. Sand and cement, see "Excavator," etc., above. Lime putty, 3s. 6d. per cwt. Hair mortar, 30s. per yd. Fine stuff, 35s. per yd. Sawn laths, 3s. 9d. per bdl. Keene's cement, 117s. per ton. Sirapite, 76s. per ton. Do. fine, 84s. per ton. Plaster, 70s. per ton. Do. fine, 110s. per ton. Thistle plaster, 69s. per ton. Lath nails, 5d. per lb.	
DECORATOR.	
Painter, 1s. 7d. per hour. Labourer, 1s. 3d. per hour. French polisher, 1s. 10d. per hour. Paperhanger, 1s. 8d. per hour.	Lime whiting 6d. per yd. sup. Wash, stop, and whiten, 7d. per yd. sup. Do., and 2 coats distemper with proprietary distemper, 1s. 0d. per yd. sup. Knot, stop, and prime 6d. per yd. sup. Plain painting, including mouldings, and on plaster or joinery, 1st coat, 11d. per yd. sup. Do., subsequent coats, 9d. per yd. sup. Do., enamel coat, 1s. 3d. per yd. sup. Brush-grain, and 2 coats varnish, 3s. 9d. per yd. sup. Figured do. do., 5s. 6d. per yd. sup. French polishing, 1s. 6d. per ft. sup. Stripping old paper and preparing, 1s. 6d. per piece. Hanging paper, ordinary, 1s. 9d. per piece. Do., fine, 2s. 3d. and upwards per piece. Varnishing paper, 1 coat, 10s. per piece. Canvas, strained and fixed, 2s. 9d. per yd. sup. Varnishing, hard oak, 1st coat, 1s. 3d. yd. sup. Do., each subsequent coat, 1s. per yd. sup.
Genuine white lead, 54s. 6d. per cwt. Linseed oil, raw, 3s. 9d. per gall. Do. boiled, 4s. 1d. per gall. Turpentine, 6s. per gall. Liquid driers, 13s. per gall. Knotting, 35s. per gall. Distemper, washable, in ordinary colours, 53s. per cwt. and up. Double size, 3s. 9d. per firkin. Pumice stone, 7d. per lb. Varnish, hard oak, 14s. per gall. and up. Gold Leaf (Transferable), 2s. 4d. per book.	

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—continued.	
Varnish copal, 20s. per gall. and up. Do. Flat, 20s. per gall. Do. Paper, 17s. per gall. French polish, 29s. per gall. Ready mixed paints, 12s. per gall. and up.	
STEELWORK, SMITHWORK, etc.	
Smith, Weekly Rate = 1s. 7¾d. per hour. Mate, Do. 1s. 3d. Erector, 1s. 7¾d. per hour. Fitter, 1s. 7¾d. per hour. Labourer, 1s. 3d. per hour.	Mild steel in trusses, etc., erected, £28 per ton. Do., in small sections as reinforcement, £18 per ton. Do., in compounds, £20 per ton. Do., in bar or rod reinforcement, £21 per ton. Wrot. iron in chimney bars, etc., including building in, 40s. per cwt. Do., in light railings and balusters, 47s. per cwt. Fixing only corrugated sheeting, including washers and driving screws, 2s. per yd.
Mild steel in British standard sections, £14 per ton. Sheet steel : Flat sheets, black, £28 per ton. Do. Galvd., £32 per ton. Corrugated sheets, galvd., £28 per ton. Driving screws, galvd., 2s. 10d. per grs. Washers, galvd., 1s. 10d. per grs. Bolts and nuts, 45s. per cwt. and up.	
SUNDRIES.	
Fibre or wood pulp boardings, 3½d. per ft. sup. Plaster Board, 1s. 9d. per yd. sup.	Fibre boardings, fixed on, but not including studs or grounds, 6d. per ft. sup. Plaster Board, fixed as last, 2s. 6d. per yd. sup.
Asbestos sheeting, $\frac{5}{32}$ in., grey flat, 3s. 0d. per yd. sup. Do. corrugated, 5s. 0d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 3s. 9d. per yd. sup. Do. do., corrugated, 5s. 10d. per yd. sup.
Asbestos composition. Flooring :	Laid in two coats, average ¾ in. thick, in plain colour, 10s. 0d. per yd. sup. Do. ½ in. thick, suitable for domestic work unpolished, 7s. 6d. per yd.
Metal casements for wood frames, domestic sizes, 1s. 9d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 2s. 6d. each.
Do. in metal frames, 2s. per ft. sup.	Building in metal casement frames 6d. per ft. sup.
Asbestos cement slates or tiles. $\frac{5}{32}$ in. punched per M. grey £18, red £20.	Asbestos slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey 55s. 0d., red 60s. 0d.
Waterproofing compounds for cement.	Add about 75 per cent. to 100 per cent. to the cost of cement used.
PLYWOOD.	
3 m/m Alder 2¼d. per ft. sup. 4½ m/m Amer. White 3¾d. per ft. sup. 5 m/m Figured Ash 5d. per ft. sup. 4½ m/m 3rd Quality, Composite Birch 1½d. per ft. sup.	

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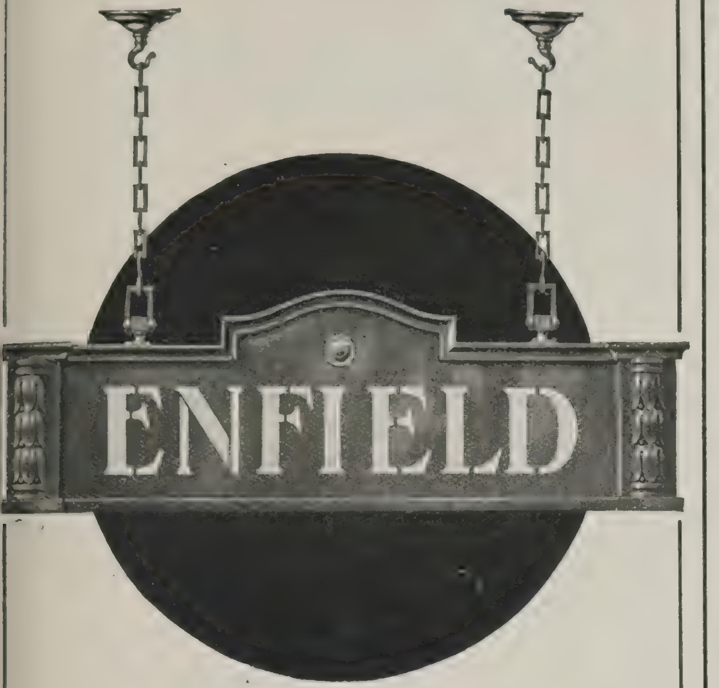

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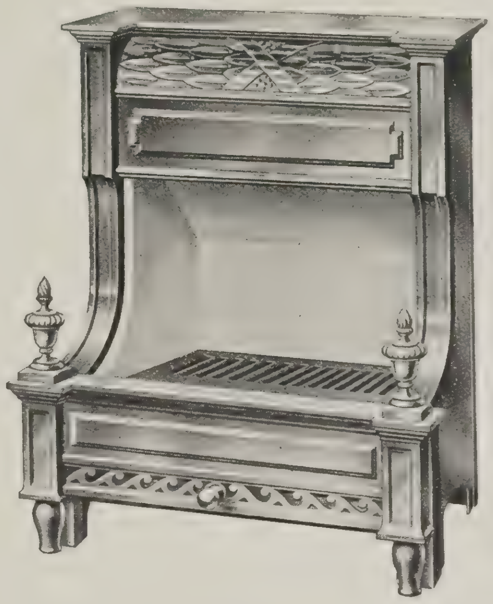

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BUILDING

October 5.—**HOUSES. Doncaster.**—Erection of 60 houses of the "A" class in Theobald Avenue and Chequer Avenue, in one or more contracts, for the Corporation. Apply Mr. R. E. Ford, Housing Surveyor, 3 Priory Place, Doncaster. Deposit £2 2s.

October 5.—**CONVENIENCE. Ashburton.**— Erection of a public convenience, for the Ashburton Urban District Council. Apply Mr. F. A. Steer, Surveyor, 3 West Street, Ashburton.

October 5.—**ADDITIONS. Newtown.**—Erection of a new out-patients' department and also for additions to the present buildings of the Montgomeryshire County Infirmary, Newtown. Apply Messrs. Davies and Hill, Architects and Surveyors, Severn Square, Newtown. Deposit £2 2s.

October 6. — **ALTERATIONS. Grimsby.**—Separate tenders for (a) alterations at 17 and 19 Cleethorpes Road and (b) pointing brickwork to several premises belonging to the Corporation in Cleethorpe Road, Victoria Street, Burgess Street, King Edward Street, &c. Apply Borough Engineer, Mr. H. G. Whyatt, M.I.C.E., 170 Victoria Street.

October 7.—**LAUNDRY, &c. Oakham.**—Erection of new laundry, &c., for the Guardians. Apply Mr. F. W. Nichols, Market Place, Oakham. Deposit £1 1s.

October 7.—**ADDITIONS. Preston.**—Proposed additions and alterations at the Park School, Moor Park, for the Town Council. Apply Office of the Borough Surveyor, Town Hall, Preston.

October 7.—**ALTERATIONS. Stanwell.**—Certain alterations and additions to the Infirmary at Stanwell, Middlesex, and also for painting, &c., at the Boys' Home, close to the Union Institution, at Stanwell, for the Guardians. Apply Master at the Union Institution, Stanwell.

October 7.—**HOUSE. Ynys-y-Moch.**—Building a dwelling-house and the division and adaptation of farm buildings at Ynys-y-Moch (Danyrallt, Llangadock), for the Carmarthenshire County Council. Apply Mr. W. V. Morgan, A.R.I.B.A., County Architect, County Offices, Carmarthen.

October 8.—**TOWN HALL, &c. St. David's, Pembroke.**—Erection of a town hall, library, and room, with a caretaker's house, at St. David's. Apply Gwalia.

October 9.—**RECEIVING HOME, &c. Nottingham.**—Erection of a new receiving home and alterations to the infants' home, Hartley, Nottingham, for the Guardians. Apply Messrs. E. R. Sutton and Son, F.R.I.B.A., Albion Chambers, King Street, Nottingham. Deposit £2 2s.

October 9.—**WALLS. Preston.**—Construction and erection of retaining walls, abutments, &c., at Oxheys Bridge, over the L. and N.W. Railway, for the Corporation. Apply Office of the Borough Surveyor, Town Hall, Preston. Deposit £1.

October 9.—**REPAIRS. Brownhills.**—Repairs, painting and decorating to the Public Buildings, Brownhills, for the Urban District Council. Apply Mr. S. Harrison, Engineer to the Council, Public Buildings, Brownhills.

October 10.—**HOUSES. Basingstoke.**—Erection of two pairs of houses at Park Prewett Mental Hospital near Basingstoke. Apply Mr. A. Turner, Clerk of Works, at Park Prewett Mental Hospital. Deposit £1 1s.

October 10.—**SORTING OFFICE. Hereford.**—Erection of a station sorting office at Hereford. Apply Head Post Office, Hereford. Bills of quantities and forms of tender may be obtained from the Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1, on payment of £1 1s. Cheques payable to the Secretary, H.M. Office of Works.

October 11.—**DEPOT. Leytonstone.**—Construction of motor dust van charging depot and cart and roller sheds at the electricity station, Cathall Road, Leytonstone, E.11, for the Leyton Urban District Council. Apply Mr. E. H. Essex, A.M.I.C.E., Town Hall, Leyton. Deposit £2 2s.

October 11.—**CONVERSION OF OFFICES. Sherburn-in-Elmet.**—Laying-on of water supply and conversion of offices at Sherburn-in-Elmet Council School, for the West Riding Education Committee. Apply to the Education Department, County Hall, Wakefield.

October 11.—**REPAIRS. Wallington.**—Repairs and painting, decorating and joinery works at the Council Offices, Belmont Road, Wallington, for the Beddington and Wallington Urban District Council. Apply Mr. S. F. R. Carter, A.M.I.C.E., Engineer and Surveyor, Council Offices, Wallington.

October 11. — **CONVENIENCES. Bolton-on-Dearne.**—Whole or separate tenders for erection of additional conveniences at Bolton-on-Dearne Highgate Council School. Trades: Excavator, concretor and bricklayer, carpenter and joiner, plumber and painter. Apply to the Education Department, County Hall, Wakefield.

October 13.—**ADAPTING. Attleborough.**—Adapting and repairing the farm buildings at Haverscroft House Farm, Attleborough, Norfolk, for the Small Holdings Committee of the County of Norfolk. Apply County Land Agent, Shirehouse, Norwich. Deposit £1 1s.

October 14.—**HOUSES. Burntisland.**—Excavator, concretor and brick works; carpenter, joiner and ironmonger works; glazier work; slater and roughcast works; plumber and gasfitter works; and plaster work of five blocks of houses (10 houses in all) proposed to be erected on Haugh site, Burntisland. Also for proposed levelling of ground and formation of stone terrace stairs in connection with houses erected at Rossend site. Apply Mr. G. C. Campbell, Architect, Methil Brae, Methil; or at the office of Messrs. Peter Lawrence and Co., F.F.S., Surveyors, 50a Frederick Street, Edinburgh. Specifications from Burgh Surveyor, Burntisland, on payment of £1 1s.

October 14.—**NURSING BLOCK. Colwyn Bay.**—Erection of new nursing block (47 beds), and additions and alterations to the existing hospital in Hesketh Road, Colwyn Bay, for the Building Committee of the Colwyn Bay and West Denbighshire Hospital. Apply Mr. S. Colwyn Foulkes, A.R.I.B.A., Architect, Central Chambers, Colwyn Bay. Deposit £3 3s.

October 16.—**ALTERATIONS. Birkenhead.**—Alterations and additions to the maternity block, at the Birkenhead Union. Apply Mr. A. E. Shennan, Guardian Assurance Buildings, 35 Dale Street, Liverpool. Rate of wages, etc., clauses to be observed. The contractor will also be required to have special regard to the employment of local (Birkenhead and Wallasey) unemployed persons and to a preference being given to ex-Service men.

October 16.—**ROOF. Birkenhead.**—Provision of a roof to an open-air passage at the Birkenhead Infirmary, for the Guardians. Apply Mr. A. E. Shennan, Guardian Assurance Buildings, 35 Dale Street, Liverpool. Rate of wages, &c., clause to be observed.

October 17.—**HOUSES. Walsall.**—Erection of 20 houses, in two blocks of 10, in Lord Street, Walsall, and 19 houses, in three blocks of six and seven, in Green Lane, Walsall, for the Town Council. Apply Mr. J. Taylor, M.I.C.E., Council House, Walsall. Deposit £1.

November 30.—**PALACE. Barcelona.**—In construction of the Grand Palace of Nations. Apply Don José y Cadafalch, offices of the exhibition (Lerida Street).

ELECTRICAL.

October 6.—**RUBBER-INSULATED CORDS. Montevideo.**—Supply of 15,000 metres of rubber-insulated cords of 2 × 0.75 mm.^{2} section for interior use. The tinned copper conductors are to be covered by a minimum thickness of 0.8 millimetres of vulcanized rubber with an external braiding of cotton. Apply Department of Overseas (Room 49), 35 Old Queen Street, Westminster, London, S.W.1 (Ref. 6666/F.L./E.P.(B.).)

October 9.—**LEAD-COVERED CABLE. Montevideo.**—Supply of lead-covered cable. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 6666/F.L./E.P.(E.).)

October 11.—**STORAGE BATTERY. Melbourne.**—Supply and delivery at the Electric Light Station, Spencer Street, Melbourne, of an electric storage battery with accessories and spares. (Contract No. 35090.) Apply Room 49 of the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

October 18.—**TELEPHONE EXCHANGE. Ostend.**—Equipment of a manual telephone exchange at Ostend and the provision of 1,200 subscribers' instruments for connection to the exchange. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 16733/F.W./E.C.)

October 18.—**TURBO-ALTERNATORS. Barking.**—Supply and erection of steam turbo-alternators for their Barking power station, for the County of London Electric Supply Co., Ltd. Apply Mr. F. C. McQuown, Manager and Secretary, on payment of £5 5s. for the first copy, and £2 2s. for every subsequent copy.

October 23.—**TURBINES AND GENERATORS London, W.C.**—The New South Wales Government invite tenders for the manufacture, supply and erection of two water turbines and generators, required in connection with Barren Jack hydro-electric development. Apply Consulting Engineer, 64 Victoria Street, London, S.W.1, or at the office of the Agent-General.

October 31. — **SWITCHGEAR. Montevideo.**—Supply of switchgear for fifteen transformer sub-stations converting a.c. at 50 cycles from 6,600 to 220 volts. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 6666/F.L./E.P.(D.).)

November 4.—**CABLES. Montevideo.**—Supply of three-phase high-tension (6,600 volts) cable and accessories. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 6666/F.L./E.P.(C.).)

November 11.—**TURBO-ALTERNATOR. Montevideo, Uruguay.**—Construction, delivery, and erection in the State power-house at Montevideo of a turbo-alternator of 10,000-kw. capacity to run at 3,000 r.p.m., together with the necessary condensing plant and accessories, for the State Electric Light Works. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1. (Ref. 3667/F.L./E.P.)

November 21.—**SWITCHBOARD PARTS. Australia.**—Supply of switchboard parts, schedule 6 (Nov. 21) for the Commonwealth of Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 28.—**SWITCHGEAR. Mangahao, N.Z**—Supervision of the erection, and of the testing afte erection, of outdoor switchgear (section 21) and indoo switchgear (section 33) for the Khandallah sub-statio forming part of the Mangahao power scheme, for th Public Works Tender Board. Apply Department o Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Ref. 9468/Ed./E.P.) Deposit £100

January 9.—**CRANE. New Zealand.**—Supply and delivery of one electric travelling crane in connectio with the Waikato power scheme, section 58. The crane is to be designed for lifting, traversing and travelling loads up to 27 tons. Apply Department of Overseas Trade (Room 50) 35 Old Queen Street, Westminster, London, S.W.1.

January 15.—**PLANT. Melbourne.**—Tenders are invited for the supply and delivery of structural steel-work, &c., for the Morwell power scheme, for the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2.

February 1.—**CRANE. Auckland, N.Z.**—The Auckland Harbour Board are inviting tenders for one 1-ton pedestal crane to be operated by electric power. The crane is to have a fixed base and must have three motions, namely, lifting, slewing, and luffing, each o which shall be mechanically operated. Tenders will be considered only from British manufacturers who specialize in the construction of electric cranes. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 9460/E.D./E.P.)

ENGINEERING.

October 6.—**STEEL CASEMENTS. London.**—Supply and delivery of steel casements, sashes, &c., at the New Science Museum, South Kensington. Apply Contracts Branch, M.H. Office of Works, King Charles Street, London, S.W.1.

October 7.—**WATER MAIN. Yedingham.**—Laying of about 1,800 yards of 2 in. steel water main at Yedingham, for the Norton Rural District Council. Apply Mr. J. L. Chapman, Clerk, Town Hall, Malton, or at the Office of the Engineer, Mr. J. Hutton, 1 Harcourt Place, Scarborough.

October 9.—**STEELWORK. Preston.**—Supply and erection of steelwork at Oxheys Bridge, over the L. and N.W. Railway, for the Corporation. Apply Office of the Borough Surveyor, Town Hall, Preston. Deposit £1 1s

October 10.—**BOILER. Liverpool.**—Supply of one Cornish boiler, 19 ft. by 6 ft., to be installed at Lodge Lane baths and washhouse, for the Corporation. Apply Engineer and Chief Superintendent, Baths Department, 75 Dale Street, Liverpool. Deposit 10s.

October 11.—**AQUEDUCT. Aberdeen.**—Transporting, laying, and jointing of two miles of 48 in. mild steel piping and ancillary works between Gateside of Inchmarlo and Banchory Railway Station, for the Aberdeen Town Council. Apply Water Engineer's Office, 41½ Union Street, Aberdeen. Deposit £5.

October 12.—**VACUUM DUST EXTRACTORS. Johannesburg.**—Supply and delivery of one or more vacuum dust extractors (contract No. 956) of a portable type, having a capacity of approximately 2,000 to 2,500 cubic feet per hour, fitted with suction hose, and suitable for the purpose of sweeping and cleaning down the interiors and exteriors of tramcars and the interiors of motor cases. It is also desired to purchase a similar outfit for cleaning large electrical machinery, particularly Bruce Peebles-La Cour motor converters, the sizes in use being 1,250–2,000-kw. capacity, for which purpose a 220-volt universal motor would be more suitable. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1. (9528/E.D./E.P.)

October 12.—**PUMP. Runcorn.**—Supply and fixing of a 10,000 gallons per hour motor-driven pump, and foundations for same, &c., at their waterworks pumping station, Ship Street, Frodsham, for the Rural District Council. Apply Offices of the Engineers, Messrs. E. Timmins and Sons, Ltd., Bridgewater Foundry, Runcorn. Deposit £1 1s.

October 14.—**FURNACE. Johannesburg.**—Supply and erection of a pig singeing furnace at the abattoirs, for Municipal Council of Johannesburg. Apply Room 91, Municipal Offices, Johannesburg. Deposit £1 1s.

October 14.—**SINKING SHAFTS, &c. Margate.**—Sinking of shafts and extending adits for a length of about 1,000 yards in connection with the Margate Corporation waterworks at Wingham, near Canterbury. Apply Mr. E. A. Borg, 13 Grosvenor Place, Margate.

October 16.—**LATHE. Dublin.**—Supply of one heavy-duty railway wheel lathe, for the Midland Great Western Railway of Ireland Co. Apply Mr. P. A. Hay, Secretary, Broadstone Terminus, Dublin.

(Continued on page xxvi.)

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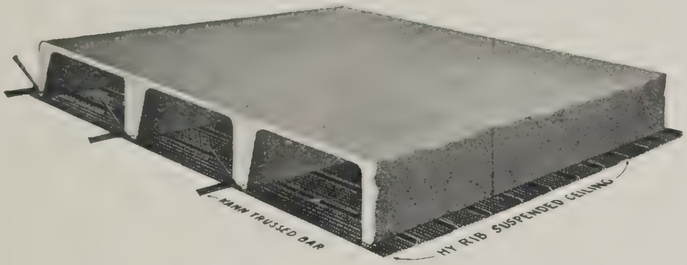

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BRANCHES: London, Birmingham, Manchester, Dublin, Cardiff, Glasgow, Edinburgh, Calcutta, Johannesburg, and Buenos Aires.

October 16.—**WATER SUPPLY. Newington.**—A water supply scheme for the parish of Newington, Oxon, for the Crowmarsh Rural District Council. Apply Office of Mr. P. C. A. Slade, Clerk, 7 St. Martin's Street, Wallingford.

October 18.—**PLANT. London, W.C.**—Supply and erection in South Africa of plant in connection with the electrification of the Glencoe-Pietermaritzburg section of the South African Railways, as follows :—Tender D. 1417, Coal-handling plant for power station. Tender D. 1418, ash-handling plant for power station. Tender D. 1430, circulating water screening plant for power station. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C.2., and Messrs. Merz and McLellan, 32 Victoria Street, London, S.W.1. Deposit £5.

October 21.—**DESTRUCTOR UNIT. Birmingham.**—Supply and erection of a new destructor unit at the Montague Street destructor works, for the Salvage and Stables Committee. Tenders are to include pneumatic suction plants, the dismantling of the existing building and old cells, the erection of new building and approach roadway, also erection and supply of machinery for screening and elevating the refuse. Apply Mr. J. Jackson, Superintendent, Salvage Department, Council House, Birmingham. Deposit £1 1s.

October 21.—**BOREHOLE. Stevenage.**—Sinking a borehole at the bottom of an existing well and supplying a pump for use in such borehole, for the Stevenage Urban District Council. Apply Mr. W. O. Times, Clerk, Council Offices, Stevenage. Deposit £2 2s.

October 28.—**DREDGING PLANT. Newcastle-upon-Tyne.**—Construction and delivery in the Tyne of one non-propelled centre ladder barge-loading bucket dredger, four single screw steel steam hopper barges, each with a hopper capacity of 800 tons, for the Tyne Improvement Commissioners. Apply Mr. J. MacDonald Manson, General Manager and Secretary, Bewick Street, Newcastle-upon-Tyne. Deposit £5 5s.

November 15.—**TUBULAR POLES. Australia.**—Supply of 1,500 galvanized iron or steel tubular poles for telegraph poles, 20 ft. long, schedule 755. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 28.—**CRANE. Auckland, N.Z.**—Supply and delivery of one-ton fixed pedestal crane for King's Wharf, for the Auckland Harbour Board. Apply Messrs. W. and A. McArthur, Ltd., 18–19 Silk Street, Cripplegate London, E.C.2. Deposit £1 1s.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria : Specification No. 282 : Coal-handling plant for Morwell power station and briquetting works. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2.

PAINTING.

October 7.—**PAINTING. Hull.**—(1) Painting and decorating interior of St. George's Road P.M. Church; (2) painting and decorating interior of old schoolroom, vestries, and vestibule. Apply Mr. T. Tinkler, 230 S. George's Road, Hull.

October 7.—**PAINTING. Leadgate.**—Painting and decorating the Primitive Methodist Church situated in Watling Street, Leadgate. Apply Mr. W. Crowther, 43 The Bungalows, Villa Real, Consett.

No Date.—**PAINTING. Oldham.**—Painting work to the interior of the Town Hall, for the Finance Committee. Apply Borough Surveyor's Office, Town Hall, Oldham.

No Date.—**PAINTING. East Ardsley, Yorks.**—Painting 22 houses, with three shops, at East Ardsley, Coronation and Fall. Tenders to be sent to Mr. Blackburn, East Ardsley.

No Date.—**PAINTING. Heywood.**—Painting of the reservoir superintendents' houses at Ashworth Moor and Naden, for the Heywood and Middleton Water Board. Apply Messrs. J. Diggle and Son, Engineers, Water Offices, Heywood.

No Date.—**PAINTING. Morley.**—Painting and decorating inside and outside of the Morley United Services Club, Ltd. Apply Secretary.

No Date. — **PAINTING. Morley.** — Painting (outside) five blocks of houses in Scotchman Lane. Apply Messrs. Thomas Clough and Sons, Ltd., Morley.

ROADS AND SEWERS.

October 5.—**ROADS. Llangeinor.**—Construction of roads and sewers necessary to complete the laying out for 46 houses now in course of erection on the Llangeinor site, for the Ogmore and Garw Urban District Council. Apply Mr. E. J. Dart, F.A.A., Clerk to the Council, Council Offices, Brynmenyn.

October 5.—**MAKING-UP. Southend-on-Sea.**—For the making-up of the following streets : Bonchurch Avenue sewers; Station Road (section 3) sewers; Tankerville Drive (section 2) sewers; Kingswood Chase (section 2) sewers; St. Clement's Drive sewers, for the Corporation. Apply Mr. R. H. Dyer, Borough Engineer and Surveyor. Deposit £2 each road.

October 7.—**RECONSTRUCTION. Anerley.**—For breaking-up the concrete foundation on the double track and margins of the Croydon Road, Anerley, between Genoa Road and Selby Road, the reforming of a reinforced concrete foundation and paving with creosoted wood blocks, &c., for the Penge Urban District Council and the South Metropolitan Electric Tramways and Lighting Co., Ltd. Apply Colonel H. W. Longdin, Surveyor to the Council, Town Hall, Anerley, S.E.20. Deposit £3 3s.

October 7.—**ROAD METAL. Bedlington.**—Supply and delivery of whinstone and tarred slag for six months from November 1, to be delivered at the various railway stations and sidings in the district in such quantities and at such times as the surveyor shall direct, for the Bedlingtonshire Urban District Council. Apply Mr. J. W. Pooley, Surveyor, Bedlington.

October 9.—**MASTIC ASPHALT. Camberwell.**—Providing and laying mastic asphalt in various roads, for the Camberwell Borough Council. Apply Mr. F. J. Slater, Borough Engineer.

October 9.—**MATERIALS. Kenilworth.**—Supply of the following materials, &c., for six months ending March 31, 1923, for the Kenilworth Urban District Council, viz. : Broken granite, granite kerbs and setts, lump slag, slag chippings, tarred macadam, tarpaving, cement, coal, stoneware pipes, steam rolling. Apply Mr. S. Douglas, Surveyor, Council Offices, Kenilworth.

October 10.—**SEWERS EXTENSION. Bushey.**—Execution of works required in excavating for and laying 466 yards of 9 in. stoneware pipe sewer in Merryhill Road and 268 yards ditto in Little Bushey Lane, with the necessary manholes and other contingent works, for the Urban District Council. Apply Mr. E. Ryder, Surveyor to the Council. Deposit £1 1s. The fair wages clauses are to be observed and local labour is to be employed as far as possible.

October 11.—**SEWERING. Rochdale.**—Work to be done in Oldham Road from a point 122 yards or thereabouts south of Shaw Road to the boundary of the borough to be sewered with reinforced concrete pipes from 18 in. to 12 in. in diameter, with the manholes and other works in connection therewith, for the Paving and Sewering Committee. Apply Mr. S. H. Morgan, Borough Surveyor, Town Hall, Rochdale.

October 12.—**PRIVY CONVERSIONS. Cheadle.**—Conversion of privies to water closets at Nos. 2–26 (even numbers inclusive), Bank Street, Cheadle; No. 36 Brook Street, Cheadle, and No. 2 Chapel Street, Cheadle, for the Cheadle and Gatley Urban District Council. Apply Mr. P. H. Molyneux, Engineer and Surveyor to the Council.

October 23.—**SEWERS. Sheerness.**—Construction of about 1,640 lineal yards of stoneware pipe sewers, varying from 12 in. to 6 in. diameter, together with manholes and other incidental works, for the Sheerness Urban District Council. Apply Council Offices, Trinity Road, Sheerness. Deposit £5.

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Messrs. D. G. Somerville & Co., Ltd., have moved to Somerville House, 30 Grosvenor Place, London, S.W.1.

The ' Glow Worm " Boiler.

Size No. 2 of the "Glow-worm" boiler is now ready to be placed on the market. These boilers—now made in two sizes—have been specially designed to meet the ever-growing demand for a small and inexpensive boiler capable of providing a constant supply of hot water. The construction of the boiler is claimed to ensure maximum efficiency with the minimum consumption of fuel, in fact, the boiler will burn coke, coal, anthracite, or household refuse. It may be fixed in the kitchen or scullery, and occupies very little space. The waterways of the boiler are specially constructed to form a baffle, resulting in the maximum of heat being transmitted to the water, while the hot gases are directed by the baffle to traverse the underside of the hob, making it an effective hot plate. The fire is always visible; if desired, an open fire is obtained by dropping the door. The door will then provide a useful trivet upon which flat irons can be heated at the open fire. The large hot plate is most effective for boiling kettles and for simple cooking operations. The sole manufacturers are Messrs. O. Bruster and De Launoit, of 4 Lloyd's Avenue, London, E.C.3.

An Interesting Window Display.

The window display of the products of Messrs. Robt. Ingham & Co., Ltd., of West Ham, exhibited at the Fleet Street offices of "The Evening News" during the last week in September, aroused considerable interest. Special prominence was given in the display to "Tessaline" floor varnish, which we understand is becoming very popular for use over linoleum and wood floors. Other materials of the firm's manufacture exhibited included "Pearline" enamel and "Carmalac," a high-grade enamel for use in renovating motor car bodies. The display is illustrated by the accompanying illustration.

The Gas Industry in Conference.

The British Commercial Gas Association, a research and advisory body representing the whole gas industry, will hold its eleventh annual conference in the Lecture Theatre of the Museum and Art Gallery, Bristol, on October 16, 17, and 18, 1922, under the presidency of Alderman Sir George Davies, J.P., Deputy Chairman of the Bristol Gas Company. Members of the conference will be welcomed by the Rt. Hon. The Lord Mayor of Bristol at a reception on October 16, when Sir Henry Gauvain, M.D., will deliver a lecture on "Light and Life." The subjects before the conference, at the public sessions which will be open to visitors, will be "The Gas Industry as a Public Service" and "Gas as a Service to Industry."

Housing Progress in Scotland

The following figures show the progress that has been made in State-aided housing schemes in Scotland up to August 31: permanent houses completed, 10,818; temporary houses completed, 665; reconstructed houses completed, 89; houses completed under the private subsidy scheme, 2,107; making a total of 13,679. At present 8,301 houses are under construction in connection with housing schemes carried out by local authorities and public utility societies. The total amount paid by the Scottish Board of Health in respect of the 2,107 houses completed under the private subsidy schemes is £509,927.

A WINDOW DISPLAY OF FLOOR VARNISH AND ENAMELS.

Marble and Bronze Sculpture Exhibition

An exhibition of portraits in marble and bronze by an Italian sculptor, Mr. F. La Monaca, will open this month at the Fine Art Gallery of Bromhead, Cutts & Co., Ltd., 18 Cork Street, W. About thirty portraits will be shown, including those of the Archbishop of Canterbury, the Bishop of Birmingham, Dean Inge, Sir Martin Conway, Sir Rider Haggard, Señor Capablanca, G. Bernard Shaw, T. P. O'Connor, Sir L. Worthington Evans, Miss Sheila Kaye-Smith, Miss Sybil Thorndike, Hon. Mrs. Dudley Ward, and others. The exhibition represents about seven months' work, and Mr. La Monaca's introduction to the British public is dealt with in the catalogue by Mr. T. P. O'Connor, who describes amusingly his own experiences as a sitter.

Town Planning: Interim Development

The Minister of Health has issued a General Order under Section 45 of the Housing, Town Planning, &c., Act, 1919, to enable development to proceed in areas for which resolutions have been passed or authority given to prepare town-planning schemes. The section provides that if works are carried out in accordance with the conditions prescribed in an order made by the Minister, a claim for compensation under the scheme in respect of the works shall not be prejudiced. It is highly important that persons wishing to develop land shall not be delayed on account of the preparation of a town-planning scheme, and the General Order has been made with the object of preventing any such delay. At present local authorities can allow development, but the consent of the Minister has to be obtained in each individual case. This is a cumbersome procedure, and under the General Order local authorities will be able to allow development themselves without reference to the Minister, except in disputed cases.

Architects' Fees for Abandoned Housing Work

The Council of the R.I.B.A. have appointed Messrs. H. T. Buckland, Francis Jones, and Herbert A. Welch to form a tribunal, whose duty it will be to examine all applications received by the R.I.B.A. from housing architects under the provisions of Clause E (4) of G.H.M. 61, and to act generally on behalf of the R.I.B.A. upon this matter. These three gentlemen represented the R.I.B.A. during the negotiations which resulted in the issue of G.H.M. 61, and it is regarded as fortunate that they are able again to serve the R.I.B.A. and the profession. It has been decided to charge a nominal fee of two guineas to all architects who desire the support of the R.I.B.A. The funds thus obtained will be devoted entirely to the expenses in connection with the tribunal. All housing architects from whom applications have been received to date have been notified of this. Those who wish for support but have not yet applied should do so without delay as a speedy settlement of all accounts is now anticipated.

Institution of Sanitary Engineers

Mr. John H. Blizard, the president, speaking at the opening sessional meeting in London of the Institution of Sanitary Engineers, said that the Government did not help the builders very much with regard to housing. Private enterprise needed to be helped not by subsidies in the sense in which these had been given, but by financial assistance on a sound business basis. Was the subsidizing of air services, he asked, of more importance than a real effort, founded on financial assistance of the kind that the builder needed, to get rid of our slums? Housing, sanitary, and general hygienic works could not be carried out unless the position of private enterprise under existing conditions was properly faced. Mr. Blizard expressed great disappointment at the fact that, though the Bank rate was now 3 per cent., 5 per cent. was demanded for accommodation money, even if ample security were offered. He had hoped that when the Bank rate was reduced to 3 per cent. the building trade would boom, because in pre-war days a builder or engineer could always obtain money at 1 per cent. above the Bank rate, and he suggested that the banks, like some manufacturers, were profiteering.

Speaking on the financial state of local governing authorities, Mr. F. Owen Moore, chairman of the council, said it was not surprising that many engineering works were held up. Promoters of necessary works which were now shelved hoped against hope for a fall in prices and in the rate of interest, for not until costs and the rate of interest had become stabilized could an increase in engineering works be expected. The cost of labour had recently been very considerably reduced, partly by the lowering of wages, but principally, he was glad to say, by increasing output. "The manual worker," Mr. Moore observed, "is beginning to realize that the 'ca' canny' method cannot bring prosperity to anyone, and I think that the labourer—the man who works with pick and shovel—began to appreciate this fact before the artisan."

The meeting was principally of a social kind. There was a reception, a concert, and brief speeches. Among those present were Messrs. H. E. C. Shenton, president-elect, J. Martin, past president, W. Golding, hon. treasurer, W. Whitaker, and P. N. Hasluck, secretary.

The Institution has steadily increased its membership lately, and no fewer than 100 have joined during the past year, bringing the total roll up to 700.

The Barcelona Exhibition

The Commercial Secretary to H.M. Embassy at Madrid (Captain U. de B. Charles) reports that tenders are invited by the Barcelona Exhibition Authorities for the construction of the Grand Palace of Nations which is to be built for the exhibition. The contract includes earth works, ordinary masonry, steel work, reinforced concrete, artificial stone work, cut stone and marble work, joinery, metal work, etc., water and drainage, brass work, and plaster and paint work. A preliminary deposit of 100,000 pesetas is required from every tenderer.

Tenders drawn up in the French or Spanish language must be delivered by hand at the Oficinas de la Exposicion, calle de Lerida, Barcelona, by November 30. Tenders sent by post will be excluded. Local representation is necessary. In the event of a firm not being represented locally the Department of Overseas Trade will endeavour, through their representatives in Spain, to place them in communication with firms who may be willing to act on their behalf in connection with the present tender.

A copy of the specification (in Spanish) can be seen by United Kingdom firms at the Department of Overseas Trade, Room 50, 35 Old Queen Street, Westminster, S.W.1, and a copy will be sent on loan, in order of application, to United Kingdom firms outside London who are unable to arrange for its inspection at these offices.

No copies of the plans mentioned in the specification have been received, but these, together with the specification, can be obtained from the offices of the exhibition, price 250 pesetas. Firms who desire a translation of the documents and are prepared to pay their pro rata share of the cost should at once notify the Department in order that the necessary arrangements can be made. The total cost of preparing the translation should not exceed £18.

In all that relates to the employment of materials the contractor is subject to the provisions of the law of February 14, 1907. A copy of this law can be consulted at the Department together with a list of articles or products for which foreign tenders are admitted by Departments of State during the year 1922.

Dr. Waldo's Quarter Century of Service

Dr. Waldo, J.P., who has just completed twenty-one years' service as coroner for the City of London and Southwark, has done much good work in connection with removal of some of the squalor of London. He has been responsible for the clearance of several big slums in Southwark; he initiated the movement for the clearance of the Tabard Street area; and called attention to the dangers, both to the public and the baker, of the cellar bakehouse. As a direct result of the inquest held by Dr. Waldo into the fatal celluloid fire in Queen Victoria Street the London Building Acts (Amendment) Act was enacted in 1905, and a new fire station was erected in that street.

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Electrical Notes

German Electrical Exports.

"Before the war the output of electrotechnical products of the whole world amounted to a value of about four milliard gold marks. According to the then development of the electrotechnical industry, and the world's demands for its products, it might be reckoned that, saving any great disturbance of production, this output could be doubled in seven years. Whether that has occurred or not the statistics to hand do not allow of our ascertaining. A considerable increase in the world's electrical output since the period before the war has, however, actually taken place, albeit the economic power may have received a serious setback. The greatest increase in output possibilities has undoubtedly occurred in the United States. The extension of their electrical industries in the other combatant countries was hindered by the war.

"A considerable increase in later years has taken place in France, where there is talk of a doubling of the production. England, too, may institute a notable extension of its electrotechnical industry. Germany, which before the war produced about one-third of the aggregate production of the world in the electrotechnical department, was forced by the hostile alliance to take a back seat and yield up its preponderating lead as regarded quantity of products—not to England as was believed in some quarters—but to the United States. How far German production in some branches, which depends less on the economic conditions (as weak current articles, meters, glow lamps, etc.), has reached the peace level, or even a little beyond, cannot at the moment be stated. An exact estimate of the development and present position of the world's output of electrotechnical products is difficult to ascertain owing to the currency situation in each country. . . .

"In 1913 Germany occupied the first position as an exporting country, and England, although a good way back, the second, America, France, and Switzerland following; now the order is: America, England, Germany, France, and Switzerland. While, therefore, all the other countries have been able to see their exports rise, and even France (from 3·6 to 4·6), Germany's volume of 30,000,000 gold marks in 1913 has shrunk in 1921 to 12,000,000 gold marks monthly mean value, or, in other words, the share of Germany in the aggregate exports of the principal countries has fallen from 32 per cent. to 21 per cent. But it is not to be wondered at that Germany's electrotechnical exports should have gone back, both actually and relatively, to this extent. Middle and Eastern Europe are economically bankrupt and unable to buy. The hostile alliance withholds with all its might from importing German products, while a circle of neutral States, under the pressure excited by cheap German products, have set up a wall of import taxes and restrictions against German goods. The English colonies forbid, for the most part, the import of German electrotechnical products. The United States have always levied high protective duties, i order to destroy all industrial competitio in their home market. The rest of th world is too small to be considered, an has, moreover, suffered from the consequences of the war, so that it has no grea meaning for the German electrotechnica industry." — "Elektrotechnische Zeitschrift."

Extension to Municipal Electrical Undertakings.

Among the local authorities who ar considering the extension of their electrica undertakings are the following: Barne Urban District Council, installation o turbo-alternator, with the necessary converting plant; Monmouth Corporation repairs at electric lighting works, £6,000 West Ham Corporation, laying mains, conversion of lamps to electricity, £35,000 and laying further high-tension feeders £5,000; Wolverhampton, main laying £8,700. The Amble, Bangor, and Sidmouth Urban District Councils ar applying for power to install electricit schemes in their districts.

South African Electricity Act.

H.M. Trade Commissioner at Cap Town has forwarded to the Departmen for Overseas Trade the text of an Act t provide for the supply and control o electricity and for other purposes incidental thereto. United Kingdom firm interested may consult the text on application to the Department of Oversea Trade at 35 Old Queen Street, London S.W.1.

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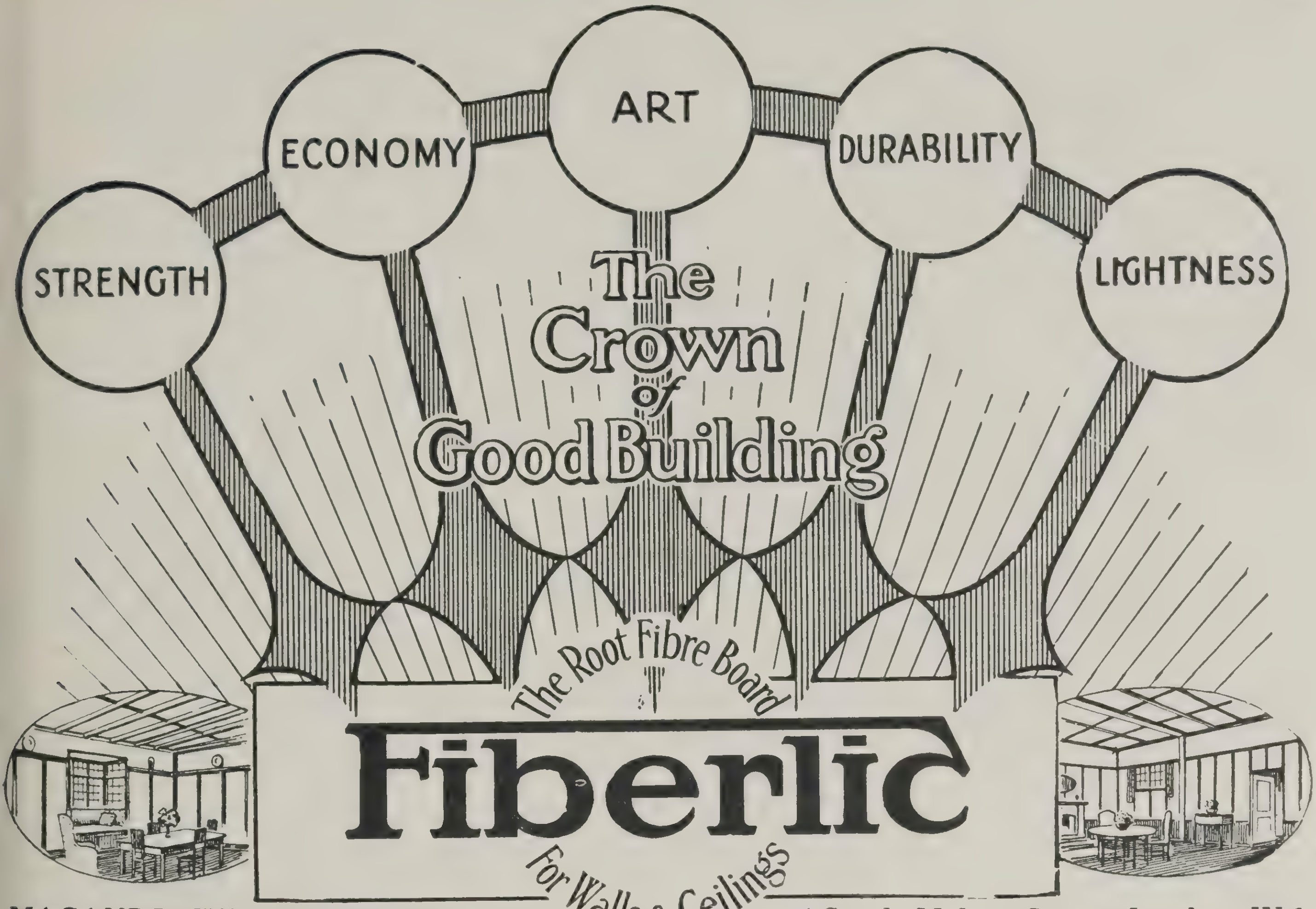

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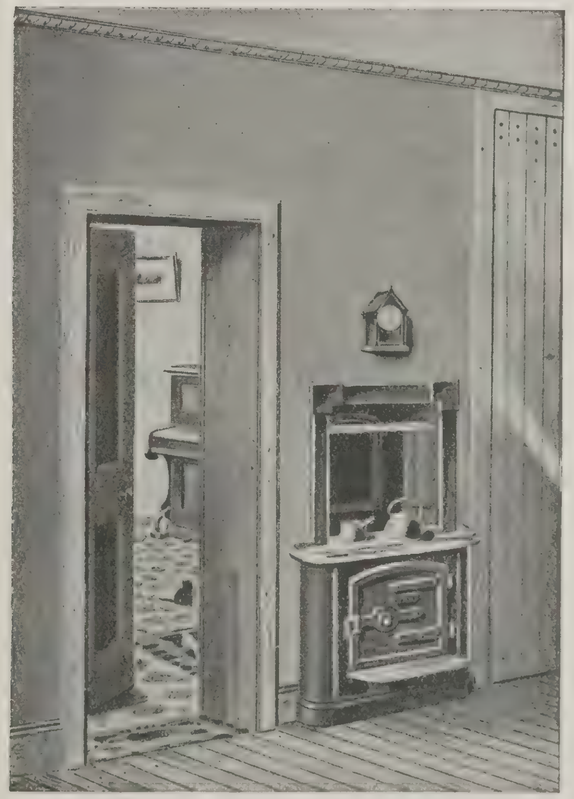

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Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING

October 12.—**REPAIRS. Rainham.**—Repairs to the farmhouse and sea wall at Motley Hill, Rainham, Kent, for the Rochester and Chatham Joint Sewerage Board. Apply Board's Office, Town Hall, Chatham.

October 12.—**ALTERATIONS. Abergavenny.**—Alterations and extensions to the Vine Tree Inn, and the pulling down of the adjoining premises for that purpose, in St. John's Street. Apply Mr. B. J. Francis, Architect, Abergavenny. Deposit £1 1s.

October 12.—**ROOF AND SKYLIGHTS. Grimsby.**—Separate tenders for the following work at the Fisheries Institute, Orwell Street: (a) Removal of boilers; (b) boiler setting; (c) new roof and skylights over the swimming baths; and (d) reconstruction of lavatory accommodation. Apply Office of the Borough Engineer, Mr. H. Gilbert Whyatt, M.I.C.E., 170 Victoria Street.

October 12.—**DIVING STAGE. London.**—Construction of a reinforced concrete diving stage to be erected at Highgate Bathing Pond, Parliament Hill Fields, for the London County Council. Apply Chief Officer, Parks Department (Room 393c), County Hall, Westminster Bridge Road, S.E.1.

October 13.—**REPAIRS. Hammersmith.**—Repairs to the properties included under its housing schemes for six months, for the Hammersmith Borough Council. Apply Borough Engineer and Surveyor, Mr. R. H. Clucas, M.I.C.E., Town Hall, Hammersmith, W.6.

October 13.—**ADAPTING. Attleborough.**—Adapting and repairing the farm buildings at Haverscroft House Farm, Attleborough, Norfolk, for the Small Holdings Committee of the County of Norfolk. Apply County Land Agent, Shirehouse, Norwich. Deposit £1 1s.

October 14.—**PUBLIC HALL. Glasgow.**—Following works in connection with the proposed erection of a public hall in Wellshot Road, Tollcross, viz.: (1) Excavator, brick, mason, &c., works; (2) steel and smith works; (3) carpenter, joiner and ironmongery works; (4) glazier work; (5) slater work; (6) plumber work; (7) lath, plaster, &c., works; (8) Terrazo, pavior, and tile works; and (9) painter work, for the Corporation. Apply Office of Public Works, 64 Cochrane Street. Deposit £2 2s.

October 14.—**HOUSES. Burntisland.**—Excavator, concretor and brick works; carpenter, joiner and ironmonger works; glazier work; slater and roughcast works; plumber and gasfitter works; and plaster work of five blocks of houses (10 houses in all) proposed to be erected on Haugh site, Burntisland. Also for proposed levelling of ground and formation of stone terrace stairs in connection with houses erected at Rossend site. Apply Mr. G. C. Campbell, Architect, Methil Brae, Methil; or at the office of Messrs. Peter Lawrence and Co., F.F.S., Surveyors, 50a Frederick Street, Edinburgh. Specifications from Burgh Surveyor, Burntisland, on payment of £1 1s.

October 14.—**NURSING BLOCK. Colwyn Bay.**—Erection of new nursing block (47 beds), and additions and alterations to the existing hospital in Hesketh Road, Colwyn Bay, for the Building Committee of the Colwyn Bay and West Denbighshire Hospital. Apply Mr. S. Colwyn Foulkes, A.R.I.B.A., Architect, Central Chambers, Colwyn Bay. Deposit £3 3s.

October 14.—**EXCHANGE. Falkirk.**—Erection of an employment exchange at Falkirk. Apply Employment Exchange, Falkirk, and at H.M. Office of Works, 4–5 Drumsheugh Gardens, Edinburgh. Deposit £1 1s.

October 16.—**FLATS. Birkenhead.**—Erection of one block of eight flats in connection with their housing scheme, for the Corporation. The acceptance of any tender by the Town Council is subject to the approval of the Ministry of Health, to the execution of a formal contract and to the provision of security approved by the Corporation for the performance of the work. Apply Mr. T. T. Rees, F.R.I.B.A., F.S.I. (Housing Architect to the Corporation), 64 Rodney Street, Liverpool. Deposit £1 1s.

October 16.—**REFRESHMENT ROOMS. Bridlington.**—Erection of refreshment rooms at Bridlington Station, for the North-Eastern Railway Co. Apply Station Master, Bridlington, or Mr. S. Wilkinson, the Company's Architect at York.

October 16.—**ALTERATIONS. Birkenhead.**—Alterations and additions to the maternity block, at the Birkenhead Union. Apply Mr. A. E. Shennan, Guardian Assurance Buildings, 35 Dale Street, Liverpool. Rate of wages, etc., clauses to be observed. The contractor will also be required to have special regard to the employment of local (Birkenhead and Wallasey) unemployed persons and to a preference being given to ex-Service men.

October 16.—**PUMPING STATION. Desford.**—Erection of engine and pump house with caretaker's cottage in the parish of Desford, close to Desford Station, for the Water Committee of the Leicester Corporation. Apply Mr. G. T. Edwards, M.I.C.E., Water Engineer, Bowling Green Street, Leicester.

October 16.—**ALTERATIONS. Dumfries.**—Mason, joiner, slater, plumber, and plaster works in connection with alterations proposed at the Sheriff Courthouse, Dumfries, for the Dumfries County Council. Apply Mr. J. Robson, County Clerk, County Buildings, Dumfries. The Council are also prepared to receive tenders for certain mason works at the County Buildings.

October 16.—**ROOF. Birkenhead.**—Provision of a roof to an open-air passage at the Birkenhead Infirmary, for the Guardians. Apply Mr. A. E. Shennan, Guardian Assurance Buildings, 35 Dale Street, Liverpool. Rate of wages, &c., clause to be observed.

October 16.—**CONVENIENCE. Hendon.**—Construction of an underground public convenience, Brent Street, Hendon, for the Urban District Council. Apply Mr. A. O. Knight, A.M.I.C.E., Engineer to the Council, Town Hall, Hendon, N.W.4. Deposit £2 2s.

October 17.—**READING-ROOM. Nottingham.**—Erection of the northern branch reading-room and lending library, on Highbury Road, Bulwell, for the Public Libraries and Museum Committee. Apply Messrs. Bright and Thoms, Architects, 9 St. Peter's Church Walk. Deposit £2.

October 17.—**HOUSES. Walsall.**—Erection of 20 houses, in two blocks of 10, in Lord Street, Walsall, and 19 houses, in three blocks of six and seven, in Green Lane, Walsall, for the Town Council. Apply Mr. J. Taylor, M.I.C.E., Council House, Walsall. Deposit £1.

October 18.—**EXTENSIONS. Sunderland.**—Extensions to the Redby Council School for the purpose of a pupil teacher centre, for the Town Council. Apply Education Offices, 15 John Street. Deposit £1 1s.

October 18.—**DEMOLITION. Halifax.**—Demolition of premises on the site of the Post Office extension, Halifax, Yorks. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1.

October 18.—**HOUSES. Brighton.**—Erection of 112 houses on the portion of the Queen's Park Road housing site, fronting to Down Terrace and Freshfield Road, for the Corporation. Apply at any of the following architects: Messrs. Clayton and Black, T. Garrett and Son, E. Wallis Long, and W. H. Overton, at Brighton. Deposit £1.

October 19.—**REPAIRS. Walthamstow.**—Execution of repairs at the Monoux and Collard's Almshouses, 60–68 (even), Wood Street, and 2–14 (even), Church Path, Walthamstow, for the trustees of the Walthamstow Parochial Charities. Apply Mr. G. Houghton, Clerk to the Trustees, 195 Hoe Street, E.17.

October 20.—**BUILDINGS. Lizard.**—New buildings at H.M. W/T. Station, Mile End, Lizard, Cornwall, for the Admiralty. Apply Superintending Civil Engineer, H.M. Dockyard, Devonport, or Wireless Telegraphy Station, Mile End, Lizard.

October 20.—**BEDROOMS. Brierley.**—Additional bedrooms, bathrooms, water-closets, &c., at the administrative block at the Isolation Hospital, Brierley, for the Hemsworth Joint Hospital Committee. Apply Mr. W. T. Lynam, F.S.I., Surveyor to the Joint Committee, Union Offices, Hemsworth. Deposit £1 1s.

October 21.—**HOUSES. Ebbw Vale.**—Erection of 28 houses on the Gantre site, Ebbw Vale, for the Ebbw Vale Urban District Council. Apply Mr. P. I. Davies, Housing Architect, Council Offices, Ebbw Vale. Deposit £5, which must be in postal orders.

November 30.—**PALACE. Barcelona.**—In construction of the Grand Palace of Nations. Apply Don José y Cadafalch, offices of the exhibition (Lerida Street).

ELECTRICAL.

October 17.—**AUTOMATIC SWITCHBOARD. Australia.**—Supply of automatic switchboard, Schedules 39 and 40 (October 17); brass and ebonite sheets and rods (October 26); insulated cable, Schedule 958 (November 16). Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

October 18.—**TELEPHONE EXCHANGE. Ostend.**—Equipment of a manual telephone exchange at Ostend and the provision of 1,200 subscribers' instruments for connection to the exchange. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 16733/F.W./E.C.)

October 18.—**TURBO-ALTERNATORS. Barking.**—Supply and erection of steam turbo-alternators for their Barking power station, for the County of London Electric Supply Co., Ltd. Apply Mr. F. C. McQuown, Manager and Secretary, on payment of £5 5s. for the first copy, and £2 2s. for every subsequent copy.

October 23.—**TURBINES AND GENERATORS London, W.C.**—**The New South Wales Government invite tenders for the manufacture, supply and erection of two water turbines and generators, required in connection with Barren Jack hydro-electric development. Apply Consulting Engineer, 64 Victoria Street, London, S.W.1, or at the office of the Agent-General.**

October 27.—**TRANSFORMERS. Nottingham.**—Manufacture, delivery, and erection of the following engineering works in connection with the North Wilford power station, for the Nottingham Corporation, viz: Section C—two 650-k.v.a. three-phase static transformers; two 900-k.v.a. six-phase static transformers; one 150-k.v.a. single-phase static transformer. Section G—three steam turbine-driven boiler-feed pumps, each for 25,000 gallons per hour, with three exhaust steam heating nozzles. Section L—four gravity bucket coal conveyors, with crushers, &c. Section M—accumulators, &c. Apply Messrs. Preece, Cardew and Rider, 8 Queen Anne's Gate, Westminster, S.W.1. Deposit £5 for each section.

October 30.—**ELECTRIC PLANT. Alexandria.**—Supply of a direct-coupled steam-engine and alternator, and switchboard for the Electric Power House, Gabbary, Alexandria. Apply Room 49 of the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

October 31. — **SWITCHGEAR. Montevideo.**—Supply of switchgear for fifteen transformer sub-stations converting a.c. at 50 cycles from 6,600 to 220 volts. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 6666/F.L./E.P.(D.).)

November 4.—**CABLES. Montevideo.**—Supply of three-phase high-tension (6,600 volts) cable and accessories. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London S.W.1. (Ref. 6666/F.L./E.P.(C.).)

November 11.—**TURBO-ALTERNATOR. Montevideo, Uruguay.**—Construction, delivery, and erection in the State power-house at Montevideo of a turbo-alternator of 10,000-kw. capacity to run at 3,000 r.p.m., together with the necessary condensing plant and accessories, for the State Electric Light Works. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1. (Ref. 3667/F.L./E.P.)

November 21.—**SWITCHBOARD PARTS. Australia.**—Supply of switchboard parts, schedule 67 (Nov. 21) for the Commonwealth of Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 28.—**SWITCHGEAR. Mangahao, N.Z.**—Supervision of the erection, and of the testing after erection, of outdoor switchgear (section 21) and indoor switchgear (section 33) for the Khandallah sub-station forming part of the Mangahao power scheme, for the Public Works Tender Board. Apply Department of Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Ref. 9468/Ed./E.P.) Deposit £100.

November 28.—**TRANSFORMERS. Wellington.**—The Public Works Tender Board, Wellington, are inviting tenders for the manufacture, supply, and delivery, ex ship's slings Auckland, of two exciter transformers in connection with the Waikato power scheme, section 57. The transformers are required to transform three-phase 50-cycle power at 5,250 volts between phases to power at 400 volts between phases, and will be used for supplying power to 220 k.w. exciter units in the power house at Horahora. They are to be of the oil-filled and self-cooled type, and to be rated 275 k.v.a. 93 per cent. power factor. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

December 20.—**ELECTRIC CRANES AND LIFTS FOR EGYPT. Alexandria.**—The Administration of Ports and Lighthouses, Alexandria, is inviting tenders for fixed and moveable lifting apparatus for service at the port of Alexandria. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

December 15.—**PLANT. Wellington.**—The Southland Electric Power Board are calling for tenders for supply and delivery of plant and material. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1.

ENGINEERING.

October 12.—**VACUUM DUST EXTRACTORS. Johannesburg.**—Supply and delivery of one or more vacuum dust extractors (contract No. 956) of a portable type, having a capacity of approximately 2,000 to 2,500 cubic feet per hour, fitted with suction hose, and suitable for the purpose of sweeping and cleaning down the interiors and exteriors of tramcars and the interiors of motor cases. It is also desired to purchase a similar outfit for cleaning large electrical machinery, particularly Bruce Peebles-La Cour motor converters, the sizes in use being 1,250–2,000-kw. capacity, for which purpose a 220-volt universal motor would be more suitable. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1. (9528/E.D./E.P.)

October 12.—**PUMP. Runcorn.**—Supply and fixing of a 10,000 gallons per hour motor-driven pump, and foundations for same, &c., at their waterworks pumping station, Ship Street, Frodsham, for the Rural District Council. Apply Offices of the Engineers, Messrs. E. Timmins and Sons, Ltd., Bridgewater Foundry, Runcorn. Deposit £1 1s.

October 12.—**CASTINGS. Southampton.**—Supply of about 360 tons of 12 in. diameter c.i. s. and s. pipes and about 4 tons of special castings, for the Corporation. Apply Waterworks Engineer's Office. Deposit £1 1s.

October 12.—**WATER MAIN. Southampton.**—Laying and jointing of about 3,350 lineal yards of c.i. water main, 12 in. diameter, from Swaythling Station to New Inn, West End, together with contingent works, for the Town Council. Apply Waterworks Engineer's Office. Deposit £1 1s.

October 14.—**MOTOR FIRE-ENGINE. Trowbridge.**—Supply of a new motor fire-engine capable of pumping 400 gallons per minute, with alternative prices for (a) a detachable escape and (b) extension ladders, for the Trowbridge Urban District Council. Apply Mr. G. T. Fletcher, Clerk, Town Hall, Trowbridge.

October 14.—**VAN BODY. Manchester.**—Supply of one motor bedding van body, for the Public Health Committee. Apply Public Health Office (Medical Section), Civic Buildings, 1 Mount Street, Manchester.

(*Continued on page* xxxii.)

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October 14.—**FURNACE. Johannesburg.**—Supply and erection of a pig singeing furnace at the abattoirs, for Municipal Council of Johannesburg. Apply Room 91, Municipal Offices, Johannesburg. Deposit £1 1s.

October 14.—**SINKING SHAFTS, &c. Margate.**—Sinking of shafts and extending adits for a length of about 1,000 yards in connection with the Margate Corporation waterworks at Wingham, near Canterbury. Apply Mr. E. A. Borg, 13 Grosvenor Place, Margate.

October 16.—**LATHE. Dublin.**—Supply of one heavy-duty railway wheel lathe, for the Midland Great Western Railway of Ireland Co. Apply Mr. P. A. Hay, Secretary, Broadstone Terminus, Dublin.

October 16.—**WATER SUPPLY. Newington.**—A water supply scheme for the parish of Newington, Oxon, for the Crowmarsh Rural District Council. Apply Office of Mr. P. C. A. Slade, Clerk, 7 St. Martin's Street, Wallingford.

October 16. — **RECONSTRUCTING BRIDGE. North Warnborough.**—Reconstruction of Swan Bridge, carrying the Reading, Odiham, and Alton main road over the Basingstoke and Woking Canal at North Warnborough, for the Southampton County Council. Apply Mr. W. J. Taylor, County Surveyor, The Castle, Winchester. Deposit £1 1s.

October 16.—**WHEELS AND AXLES. Bengal.**—For the Bengal-Nagpur Railway Co., Ltd., viz. : Wheels and axles. Apply Company's Offices, 132 Gresham House, Old Broad Street, London, E.C.2. A fee of £1 1s. will be charged for specification, which will not be returned.

October 17.—**STEEL TYRES. Madras.**—Supply of 1,200 steel tyres for carriage and wagon wheels, for the Madras and Southern Mahratta Railway Co., Ltd. Apply Company's Offices, 25 Buckingham Palace Road, Westminster, S.W.1. The charge for each specification is £1 1s., which will not be returned.

October 18.—**PLANT. London, W.C.**—Supply and erection in South Africa of plant in connection with the electrification of the Glencoe-Pietermaritzburg section of the South African Railways, as follows :—Tender D. 1417, Coal-handling plant for power station. Tender D. 1418, ash-handling plant for power station. Tender D. 1430, circulating water screening plant for power station. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C.2., and Messrs. Merz and McLellan, 32 Victoria Street, London, S.W.1. Deposit £5.

October 21.—**DESTRUCTOR UNIT. Birmingham.**—Supply and erection of a new destructor unit at the Montague Street destructor works, for the Salvage and Stables Committee. Tenders are to include pneumatic suction plants, the dismantling of the existing building and old cells, the erection of new building and approach roadway, also erection and supply of machinery for screening and elevating the refuse. Apply Mr. J. Jackson, Superintendent, Salvage Department, Council House, Birmingham. Deposit £1 1s.

October 21.—**BOREHOLE. Stevenage.**—Sinking a borehole at the bottom of an existing well and supplying a pump for use in such borehole, for the Stevenage Urban District Council. Apply Mr. W. O. Times, Clerk, Council Offices, Stevenage. Deposit £2 2s.

October 28.—**DREDGING PLANT. Newcastle-upon-Tyne.**—Construction and delivery in the Tyne of one non-propelled centre ladder barge-loading bucket dredger, four single screw steel steam hopper barges, each with a hopper capacity of 800 tons, for the Tyne Improvement Commissioners. Apply Mr. J. MacDonald Manson, General Manager and Secretary, Bewick Street, Newcastle-upon-Tyne. Deposit £5 5s.

October 30.—**BRIDGE. Hull.**—Railway bridge in connection with Chanterlands Avenue extension, for the Hull Corporation. The work consists of abutments, wing walls, piling, &c., and steel girders, stanchions, flooring, &c., total weight of steelwork 150 tons. Apply Mr. F. W. Bricknell, M.I.C.E., City Engineer, Guildhall, Hull. Deposit £1.

November 15.—**TUBULAR POLES. Perth.**—The Postmaster-General's Department, Perth, Western Australia, is inviting tenders for supply and delivery of 1,490 galvanized tubular poles. Apply Department of Overseas Trade (Room 47), 35 Old Queen Street, S.W.1.

November 15.—**TUBULAR POLES. Australia.**—Supply of 1,500 galvanized iron or steel tubular poles for telegraph poles, 20 ft. long, schedule 755. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

PAINTING.

October 18.—**PAINTING. Wembley.**—Internal and external painting and decorations to the Council Offices, High Road, Wembley, for the Wembley Urban District Council. Apply Mr. C. R. W. Chapman, Engineer and Surveyor, Council Offices, Wembley, Middlesex.

October 19. — **REDECORATING. Ashford.**—Redecoration of the dining-hall at the West London District Schools, Ashford, Middlesex, for the Managers. Apply Mr. J. L. Gosling, Superintendent.

ROADS AND SEWERS.

October 12.—**MAKING-UP. Whickham.**—Making-up of a portion of the roadway from the boundary of the Council housing site, Byermoor, to the officials' houses erected for Messrs. Bowes and Partners, for the Whickham Urban District Council. Apply Mr. T. Fenbow, Surveyor, Council Offices, Whickham, Swalwell, S.O.

October 12.—**PRIVY CONVERSIONS. Cheadle.**—Conversion of privies to water closets at Nos. 2–26 (even numbers inclusive), Bank Street, Cheadle; No. 36 Brook Street, Cheadle, and No. 2 Chapel Street, Cheadle, for the Cheadle and Gatley Urban District Council. Apply Mr. P. H. Molyneux, Engineer and Surveyor to the Council.

October 13.—**SEWERS. Bournemouth.**—Layin relief and main sewers, Parkwood Road and Portma estate, Boscombe, for the Town Council. Apply M F. P. Dolamore, F.S.I., Borough Engineer and Surveyo Town Hall, Bournemouth. Deposit £1 1s.

October 14.—**WIDENING. Durham.**—(1) Wide ing the highway at the west end of Broompark Villag and (2) making-up the roadway in Kepier Lane, Gilesga Moor, for the Durham Rural District Council. Appl Surveyor's Offices, 38 Sadler Street, Durham. Depos 10s. in respect of the work at each place. In carrying o the works 80 per cent. of the unskilled men required mu be men of the Durham rural district who are unemploye

October 14.—**ROAD MATERIALS. Harrow-on the-Hill.**—Supply of the following materials for si months ending March 31, 1923, for the Urban Distri Council :—(1) Granite chippings, ¾ in., ½ in., ⅜ in.; (2 in. tarmacadam (slag or granite); (3) ½ in. tarmacada (slag or granite); (4) 1¼ in. and ⅜ in. limestone tar pavin (5) ⅜ in. clean shingle; (6) meadow hay, wheat stra oats, bran; (7) coal, slack, coke breeze. Apply Mr. J. Bennetts, Engineer and Surveyor.

October 17.—**STEAM ROLLING. Ashford.**—Steam rolling in the district or for any of the parishes f year ending March 31, 1923, for the West Ashford Rur District Council. Apply Mr. A. Sims, Surveyor, Tuft Hall, Ashford.

October 17.—**ASPHALTING. Leytonstone.**—Asphalting and tarpaving work at their schools in Hi Road, Leytonstone, Essex, for the Bethnal Green Boa of Guardians. Apply Mr. C. Faulkner Jones, Cler Administrative Offices, 79a Bishop's Road, Bethn Green, E.2.

October 23.—**SANITARY PIPES. Alnwick.**—Providing and laying 92 yards of 9 in. sanitary pipes a South Togston, for the Alnwick Rural District Counci Apply Mr. T. Henderson, Togston Crescent, Alnwick.

October 23.—**SEWERS. Sheerness.**—Constructio of about 1,640 lineal yards of stoneware pipe sewer varying from 12 in. to 6 in. diameter, together wit manholes and other incidental works, for the Sheerne Urban District Council. Apply Council Offices, Trinit Road, Sheerness. Deposit £5.

October 28.—**PAVING. Paddington.**—Paving, & the carriageway and footways of Biddulph Road, fro Elgin Avenue to Lauderdale Road, for the Paddingt Borough Council. Apply Borough Surveyor's Offic Town Hall, Paddington, W.2. Deposit £1 1s.

October 31.—**SEWERAGE WORKS. Doncaster.**—Construction of the following works, for the Corporation Settling tanks, percolating filters and supplying medi humus tanks, sludge lagoons, effluent channels and sew sludge mains, rising mains, roads, &c. Apply Mr. F. Kirby, A.M.I.C.E., Borough Engineer, 2 Priory Plac Doncaster. Deposit £5 5s. (by cheque only, payable t the Doncaster Corporation).

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Officialism & Architecture

Mr. J. R. Wigfull in his presidential address to the Sheffield and South Yorkshire Society of Architects dealt with the depression in trade, and its effects on the profession. He said that building costs remained enormous. Nobody could understand why, but the "money for nothing" feeling was being exploded day by day among the public. The building by-laws remained a hindrance, they remained antiquated; it was very desirable they should be reviewed at least every ten years. After all, it was not the by-laws so much as the way they were administered which hurt the profession and the builder. The war had been responsible for a great growth of officials, and much vexatious interference. Within his own knowledge was a case wherein, on a small job, six inspectors were present, and when expostulated with, the reply was that while "Inspector Smith" was there to inspect closet drains, "Inspector Jones" was inspecting the drains from the sinks. It seemed to him that that little fact showed clearly what present-day officialism meant.

Housing and Penny Rate

A clerk to a local authority, in a letter to "The Daily Telegraph," says: The danger of allowing an Act of Parliament to be nullified by regulations purporting to be made thereunder is well exemplified by the regulations made under the Housing and Town Planning Act, 1919. Under the Act the liability of a local authority is limited to the produce of a penny rate, and Ministers have repeatedly emphasized the point. Under the regulations, after houses are completed, an estimate has to be submitted to and approved by the Minister of Health showing what the average annual loss of a scheme will be over the period up to 1927 and thereafter over periods of ten years. The Government subsidy is based upon the estimate so approved, and if the loss is greater in any year than the subsidy so fixed, plus the proceeds of the penny rate, the local authority has to pay it. No one can accurately foretell what the average loss will be, but the actual loss each year can be seen from the accounts of local authorities, which are all properly audited, so why should regulations made under the Act throw upon local authorities a risk which is not consistent with the Act and is contrary to the statements made by Ministers?

Obituary

The late Mr. J. Barlow Fraser.

We regret to record the death, at Leeds, of Mr. James Barlow Fraser, architect, at the age of eighty-seven. A Scotsman, born in Lancashire, the son of a civil engineer, Mr. Fraser, when in practice as an architect, was associated with his late brother, Mr. John Fraser, and the late Mr. John Fowler, civil engineers, in connection with railway developments, especially on the Great Northern Railway. He designed many railway stations, including the Wakefield Westgate passenger station and the Hunslet goods station, and a number of railway bridges. He was also architect for St. Augustine's Church, Wrangthorn, the Presbyterian Church in Cavendish Road, and the spire of Horsforth Church; and for many residences in the district. He also designed and supervised the erection of the Festival Gallery at the Leeds Town Hall. When the building was opened in 1858 there was no gallery in the Victoria Hall. For a great many years Mr. Fraser was a Fellow of the R.I.B.A. He was one of the early members of the Leeds and Yorkshire Architectural Society, of which he was president for one or two years. He retired from the active practice of his profession some years ago.

Scientific Lighting

At the invitation of Messrs. Holophane, Ltd., a number of scientific, technical, and trade journalists last week visited the new showrooms and laboratories of the company, and were given a lecture demonstration on the latest methods of scientific lighting.

The guests were received by Mr. Hepworth Thompson, the managing director of the company, who referred to the increased importance of the lighting problem, due in part to the recommendations of the Home Office Committee with regard to the standardization of light in industry. Legislation embodying these recommendations was, he said, contemplated.

Mr. Stroud then gave a short address dealing with modern lighting problems, and showed a number of lantern slides of various installations in schools, churches and workshops.

The distribution of light from most illuminants was not, he said, suitable for many lighting problems, the ordinary type of electric incandescent lamp, for instance, giving little light immediately below the lamp, where it was chiefly needed. Most of the light was directed horizontally, and the function of a scientific form of globe or reflector must, therefore, be to direct the light as well as screen the filament, or to diffuse the light over the surface of the shade so that it had only a moderate brilliancy, not irritating to the eye. This had been borne in mind in the many varieties of Holophane glassware designed and introduced.

The Holophane system is based on the use of prismatic glass, and in the original designs involved the use of two kinds of optical prisms. The interior flutings accomplish the diffusion and breaking up of the light rays. The horizontal exterior prisms have a second distinct purpose, namely, to direct the diffused light in a suitable manner, mainly in useful downward directions.

The later introduction of reflectors with an inner smooth surface and an outer surface formed of vertical prisms acting by total internal reflection marked a distinct advance. The feature of this method is the accuracy with which any desired distribution of light can be obtained. This distribution is determined largely by the contour of the reflector as well as by the nature of the prisms, and the percentage of light that can be reflected by "total internal reflection" is extremely high. The absorption by globes is only about 12 per cent. on the average, while in reflectors an absorption of only 5 per cent. is found.

Many special units adapted to the lighting of streets, shops, churches, factories, etc., have been developed, and more specialized devices, amongst which the new "Artificial Daylight" units (furnishing a light suitable for colour matching) and the Holophane motor-car headlight may be mentioned, have also been evolved in the Holophane laboratory.

After the address the guests adjourned to the laboratories where apparatus for the measurement of light and illumination was exhibited. "Artificial Daylight" units were also to be seen side by side with the ordinary type of uncorrected lamp, and the correct colour values obtained by the use of the former were very noticeable. Specimens of the multifarious types of Holophane glassware were examined, among them the first specimen produced, an interesting relic which is obviously regarded with intense veneration by the company.

New Inventions

Latest Patent Applications.

26405.—Ambrose, J. G.—Manufacture of hollow blocks, etc., of concrete, etc. September 30.

25877.—Avis, A.—Material for structural purposes. September 25.

26271.—McMay, J. T.—Reinforcements for concrete. September 29.

26306.—Pratt, W.— Staging attachment for ladders and scaffolding. September 29.

26412.—Thee, A.—Building blocks or slabs, etc. September 30.

Specifications Published.

185819.—Tallack, H. T.—Surveyor's levels.

185824.—Hodgkinson, E.—Machines for making ridge tiles, hip tiles, valley tiles, coping bricks, and other articles from clay or other earthy substances, also applicable to the shaping of mixtures of asbestos, and cement and the like.

185895.—Berlepsch, K.—Method for constructing stairs.

185944.—Moe, L. L. — Automobile garages.

Abstract Published.

184361.—Roofing shingles. — Abraham, H., 233 Broadway, New York, U.S.A. — Interlocking roofing-shingles, particularly such as are formed of a foundation of fabric or felt saturated with bituminous compositions, are formed with side indentations flanked by hooks which are adapted to interlock with similar hooks on adjacent shingles laid in staggered relation. The shingles, when laid, provide marginal overlaps with the lower ends or butts held down by adjacent shingles. Slate granules may be impressed on the shingles, a number of which can be cut from a single sheet of material.

The above particulars are prepared specially by Messrs. Rayner & Co., registered patent agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

A CORRECTION

We regret that wrong initials appeared at the end of the article on "Dutch Architecture, Old and New," published in our last issue. The author was Miss E. G. Cook.

Trade and Craft.

Glasgow Housing Exhibition.

At the stand of Messrs. Willis Heeley, of 196 St. Vincent Street, Glasgow, at the Glasgow Housing Exhibition, the interior walls and ceilings are lined with Fiberlic root fibre board instead of lath and plaster, and the walls are covered with a tapestry paper. The exterior is treated with washable distemper. Steel windows, easily cleaned, for every type of building, and various styles of opening, are shown with stained and leaded glass panes. Other exhibits are doors in every wood for all types of buildings, and reinforced concrete fencing posts and rails.

The Heating of Garages.

This subject is discussed in the current issue of "A Thousand and One Uses for Gas" (No. 104), and various practical methods are described for meeting differing local conditions. Drawings and photographs are included showing the best methods of equipping the small as well as the large garage. There is also a practical article (illustrated with photographs) on the heating of paint and varnish drying rooms in public garages and motor repair works. This latter information will undoubtedly be welcomed by all public garage owners who undertake general repair and painting work. The magazine can be obtained (6d. post free) from the Secretary, The British Commercial Gas Association, 30 Grosvenor Gardens, S.W.1.

A Guarantee for Paint.

Messrs. R. Gay & Co., Ltd., of Langthorne Works, Stratford Market, London, E.15, paint and enamel manufacturers, are giving a written guarantee to cover their impenetrable paint. The company guarantee their impenetrable paint to stand in reasonably good condition (fair wear and tear excepted, but free from cracks or peeling) for the period of: (*a*) On inside work seven years; (*b*) on outside work three years. In the event of the failure of the paintwork the company will (subject to certain provisions) bear the cost of repainting proportionately to the unexpired period of the guarantee. This is a guarantee for something more than quality of the materials used in manufacture. It covers the durability of the paint when used on either inside or outside work. It is believed that Messrs. R. Gay & Co., Ltd., are the only firm of manufacturers who issue a written guarantee as to durability. It should be noted that the guarantee will only be issued in connection with impenetrable paint which has been applied by the decorator. If a private person purchases and applies the paint himself it will not be issued.

Marseilles Roofing Tiles.

Marseilles roofing tiles are the subject of a booklet which has just been issued for the use of builders by Langley London, the sole agents for the United Kingdom. Marseilles tiles are not in any sense an innovation. They have been made and used for about a century, the present output of the works being 240,000,000 pieces per annum. Last year over 4,000 houses in England alone were covered with them, as well as a number of public buildings, churches, schools, hotels, and cinemas. Marseilles tiles are made of non-ferrous red clay, which bakes at a high temperature and is hard, strong, and durable. A point emphasized by the firm is the low porosity. It is claimed that, practically speaking, Marseilles tiles are non-absorbent, and that it is due to this, and also to the absence of iron, that they are unaffected by frost and by climatic conditions. They are also claimed neither to laminate nor disintegrate with age. It is stated that there are cases in England where these tiles have been in use for fifty years and more without a farthing being spent on repairs, and that there are houses under construction to-day which are being covered with Marseilles tiles stripped from old cottages erected nearly 100 years ago. The address of Messrs. Langley London is 161 Borough High Street, London, S.E.1.

The Broad View.

In the current issue of "The Broad View," an intimate little monthly published by Broad & Co., Ltd., to give news of themselves and their many products, reference is made to an improved heavy road manhole cover. It is called the No. 29 "Agripper" cover, and has been designed and patented by Broads to counteract any tendency to rock. The "Agripper" is made in a number of sizes in Broad's own foundry, and has the following special features: the seating of the cover is a series of serrations or inclined planes and abutments; traffic forces the cover down the inclined planes, against the abutments, thereby preventing the cover rocking; grit or other detritus falling on to the seating passes through the slots provided. It is claimed that there is no rocking nor movement of cover; no wearing of seating; and that it is easily lifted, as the cover is made with a good clearance. The "Agripper" can be supplied fitted with wood blocks if desired, and can be adapted in Broad's own foundry to meet any special requirements. Messrs. Broad & Co., Ltd., are sanitary specialists, manufacturers of Portland cement, bricks, drain pipes, and firegoods, and ironfounders. Their address is 4 South Wharf, Paddington, W.2.

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BUILDING

October 19.—**REPAIRS. Walthamstow.**—Execution of repairs at the Monoux and Collard's Almshouses, 60–68 (even), Wood Street, and 2–14 (even), Church Path, Walthamstow, for the trustees of the Walthamstow Parochial Charities. Apply Mr. G. Houghton, Clerk to the Trustees, 195 Hoe Street, E.17.

October 19.—**ALTERATIONS. Salford.**—Structural alterations at Trafford Road Girls' School, for the Corporation. Apply Secretary, Education Office, Salford.

October 19.—**HOUSES. Ely, Cardiff.**—Erection of a limited number of houses at Ely, for the Corporation of Cardiff. Apply Office of the City Architect, City Hall, Cardiff. Deposit £2 2s.

October 19.—**URINALS. Leeds.**—Erection of public urinals, for the Corporation. Apply Office of Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

October 20.—**ALTERATIONS, &c. Epsom.**—Alterations and additions at the Cuddington Hospital, near Banstead Railway Station, for the Epsom (Rural), Sutton, Carshalton and Leatherhead Joint Hospital Board. Apply Mr. A. C. Williams, Ashley Road, Epsom.

October 20.—**REBUILDING. Halifax.**—Rebuilding a warehouse in Booth Fold, Bull Green. Apply Messrs. Walsh and Maddock, Architects and Surveyors, 10 Harrison Road, Halifax.

October 20.—**REINFORCED CONCRETE WORK. Hull.**—Builders' and reinforced concrete work required for the filtration plant at the East Hull Baths, for the Corporation. Apply Mr. F. W. Bricknell, M.I.C.E., City Engineer, Guildhall, Hull.

October 20.—**COTTAGE. Burlingham, Norfolk.**—Erection of a new cottage at Coxhill Farm, Burlingham estate, Norfolk, for the Small Holdings Committee. Apply County Land Agent, Shirehouse, Norwich. Deposit £1 1s.

October 20.—**BUILDINGS. Lizard.**—New buildings at H.M. W/T. Station, Mile End, Lizard, Cornwall, for the Admiralty. Apply Superintending Civil Engineer, H.M. Dockyard, Devonport, or Wireless Telegraphy Station, Mile End, Lizard.

October 20.—**BEDROOMS. Brierley.**—Additional bedrooms, bathrooms, water-closets, &c., at the administrative block at the Isolation Hospital, Brierley, for the Hemsworth Joint Hospital Committee. Apply Mr. W. T. Lynam, F.S.I., Surveyor to the Joint Committee, Union Offices, Hemsworth. Deposit £1 1s.

October 20.—**REPAIRS, &c. Overton, Flints.**—Repairs and painting at the police station at Overton, for the Flintshire County Council. Apply Mr. R. G. Whitley, A.M.I.C.E., County Architect and Surveyor, County Buildings, Mold.

October 21.—**HOUSES. Ebbw Vale.**—Erection of 28 houses on the Gantre site, Ebbw Vale, for the Ebbw Vale Urban District Council. Apply Mr. P. I. Davies, Housing Architect, Council Offices, Ebbw Vale. Deposit £5, which must be in postal orders.

October 21.—**BUNGALOW. Blaenffos, Pem.**—Erection of a bungalow for Mr. T. Morgan, Greenland Cottage, Blaenffos. Apply above address.

October 21.—**PAVILION, &c. Sowerby Bridge.** (1) Masons' and bricklayers'; (2) carpenters' and joiners'; (3) slaters' and plasterers'; and (4) plumbers' and glaziers' work required in connection with the bowling pavilion, conveniences, &c., Crow Wood, for the U.D.C. Apply Mr. J. Eastwood, A.M.I.C.E., Surveyor, Council Offices, Sowerby Bridge.

October 21.—**WASHHOUSE. Oldham.**—Erection and completion of a public washhouse in Cedar Street, Waterhead, for the Markets and Baths Committee. Apply Borough Surveyor's Office, Town Hall.

October 23.—**ALTERATIONS, &c. Durham.**—(1) Alterations to out-offices and drainage, Aycliffe Diamond Jubilee Council School; (2) general repairs and minor improvements, Easington Lane Council School; (3) drainage of playing fields, Ryhope Secondary School. Apply Mr. F. Willey, F.R.I.B.A., 34 Old Elvet, Durham.

October 23.—**HOUSES. Glasgow.**—Works in connection with the proposed erection of houses at Coplawhill:—(1) Digger, brick and concrete work; (2) carpenter, joiner and ironmongery work; (3) slater and roughcast work; (4) plaster and cement works; (5) plumber work; and (6) glazier work, for the Corporation. Apply Mr. J. Lindsay, Town Clerk, City Chambers, Glasgow.

October 26.—**ALTERATIONS, &c. London, E.**—Work at their relief offices at Raine Street, Old Gravel Lane, E.1, for the Guardians of St. George-in-the-East. Apply Mr. R. M. Lochner, Clerk, Raine Street, Old Gravel Lane, E.1.

October 27.—**ENGINE-HOUSE, &c. Deptford.**—Construction of an engine-house, chimney shaft, boiler setting, drainage, alterations to existing buildings, and other contingent works at Deptford Pumping Station, Brookmill Road, Deptford, in the Metropolitan Borough of Deptford, for the Metropolitan Water Board. Apply Offices of the Board, Chief Engineer's Department (Room 201), New River Head, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £5.

October 27.—**ENGINE-HOUSE, &c. Lea Bridge.**—Construction of engine-house, addition to and alteration to existing buildings, boiler setting, &c., at Lea Bridge Pumping Station, Lea Bridge Road, in the urban district of Leyton, for the Metropolitan Water Board. Apply Offices of the Board, Chief Engineer's Department (Room 201), New River Head, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £5.

October 28.—**SCHOOL. Prescot, Lancs.**—Erection of a new secondary school of semi-permanent construction, for 260 boys, at Prescot, near Liverpool, for the Lancashire Education Committee. Apply Mr. H. Littler, 16 Ribblesdale Place, Preston. Deposit £2.

October 28.—**HOUSES. Irvine.**—Works in connection with 18 additional houses to be erected in connection with the Bank Street housing scheme, for the Town Council. Apply to Messrs. D. Gillies, A. R. Wilson, Joint Town Clerks, Council Chambers, Irvine, mentioning trades for which schedules are desired, viz.:—(1) Digger and brick; (2) carpenter and joiner; (3) glazier; (4) slater and roughcasting; (5) plumber; (6) plaster; (7) drains and entrance paths. Apply Mr. J. Armour, Architect, Bridgegate, Irvine, who will point out the site to intending tenderers. Deposit £1 1s.

October 31.—**BUNGALOW. Newtown, Cardigan.**—Erection of a bungalow for Capt. Richards, at Newtown, Cardigan. Apply Capt. Richards, Aleybryn, Kilgerran, S.O.

November 30.—**PALACE. Barcelona.**—In construction of the Grand Palace of Nations. Apply Don José y Cadafalch, offices of the exhibition (Lerida Street), and Dept. of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

No Date.—**HOUSES. Knaresborough.**—Erection of two semi-detached dwelling houses, proposed to be built on Crag Top, Knaresborough, for Mr. B. Walker. Apply Mr. Walker, 1 Park Row, Knaresborough.

No Date.—**RE-ROOFING. Sheffield.**—Re-roofing corrugated-iron building, 120 ft. by 36 ft. Apply Messrs. Durham, Churchill & Co., Grimesthorpe, Sheffield.

ELECTRICAL.

October 23.—**ELECTRIC LIGHTING INSTALLATION. Romford.**—Electric lighting installed at the Romford Union hospital, for the Guardians. Apply Master of the Institution.

October 23.—**TURBINES AND GENERATORS. New South Wales.**—The New South Wales Government invite tenders for the manufacture, supply and erection of two water turbines and generators, required in connection with Barren Jack hydro-electric development. Apply Consulting Engineer, 64 Victoria Street, London, S.W.1, or at the office of the Agent-General.

October 24.—**LIFT. Manchester.**—Supply, delivery and erection of an electric goods cage lift, for the Tramways Committee. Apply Mr. H. Mattinson, General Manager, Corporation Tramways, 55 Piccadilly, Manchester.

October 27.—**TRANSFORMERS. Nottingham.**—Manufacture, delivery, and erection of the following engineering works in connection with the North Wilford power station, for the Nottingham Corporation, viz: Section C—two 650-k.v.a. three-phase static transformers; two 900-k.v.a. six-phase static transformers; one 150-k.v.a. single-phase static transformer. Section G—three steam turbine-driven boiler-feed pumps, each for 25,000 gallons per hour, with three exhaust steam heating nozzles. Section L—four gravity bucket coal conveyors, with crushers, &c. Section M—accumulators, &c. Apply Messrs. Preece, Cardew and Rider, 8 Queen Anne's Gate, Westminster, S.W.1. Deposit £5 for each section.

October 30.—**ELECTRIC PLANT. Alexandria.**—Supply of a direct-coupled steam-engine and alternator, and switchboard for the Electric Power House, Gabbary, Alexandria. Apply Room 49 of the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

October 31. — **SWITCHGEAR. Montevideo.**—Supply of switchgear for fifteen transformer sub-stations converting a.c. at 50 cycles from 6,600 to 220 volts. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 6666/F.L./E.P.(D.).)

November 4.—**CABLES. Montevideo.**—Supply of three-phase high-tension (6,600 volts) cable and accessories. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 6666/F.L./E.P.(C.).)

November 11.—**TURBO-ALTERNATOR. Montevideo, Uruguay.**—Construction, delivery, and erection in the State power-house at Montevideo of a turbo-alternator of 10,000-kw. capacity to run at 3,000 r.p.m., together with the necessary condensing plant and accessories, for the State Electric Light Works. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1. (Ref. 3667/F.L./E.P.)

November 21.—**SWITCHBOARD PARTS. Australia.**—Supply of switchboard parts, schedule 67 (Nov. 21) for the Commonwealth of Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 28.—**SWITCHGEAR. Mangahao, N.Z.**—Supervision of the erection, and of the testing after erection, of outdoor switchgear (section 21) and indoor switchgear (section 33) for the Khandallah sub-station forming part of the Mangahao power scheme, for the Public Works Tender Board. Apply Department of Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Ref. 9468/Ed./E.P.) Deposit £100.

November 28.—**TRANSFORMERS. Wellington.**—The Public Works Tender Board, Wellington, are inviting tenders for the manufacture, supply, and delivery, ex ship's slings Auckland, of two exciter transformers in connection with the Waikato power scheme, section 57. The transformers are required to transform three-phase 50-cycle power at 5,250 volts between phases to power at 400 volts between phases, and will be used for supplying power to 220 k.w. exciter units in the power house at Horahora. They are to be of the oil-filled and self-cooled type, and to be rated 275 k.v.a. 93 per cent. power factor. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

November 29.—**TRUCKS, &c. Melbourne.**—The Victorian Railways Commissioners are calling for tenders for supply of three electric industrial trucks, one trailer, and two spare batteries. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1. Deposit half per cent. (Reference D.O.T./9623/E.D./E.C.).

December 15.—**PLANT. Wellington.**—The Southland Electric Power Board are calling for tenders for supply and delivery of plant and material. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1.

December 20.—**ELECTRIC CRANES AND LIFTS FOR EGYPT. Alexandria.**—The Administration of Ports and Lighthouses, Alexandria, is inviting tenders for fixed and moveable lifting apparatus for service at the port of Alexandria. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

January 15-31.—**PLANT. Melbourne.**—Supply, delivery, &c., of plant for the Morwell power scheme, for the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £2 2s.

ENGINEERING.

October 19.—**GIRDER BRIDGES. Bengal.**—Five-deck span girder bridges, 100 ft. span, for the Bengal-Nagpur Railway Co., Ltd. Apply Company's Offices, 132 Gresham House, Old Broad Street, London, E.C.2. Deposit £1 1s.

October 19.—**RETAINING WALL. Bristol.**—Construction of a retaining wall and subsidiary works at Powder House Point, on the north bank of the River Avon, between Netham and Hanham locks, for the Docks Committee. Apply Mr. T. A. Peace, Engineer, Avonmouth Dock.

October 20.—**PUMPS, &c. Antwerp.**—The Municipal Authorities at Antwerp invite tenders for (a) two horse-drawn portable steam pumps for emptying cesspits; (b) five galvanized steel cylindrical sewage tanks, mounted on wheels, 30 hectolitres capacity; (c) 14 (in three lots) four-wheeled sewage carts of 3 cubic metres capacity. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1. (Reference D.O.T./16994/F.W.)

October 21.—**DESTRUCTOR UNIT. Birmingham.**—Supply and erection of a new destructor unit at the Montague Street destructor works, for the Salvage and Stables Committee. Tenders are to include pneumatic suction plants, the dismantling of the existing building and old cells, the erection of new building and approach roadway, also erection and supply of machinery for screening and elevating the refuse. Apply Mr. J Jackson, Superintendent, Salvage Department, Council House, Birmingham. Deposit £1 1s.

October 21.—**BOREHOLE. Stevenage.**—Sinking a borehole at the bottom of an existing well and supplying a pump for use in such borehole, for the Stevenage Urban District Council. Apply Mr. W. O. Times, Clerk, Council Offices, Stevenage. Deposit £2 2s.

October 23.—**TANKS. Atherstone.**—Construction of two service tanks having capacities of 75,000 gallons and 63,000 respectively, in solid concrete, for the Atherstone Rural District Council. Apply Mr. H. J. Coleby, Engineer and Surveyor to the Council. Deposit £1 1s.

October 25.—**MACHINERY. Ormskirk.**—Supply and fixing complete of the following laundry machinery, for the Guardians, viz.:—One ironing and finishing machine, 108 in. by 24 in., and one steam-heated garment press (make to be stated). Apply Mr. A. H. Whitaker, Master of the Poor Law Institution, Ormskirk.

October 27. — **STRENGTHENING CULVERT. Chester-le-Street.**—Lining with brickwork the Chester Dene culvert, for the Durham County Council. Apply Mr. A. E. Brookes, M.I.C.E.

October 28.—**BRIDGE. Grantham.**—Construction of a ferro-concrete highway bridge over the River Witham at Whalebone Lane, Little Ponton, for the Grantham Rural District Council. Apply Mr. A. H. Malim, Clerk, 79 Westgate, Grantham, or at the offices of the Engineer, Mr. E. J. Silcock, M.I.C.E., 17 Victoria Street, Westminster, and 10 Park Row, Leeds. Deposit £5.

(*Continued on page* xxxii)

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October 28.—**DREDGING PLANT. Newcastle-upon-Tyne.**—Construction and delivery in the Tyne of one non-propelled centre ladder barge-loading bucket dredger, four single screw steel steam hopper barges, each with a hopper capacity of 800 tons, for the Tyne Improvement Commissioners. Apply Mr. J. MacDonald Manson, General Manager and Secretary, Bewick Street, Newcastle-upon-Tyne. Deposit £5 5s.

October 30.—**BRIDGE. Hull.**—Railway bridge in connection with Chanterlands Avenue extension, for the Hull Corporation. The work consists of abutments, wing walls, piling, &c., and steel girders, stanchions, flooring, &c., total weight of steelwork 150 tons. Apply Mr. F. W. Bricknell, M.I.C.E., City Engineer, Guildhall, Hull. Deposit £1.

November 1.—**MOTOR TOWER WAGON. Edinburgh.**—Supply and delivery of one 20-25 h.p. motor tower wagon, for the Corporation. Apply Tramways Manager, 2 St. James Square, Edinburgh.

November 15.—**TUBULAR POLES. Perth.**—The Postmaster-General's Department, Perth, Western Australia, is inviting tenders for supply and delivery of 1,490 galvanized tubular poles. Apply Department of Overseas Trade (Room 47), 35 Old Queen Street, S.W.1.

November 15.—**TUBULAR POLES. Australia.**—Supply of 1,500 galvanized iron or steel tubular poles for telegraph poles, 20 ft. long, schedule 755. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 16.—**GEAR WHEELS. Johannesburg.**—28 tramcar gear wheels (contract No. 965), for the Municipal Council of Johannesburg. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria: Specification No. 282: Coal-handling plant for Morwell power station and briquetting works. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2.

PAINTING.

October 19.—**REDECORATING. Ashford.**—Redecoration of the dining-hall at the West London District Schools, Ashford, Middlesex, for the Managers. Apply Mr. J. L. Gosling, Superintendent.

October 19.—**PAINTING. Plymouth.**—(1) Painting at Mount Gold Hospital, (2) painting at Swilly Hospital, and (3) repairs (carpenters', concretors' and plasterers' work) at Mount Gold and Swilly Hospitals, for the Corporation. Apply Office of Mr. T. Peirson Frank, Borough Engineer, Municipal Offices, Plymouth.

October 19.—**PAINTING. Sheffield.**—External painting required to be done to 195 houses at High Wincobank, for the Estates Committee. Apply Mr. F. E. P. Edwards, City Architect, Town Hall, Sheffield.

October 20.—**PAINTING. Wicklow.**—Painting the external woodwork and ironwork of the Wicklow Technical School. Apply Mr. F. F. MacCarthy, Principal and Secretary, Technical School, Wicklow.

October 21.—**PAINTING, &c. Coton Hill, Staffs.**—Painting, &c., work to be carried out during the winter at the Coton Hill Mental Hospital, Stafford. Apply to the Clerk.

October 21.—**PAINTING. Sheffield.**—Outside painting of the Union Hospital, Firvale, Sheffield, for the Guardians of Sheffield Union. Apply Union Offices, Westbar, Sheffield.

October 21.—**PAINTING. Stafford.**—Painting the exterior of the Borough Hall and other corporate property, for the Corporation. Apply Mr. W. Plant, A.M.I.C.E., Borough Engineer, Borough Hall, Stafford.

ROADS AND SEWERS.

October 19.—**GRANITE. Guildford.**—Supply of granite during year ending March 31, 1923, for the Guildford Rural District Council. Apply Surveyor, Mr. J. Anstee, C.E., Council's Offices, Commercial Road, Guildford.

October 19.—**MAKING-UP. Southend-on-Sea.**—Making-up of Dundonald Drive and Woodfield Park Drive, for the Corporation. Apply Mr. R. H. Dyer, Borough Engineer and Surveyor. Deposit £2.

October 19-30.—**SEWERAGE WORKS. Brynmawr.**—For the construction of sewage purification works and about 1,300 lin. yds. of outfall sewer by local unemployed labour, for the Brynmawr Urban District Council. Apply Council Offices, Brynmawr, where the Engineer will be in attendance from 10 a.m. to 5 p.m. on October 18 and 19, or W. J. Lomax, 11 Fold Street, Bolton. Deposit £5.

October 20.—**ROADMAKING. New Barnet.**—Kerbing, surfacing with tarmac, tar paving and hoggin, &c., of the roads and paths on the Conyers Park housing estate, New Barnet, for the East Barnet Valley Urban District Council. Apply Mr. H. York, A.M.I.C.E., F.S.I., Surveyor to the Council, Council Offices, Station Road, New Barnet. Deposit £1.

October 21.—**SEWERS, &c. Swindon.**—Laying of sewers and road construction work at their Hurst housing estate, for the Town Council. Apply Office of the Borough Engineer, Mr. S. C. Baggott, 34 Regent Circus, Swindon.

October 21.—**OUTFALL WORKS. Margate.**—Construction of sewage outfall works, buildings, screens and pump. Apply Mr. E. A. Borg, Borough Engineer and Surveyor, 13 Grosvenor Place, Margate.

October 23.—**ROAD IMPROVEMENT. Mitcham.**—Road improvement in Church Road and Christchurch Road, Mitcham, for the Mitcham Urban District Council. Apply Surveyor's Office, Broadway House, London Road, Lower Mitcham.

October 23.—**SEWERS. Sheerness.**—Construction of about 1,640 lineal yards of stoneware pipe sewers, varying from 12 in. to 6 in. diameter, together with manholes and other incidental works, for the Sheerness Urban District Council. Apply Council Offices, Trinity Road, Sheerness. Deposit £5.

October 23.—**SANITARY PIPES. Alnwick.**—Providing and laying 92 yards of 9 in. sanitary pipes at South Togston, for the Alnwick Rural District Council. Apply Mr. T. Henderson, Togston Crescent, Alnwick.

October 24.—**SEWER. Congleton.**—Providing and laying a 9 in. sewer at Wheelock Heath, approximately 230 yards, for the Congleton Rural District Council. Apply Mr. H. Ferrand, Clerk, Crewe Road, Sandbach.

October 25.—**STREET IMPROVEMENTS. Wood Green.**—Private street improvements in Durnsford Road (section II), within the urban district, for the Wood Green Urban District Council. Apply Engineer and Surveyor to the Council. Deposit £1 1s.

October 28.—**PAVING. Paddington.**—Paving, &c., the carriageway and footways of Biddulph Road, from Elgin Avenue to Lauderdale Road, for the Paddington Borough Council. Apply Borough Surveyor's Office, Town Hall, Paddington, W.2. Deposit £1 1s.

October 30.—**SEWAGE DISPOSAL WORKS. Newark-on-Trent.**—Construction and erection of concrete detritus chambers, screening chambers, storage tank, No. 12 Dortmund settling tanks and No. 8 mud-drying beds and other appurtenant works at Newark-on-Trent, for the Corporation. Apply Messrs. W. H. Radford and Son, Albion Chambers, King Street, Nottingham. Deposit £3 3s.

October 31.—**SEWERAGE WORKS. Doncaster.**—Construction of the following works, for the Corporation: Storm overflow chambers, screening chambers and screen house, detritus tanks, new pumping station sub-structure, storm water tanks, sludge lagoons, culverts, river-retaining walls, 21 in. cast-iron rising main, &c. Apply Offices of Mr. F. Oscar Kirby, A.M.I.C.E., Borough Engineer, 2 Priory Place, Doncaster. Deposit £5 5s.

TENDERS

Cottages at Chelsfield.—The tender of Messrs. Chas. Groom, Sons & Co., Ltd., of The Manor House, Drayton Green, West Ealing, W. (£10,736), has been submitted to the Ministry of Agriculture for approval, for the erection of twenty-three detached cottages at Skeet Hill, Chelsfield, for the Kent County Council. Mr. W. H. Robinson, F.S.Arc., is the architect.

New Premises, Bexley Welling Council School.—The tender of Messrs. Cox Bros., of 22 Stone Street, Maidstone, is recommended for acceptance at £12,313, for the erection of premises at Bexley Welling Council School, for the Kent Education Committee. Mr. W. H. Robinson, F.S.Arc., is the county education architect.

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Geekoduct Conduit.

The General Electric Co., Ltd., of Magnet House, Kingsway, London, W.C.2, have sent us a copy of the new edition of their catalogue section dealing with the Geekoduct conduit. The prices in the list have all been revised to include all reductions in price of material and labour to date. Copies may be obtained on application to Magnet House, or any of the provincial branches of the company.

Change of Address.

The business in the area covered by the Liverpool branch of Messrs. W. T. Henley's Telegraph Works Company, Ltd., has increased to such a large extent that the company find it necessary to take larger premises at 37–41 Duke Street, Liverpool. Communications should now be sent to that address instead of to 91 Whitechapel. The increased accommodation will enable the firm to carry larger stocks of electric wires and cables, flexible cords, jointing materials, tapes, boxes, etc., and the branch manager, Mr. W. S. Campbell, will give close personal attention to enquiries and orders. The new telephone number will be Liverpool, Royal 790, but the telegraph address ("Henletel" Liverpool) remains the same.

New Wharf for Percy C. Webb.

Messrs. Percy C. Webb, Ltd., have moved to large new waterside premises at Marble Wharf, Verney Road, Old Kent Road, on the Surrey Canal. The equipment at the works includes the following: Carborundum, frame and rip saws, rubbing tables, polishing machines, and moulding and electrical hand tools. On the wharf is a large electrical crane which serves the depot and the works buildings. With the increased plant and the more extensive accommodation at Verney Road, the firm will be able to give their clients better and speedier service than was ever possible at the old works. The office accommodation is excellent. There is a large general office, offices for the chief, the accountants, the drawing staff, and the works manager, a rest room for the staff, and a consulting room for the use of clients. Although situated in the south of London, the wharf is easily accessible. It is served by regular 'bus and tram routes from the "Elephant and Castle," which connect with the main London termini and all the London districts. Messrs. Webb invite any friends who are interested to inspect their new facilities.

New Warehouse for Manchester.

Work has been begun on the site, in Third Avenue, Trafford Park, Manchester, of the new building for Messrs. Richard Johnson, Clapham and Morris, Ltd. Mr. Arthur Clayton, M.S.A., is the architect. The site measures over 9,000 square yards. On the ground floor of the building the bulk of the goods of the company will be dealt with, the first floor being used only for the lighter goods. The American experience of Mr. A. L. Johnson, the managing director, and the general experience of the company has proved this to be the best method. Sidings, a motor garage, and road access will be provided. The first story will be formed by galleries cantilevered from the roof columns, and special arrangements will be made for connection across the various bays. Since 1918, owing to increased business, which outgrew the capacity of the Lever Street warehouses, the company have been in urgent need of additional accommodation. This has been partly met by the acquisition from time to time of bays in the "Hives" in Moseley Road, Trafford Park, and large sheds in Trafford Park. The decision of the company to erect the new building is the result of still further increased business. The contractors are Messrs. J. Byrom, Ltd., of Bury, and the engineering work is being carried out by Messrs. Johnson's Reinforced Concrete Engineering Company, Ltd.—a subsidiary company of Messrs. Richard Johnson, Clapham and Morris, Ltd. It is anticipated that the new building will be completed by this time next year. The Lever Street premises of the company will be continued as head offices, showrooms, etc.

Subsidy Houses in Birmingham

In Birmingham 757 houses have been erected by private enterprise under the Government's Subsidy Scheme. The final date for completion of houses erected under this scheme expired on June 23, and so far as is known there are no further applications to be received from builders in regard to houses completed by that date.

The subsidy applied to all houses having an area of not more than 1,400 ft. super and with not more than four bedrooms. The original amount of the subsidy was: for a house not less than 920 ft. super, £160; 780 ft. super, £140; 700 ft. super, £130. These amounts, however, were increased in May, 1920, by £100 in respect to houses commenced after April 1, 1920, and by £50 in such instances where commencement had been made before that date. Two-thirds of these amounts were payable in respect to buildings classified as of a temporary character. The first certificate "A" (which approves of plans as satisfying the Ministry's requirements) was issued by the Department on January 27, 1920, and in all 320 certificates have been granted covering 928 houses, classified as under: Houses, brick built, 672; concrete, 8. Bungalows, brick built, 142; concrete, 33. Timber-framed (permanent type), 50 (Standard Housing, etc.); timber-framed (temporary type), 9; pise-de-terre, 1. Flats, 13—giving a total of 928.

In some cases these houses were not proceeded with, and the final position of Birmingham in regard to houses erected by private builders under the Act is as follows: Houses, brick built, 565; concrete, 4. Bungalows, brick built, 113; concrete, 29. Timber-framed (permanent type), 35; timber-framed (temporary type), 9; pise-de-terre, 1. Flats, 1—giving a total of 757. Builders in the city have benefited to the extent of £191,386 13s. 4d., or an average of £252 16s. 5d. per house.

The committee have had 15,715 applications for houses under the Corporation scheme, and 2,150 applicants have been allotted houses.

The Paving of Old London

A great deal of unnecessary fuss has been made because a few of the streets of London are "up," says "The Morning Post." Let us be patient. London streets are far wider, cleaner, healthier, and more comfortable than they were two hundred years ago, when Gay instructed his fellows in the art of walking them. . . . The pavement of London was a matter of faith—the evidence of things not seen. A freestone pavement was laid in some of the principal thoroughfares about 300 years ago, and after the Great Fire it was ordered that all streets called High were to be "paved round, in causeway fashion." Early in the nineteenth century an experiment was made with blocks of cast iron in the form of square paving-stones, and covered with gravel; but the method was not a success. Later, although some of the streets had a flat paving of freestone, the narrow streets kept to the round stones hammered into the ground. "Petrified kidneys" they were sometimes called, and very painful they sometimes were. Posts protected the pathway, but there were no kerbs. In the middle of the street [says Besant] ran a gutter, sometimes foul, sometimes a succession of stagnant and noisome puddles, sometimes a rapid stream, the splashing from which, when a cart or a carriage passed along, was fatal to white stockings and neatly brushed shoes. . . . They knew nothing of broad streets with comfortable footways and horseways paved with wood or asphalt. No "rough pavement wounds the yielding tread" nowadays, and we should be patient when either Oxford Street or Fleet Street is "up." The temporary inconvenience makes for the permanent comfort.

Westminster Technical Institute

At the Westminster Technical Institute group courses of instruction have been arranged to enable students engaged in the offices of architects, surveyors, quantity surveyors, or builders, and in the building trades to follow out a systematic course of study extending over several years. The courses involve attendance for three or four evenings a week.

Students of the R.I.B.A., the Surveyors' Institute; and the Society of Architects who thus supplement their practical experience in their offices and on the works by a little enthusiasm and conscientious study on the lines suggested should be capable of passing the professional examinations of their respective Institutions on the completion of the full courses.

Homework is set each week and arrangements are made during the session to visit buildings in course of erection, museums and other places of architectural interest.

The staff of the Institute includes the following: F. G. Steed, A.R.C.S. (technical drawing); W. J. Wilsdon, Lic. R.I.B.A., and Major F. C. Webster, O.B.E., A.R.I.B.A., F.S.I. (building construction); M. J. Dawson, F.R.I.B.A. (architectural drawing, design and history of architecture); L. Lickis, F.S.I. (builders' quantities); and F. S. Mumford, P.A.S.I., M.R.San.I. (building laws, valuations, and sanitary science).

Housing Progress in Scotland

The following figures show the progress that has been made in State-aided housing schemes in Scotland to September 30 :—

Permanent houses completed ..	11,584
Temporary houses completed ..	665
Reconstructed houses completed	89
Houses completed under the Private Subsidy Scheme ..	2,146
	14,484

There are 7,794 houses at present under construction in connection with housing schemes carried out by local authorities and public utility societies.

The total amount paid by the Scottish Board of Health in respect of the 2,146 houses completed under the private subsidy schemes is £519,447.

Under section 67 of the Housing of the Working Classes Act, 1890, the Public Works Loan Commissioners are empowered to advance loans out of the funds at their disposal to certain companies, societies, and individuals for the purpose of constructing or improving, or of facilitating or encouraging the construction or improvement of dwellings for the working classes. Under that Act the amount of money that could be advanced by the Public Works Loan Commissioners could not exceed one-half of the value of the properties in respect of which the loan was obtained.

Section 4 of the Public Works Loans Act, 1922, provides, however, that, in the application of the above Section to any company, established for the above-mentioned purpose, which does not trade for profit, or whose constitution forbids the issue of any share or loan capital with interest or dividend exceeding the rate for the time being prescribed by the Treasury, the money to be advanced by the Loan Commissioners to such companies, on the security of a mortgage of any land or dwellings solely, may be increased to 75 per cent. of the value of the land or dwellings to be mortgaged, but in such cases the Commissioners are required by the Act to obtain, in addition to the mortgage, a further security of such value as they may think fit.

By minute dated September 29 the Treasury have for the time being fixed at 6 per cent. per annum the rate of interest or dividend on share or loan capital which must not be exceeded by any company wishing to obtain such loans.

The present rate of interest fixed by the Treasury in the case of such loans by the Loan Commissioners is 5 per cent. in respect of loans for periods not exceeding thirty years, and 5¼ per cent. in respect of loans not exceeding forty years, which is the maximum period allowed under section 67 of the 1890 Act for repayment of the loans.

The Scottish Board of Health have decided to discontinue the fluctuating basis of contract under which the final cost varies according to any alterations made in the standard rates of wages during the execution of the work. In future, contractors will be asked to tender on a firm basis as in pre-war days.

300-Year-old Gate at an Inn

During the demolition of the old Pelican Inn at Weybridge numbers of stones forming part of a one-time famous gateway were discovered lying hidden in the foundations. According to Dr. Eric Gardner, an entrance gate was built by Inigo Jones in 1617 for James I during his residence at Oatlands Palace. The gate was pulled down in 1728, but re-erected by Lord Lincoln in the Oatlands estate. About 1850 the gate was again pulled down and sold as building material to a man named Liberty, after which it was lost, but it has just reappeared in the foundations of the old inn. The original plans of Inigo Jones are still in existence, so that the gate can be reconstructed in the same style. The stones, which are considered to be good specimens of the architecture of several centuries ago, have not all been recovered yet. Dr. Gardner has appealed to the Weybridge District Council to prevent the stones from being broken up. The council has agreed to acquire them, and the gate will probably be reconstructed as an entrance to the local recreation ground.

The British Empire Exhibition

Forty-five plans, submitted in connection with the stadium of the British Empire Exhibition at Wembley have been formally disapproved by the Wembley Urban District Council. The Council have taken this action on the ground that they cannot take the responsibility of deciding as to the stability of works of such magnitude.

Mr. C. R. W. Chapman, the surveyor to the Council, in his report, stated that the undertaking was of such unusual magnitude that to attempt to express an opinion in one direction or the other would seem presumptuous, seeing that the authorities themselves had had unlimited means of securing the best expert and specialists' advice. The Council would not fail, he said, to remember the unique slip which occurred to the retaining wall of the Great Central Railway cutting a few years ago that left a somewhat apprehensive feeling in the minds of many with regard to the placing of so vast and concentrated a weight as that of the proposed stadium at the back of the same railway cutting, although at a different point. He understood, however, that the Great Central Railway had been consulted, and the site of the stadium removed far enough from the cutting.

The Council have informed the contractors that, in view of the surveyor's report, there being no precedent for an urban authority dealing with a work of such magnitude, they did not feel justified in taking upon themselves the responsibility of deciding as to the stability or otherwise of the proposed erections.

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BUILDING.

October 26.—**ALTERATIONS. London, E.**—Work at their relief offices at Raine Street, Old Gravel Lane, E.1, for the Guardians of St. George-in-the-East: Forming a new gateway in the wall in Raine Street; removing a 4½ in. brick wall on second floor; renovating and redecorating first and second floors and installing electric light therein. Apply Mr. R. M. Lochner, Clerk, Raine Street, Old Gravel Lane, E.1.

October 26.—**OVERHAULING. London, E.**—Overhauling the structures and improving the general repair of the relief offices and dispensary at 28 Cannon Street Road, E.1, for the St. George-in-the-East Board of Guardians. Apply Mr. R. M. Lochner, Clerk, Raine Street, Old Gravel Lane, E.1.

October 26.—**CONVERTING. St. Pancras.**—Converting two wards at the house, 4 King's Road, N.W.1, into a home for hospital nurses, for the St. Pancras Board of Guardians. Apply Mr. B. Chapman, Clerk, Town Hall, Pancras Road, N.W.1. Deposit £5.

October 27.—**ENGINE-HOUSE, &c. Deptford.**—Construction of an engine-house, chimney shaft, boiler setting, drainage, alterations to existing buildings, and other contingent works at Deptford Pumping Station, Brookmill Road, Deptford, in the Metropolitan Borough of Deptford, for the Metropolitan Water Board. Apply Offices of the Board, Chief Engineer's Department (Room 201), New River Head, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £5.

October 27.—**ENGINE-HOUSE, &c. Lea Bridge.**—Construction of engine-house, addition to and alteration to existing buildings, boiler setting, &c., at Lea Bridge Pumping Station, Lea Bridge Road, in the urban district of Leyton, for the Metropolitan Water Board. Apply Offices of the Board, Chief Engineer's Department (Room 201), New River Head, 173 Rosebery Avenue, Clerkenwell, E.C.1. Deposit £5.

October 27.—**ENLARGEMENT. King's Cross.**—Enlargement of the Branch Post Office, King's Cross, London, N., for H.M.O.W. Apply Superintendent of the Works, H.M. Office of Works, Cornwallis Road, Holloway, N. Deposit £1 1s.

October 27.—**BUILDING. Newtonmore.**—Building to be erected at the Hotel, Newtonmore, for Mr. G. Main. Apply Mr. A. Cattanach, Kingussie, or at the Hotel, Newtonmore.

October 28.—**SCHOOL. Prescot, Lancs.**—Erection of a new secondary school of semi-permanent construction, for 260 boys, at Prescot, near Liverpool, for the Lancashire Education Committee. Apply Mr. H. Littler, 16 Ribblesdale Place, Preston. Deposit £2.

October 28.—**HOUSES. Irvine.**—Works in connection with 18 additional houses to be erected in connection with the Bank Street housing scheme, for the Town Council. Apply to Messrs. D. Gillies, A. R. Wilson, Joint Town Clerks, Council Chambers, Irvine, mentioning trades for which schedules are desired, viz.:—(1) Digger and brick; (2) carpenter and joiner; (3) glazier; (4) slater and roughcasting; (5) plumber; (6) plaster; (7) drains and entrance paths. Apply Mr. J. Armour, Architect, Bridgegate, Irvine, who will point out the site to intending tenderers. Deposit £1 1s.

October 28.—**SUB-STATION. Cwm, Mon.**—Erection of an electrical sub-station proposed to be erected at Cwm Road, Cwm, Mon., for the Ebbw Vale Urban District Council. Apply Mr. P. I. Davies, Engineer and Surveyor, Council Offices, Ebbw Vale. Deposit £2.

October 28.—**POLICE STATION. Eastleigh, Hants.**—Erection of a police station and four cottages. Deposit £5 5s. Construction of ferro-concrete floors, stairs, and flat roofs to the police station, on the Hennebique system. Deposit £2 2s. Apply Mr. A. L. Roberts, County Architect, The Castle, Winchester.

October 28.—**CONVENIENCE. Musselburgh.**—Erection of a public convenience at Eskside South, for the Town Council. Apply Burgh Surveyor's Offices, Municipal Buildings.

October 28.—**ROOFING. Pytchley, Northants.**—Roofing of four cottages with 24 gauge corrugated iron on top of present thatched roof, for the Pytchley Parish Council. Apply Mr. E. B. Stanley, Chairman of Parish Council.

October 28.—**ADAPTATION. St. Erth, Cornwall.**—Adaptation and repair of an existing cottage at Trenhayle Farm, St. Erth, for the Cornwall County Council. Apply County Land Agent, County Hall, Truro. Deposit £1 1s.

October 28.—**FOUNDATIONS. Harrogate.**—Construction of foundations and a short culvert at the Company's Works, Ripon Road, Harrogate, for the Harrogate Gas Co. Apply Mr. H. Robinson, A.M.I.C.E., Engineer, Gas Office, James Street, Harrogate.

October 30.—**RENOVATIONS, &c. Bathpool, Cornwall.**—Making renovations, &c., to the Wesleyan Chapel, Bathpool, for the Trustees. Apply Mr. H. P. Budge, Uphill, North Hill, or Mr. H. R. Venning, L.R.I.B.A., Greenbank Lane, Liskeard.

October 31.—**BUNGALOW. Newtown, Cardigan.**—Erection of a bungalow for Capt. Richards, at Newtown, Cardigan. Apply Capt. Richards, Aleybryn, Kilgerran, S.O.

October 31.—**ALTERATIONS, &c. Kinghorn, Kirkcaldy.**—Alterations and additions to Kirkcaldy Combination Poorhouse, Kinghorn. Apply Mr. W. Williamson, F.R.I.B.A. Deposit £1 1s.

November 1.—**CONVERTING. Bishopstoke.**—Conversion of the Mount, Bishopstoke, into a tuberculosis sanatorium. Apply Mr. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s.

November 1.—**BUILDING WORKS. Paddington.**—Conversion of certain buildings at 5 Woodfield Road, W.9, into residences for the staff, for the Paddington Board of Guardians. Apply Mr. H. P. Adams, F.R.I.B.A., 9 Knightsbridge, Hyde Park Corner, S.W. Deposit £3 3s.

November 2.—**HOUSES. Lanchester.**—Erection of 14 Class A two-story houses at Lanchester, for the Lanchester Rural District Council. Apply Mr. T. E. Taylor, L.R.I.B.A., Union Offices, Lanchester.

November 3.—**WORKS AND REPAIRS. War Department Contracts.**—Works and repairs for the undermentioned stations and divisions in the Woolwich Royal Engineer district. Contract 3, Guildford; contract 4, Brighton; contract 5, Chichester. Apply Commanding Royal Engineer, Royal Engineer Office, New Road, Woolwich, S.E.18.

November 7.—**COTTAGE. Chingford.**—Providing a cottage at their refuse disposal works, for the Chingford Urban District Council. Apply Mr. L. C. Bowen, Clerk, Council Offices, Chingford, E.4.

November 10.—**HOUSES. Tividale.**—Erection of 12 houses at Rowley Regis and 16 houses at Tividale, for the Rowley Regis Urban District Council. Apply Council House, Old Hill.

November 30.—**PALACE. Barcelona.**—In construction of the Grand Palace of Nations. Apply Don José y Cadafalch, offices of the exhibition (Lerida Street), and Dept. of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

No Date.—**HOUSE. Grange-over-Sands.**—Erection of a dwelling-house in Fernhill Road, Grange-over-Sands. Apply Heather Glen, Grange-over-Sands.

No Date.—**LAUNDRY, &c. Halifax.**—Erection of laundry at Dunkirk, and garage and stock room in Old Cock Yard. Apply Jackson and Fox, 7 Rawson Street, Halifax.

No Date.—**HOUSES. Bournville.**—Erection of 26 houses on Bournville estate. Apply Architect, Estate Office, Bournville.

No Date.—**BUNGALOW. Meavy, Devon.**—Erection of a bungalow at Meavy, Yelverton. Apply Mr. T. H. Harris, Trelawny Road, Tavistock.

No Date.—**HOUSES. Old Kilpatrick, Dumbarton.**—Erection of nine blocks of 24 houses at Old Kilpatrick on ground abutting the main highway at Gavinburn Place, for the Eastern District Committee of the County of Dumbarton. Apply Mr. J. Weekes, 88 College Street, Dumbarton.

No Date.—**HALL. St. Teath, Cornwall.**—Erection of church hall. Apply Rev. Claude Kingdon, St. Teath.

No Date.—**ALTERATIONS, &c. Seaton Delaval.**—Alterations and additions to property situated at Seaton Terrace. Apply Seaton Delaval Co-operative Society.

No Date.—**ALTERATIONS, &c. Stainland.**—Alterations and additions to "Old Bradley Hall," Stainland, for the Bradley Hall Golf Club. Apply Messrs. Hinchliffe & Co. (George E. Hinchliffe, L.R.I.A., B.A.), Architect, Tower Chambers, Silver Street, Halifax.

ELECTRICAL.

October 27.—**TRANSFORMERS. Nottingham.**—Manufacture, delivery, and erection of the following engineering works in connection with the North Wilford power station, for the Nottingham Corporation, viz: Section C—two 650-k.v.a. three-phase static transformers; two 900-k.v.a. six-phase static transformers; one 150-k.v.a. single-phase static transformer. Section G—three steam turbine-driven boiler-feed pumps, each for 25,000 gallons per hour, with three exhaust steam heating nozzles. Section L—four gravity bucket coal conveyors, with crushers, &c. Section M—accumulators, &c. Apply Messrs. Preece, Cardew and Rider, 8 Queen Anne's Gate, Westminster, S.W.1. Deposit £5 for each section.

October 30.—**ELECTRIC PLANT. Alexandria.**—Supply of a direct-coupled steam-engine and alternator, and switchboard for the Electric Power House, Gabbary, Alexandria. Apply Room 49 of the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

October 31.—**SWITCHGEAR. Montevideo.**—Supply of switchgear for fifteen transformer sub-stations converting a.c. at 50 cycles from 6,600 to 220 volts. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 6666/F.L./E.P.(D.).)

November 1.—**ELECTRIC LIFT. Rochdale.**—Erection at one of their hospital blocks at Birch Hill, Dearnley, near Rochdale, of an electric lift, for the Guardians of Rochdale Union. Apply Mr. R. A. Leach, Clerk, Union Offices, Townhead, Rochdale.

November 4.—**PLANT. Wicklow.**—Supply of the following, for the Wicklow Urban District Council:—(Section a) semi-Diesel engines and dynamos; (b) booster; (c) switchboard; (d) battery; (e) overhead mains, house services. Apply to the Consulting Engineers, Messrs. J. P. Tierney & Co., 44 Kildare Street, Dublin. Deposit £2 2s.

November 4.—**CABLES. Montevideo.**—Supply of three-phase high-tension (6,600 volts) cable and accessories. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 6666/F.L./E.P.(C.).)

November 6.—**CONTROL PANEL, &c. London, S.E.**—Manufacture, supply and erection of control panel and switchgear connections for No. 4 generator at Greenwich power station, for the London County Council. Apply Clerk of the Council, County Hall, Westminster Bridge, S.E.1 (Room No. 215). Deposit £2.

November 11.—**TURBO-ALTERNATOR. Montevideo, Uruguay.**—Construction, delivery, and erection in the State power-house at Montevideo of a turbo-alternator of 10,000-kw. capacity to run at 3,000 r.p.m., together with the necessary condensing plant and accessories, for the State Electric Light Works. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1. (Ref. 3667/F.L./E.P.)

November 15.—**CRANES. Riga.**—Latvian Marine Department are inviting tenders for eight electrically driven rotating cranes for the Riga Customs Yard. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, S.W.1.

November 21.—**SWITCHBOARD PARTS. Australia.**—Supply of switchboard parts, schedule 67 (Nov. 21) for the Commonwealth of Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 28.—**SWITCHGEAR. Mangahao, N.Z.**—Supervision of the erection, and of the testing after erection, of outdoor switchgear (section 21) and indoor switchgear (section 33) for the Khandallah sub-station forming part of the Mangahao power scheme, for the Public Works Tender Board. Apply Department of Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Ref. 9468/Ed./E.P.) Deposit £100.

November 28.—**TRANSFORMERS. Wellington.**—The Public Works Tender Board, Wellington, are inviting tenders for the manufacture, supply, and delivery, ex ship's slings Auckland, of two exciter transformers in connection with the Waikato power scheme, section 57 The transformers are required to transform three-phase 50-cycle power at 5,250 volts between phases to power at 400 volts between phases, and will be used for supplying power to 220 k.w. exciter units in the power house at Horahora. They are to be of the oil-filled and self-cooled type, and to be rated 275 k.v.a. 93 per cent. power factor Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

November 29.—**TRUCKS, &c. Melbourne.**—The Victorian Railways Commissioners are calling for tenders for supply of three electric industrial trucks, one trailer, and two spare batteries. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street London, S.W.1. Deposit half per cent. (Reference D.O.T./9623/E.D./E.C.)

December 15.—**PLANT. Wellington.**—The Southland Electric Power Board are calling for tenders for supply and delivery of plant and material. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1.

December 20.—**ELECTRIC CRANES AND LIFTS FOR EGYPT. Alexandria.**—The Administration o Ports and Lighthouses, Alexandria, is inviting tender for fixed and moveable lifting apparatus for service at th port of Alexandria. Apply Department of Oversea Trade (Room 50), 35 Old Queen Street, London, S.W.1.

January 9.—**CRANE. New Zealand.**—Supply an delivery of one electric travelling crane in connectio with the Waikato power scheme, section 58. The cran is to be designed for lifting, traversing and travellin loads up to 27 tons. Apply Department of Oversea Trade (Room 50), 35 Old Queen Street, Westminster London, S.W.1.

January 15-31.—**PLANT. Melbourne.**—Supply delivery, &c., of plant for the Morwell power scheme, fo the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand London, W.C.2. Deposit £2 2s.

ENGINEERING.

October 26.—**WATER SUPPLY WORKS. Stokenchurch.**—Erection of a reinforced-concrete water towe with service tank of 10,000 gallons capacity, engine house, and store-room in connection with the Stokenchurch water supply, for the Wycombe Rural Distric Council. Apply Messrs. Lucas and Pyke, 39 Victori Street, Westminster, S.W.1. Deposit £1.

(*Continued on page* xlii.)

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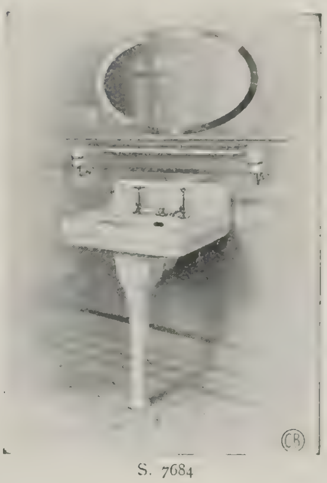

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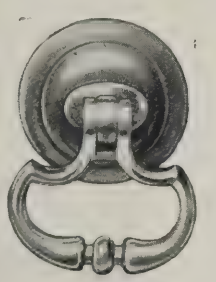

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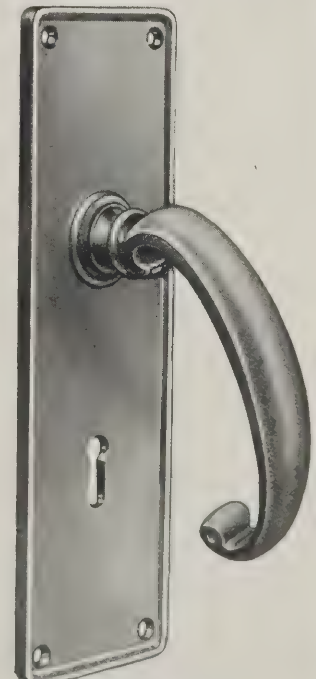

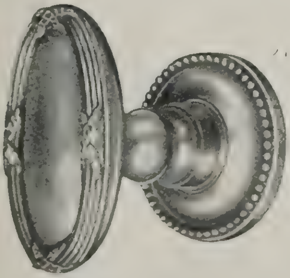

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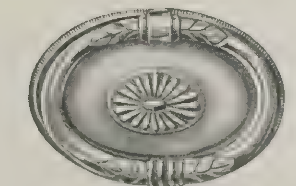

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October 26.—**HEATING PLANT, &c. Newport, Mon.**—(1) Supply and installation of a new heating plant at their nurses' home, Springfield, Woolaston House, Newport; (2) repairs to house occupied by the gardener at Caerleon Infirmary; (3) adaptation of hospital building at Caerleon for use as a boys' home, for the Guardians. Apply to the Workhouse Master, Woolaston House, Stow Hill, Newport.

October 27.—**WATER SUPPLY WORKS. Llanbedr.**—Providing and laying about 3,000 lineal yards of 3 in. cast-iron pipes, together with the necessary valves, hydrants, &c., also the construction of meter-house and break-pressure tank and all contingent works, for the Dolgelly Rural District Council. Apply Mr. R. Foulkes-Jones, Clerk, Bank Chambers, Llwyngwril, S.O., or the Engineer, Mr. F. J. Rodwell, A.M.I.C.E., (Spinks, Pilling and Rodwell), 37 and 38 Prudential Buildings, Park Row, Leeds. Deposit £1 1s.

October 27.—**STRENGTHENING CULVERT. Chester-le-Street.**—Lining with brickwork the Chester Dene culvert, for the Durham County Council. Apply Mr. A. E. Brookes, M.I.C.E., County Engineer and Surveyor.

October 28.—**BRIDGE WORKS. Bentley-with-Arksey and Settle.**—Works, for the West Riding County Council:—(1) Strengthening and widening in reinforced concrete of Bentley Mill Bridge (17 ft. span),; (2) reconstruction in reinforced concrete of Feather Bridge (10 ft. span). Apply West Riding Surveyor, County Hall, Wakefield. Deposit £1.

October 28.—**BRIDGE. Grantham.**—Construction of a ferro-concrete highway bridge over the River Witham at Whalebone Lane, Little Ponton, for the Grantham Rural District Council. Apply Mr. A. H. Malim, Clerk, 79 Westgate, Grantham, or at the offices of the Engineer, Mr. E. J. Silcock, M.I.C.E., 17 Victoria Street, Westminster, and 10 Park Row, Leeds. Deposit £5.

October 28.—**DREDGING PLANT. Newcastle-upon-Tyne.**—Construction and delivery in the Tyne of one non-propelled centre ladder barge-loading bucket dredger, four single screw steel steam hopper barges, each with a hopper capacity of 800 tons, for the Tyne Improvement Commissioners. Apply Mr. J. MacDonald Manson, General Manager and Secretary, Bewick Street, Newcastle-upon-Tyne. Deposit £5 5s.

October 30.—**BRIDGE. Hull.**—Railway bridge in connection with Chanterlands Avenue extension, for the Hull Corporation. The work consists of abutments, wing walls, piling, &c., and steel girders, stanchions, flooring, &c., total weight of steelwork 150 tons. Apply Mr. F. W. Bricknell, M.I.C.E., City Engineer, Guildhall, Hull. Deposit £1.

October 31.—**BRIDGE. Guyhirne, Isle of Ely.**—Erection and construction of a ferro-concrete bridge, on the Hennebique system, over the River Nene at Guyhirne, for the Isle of Ely County Council (from duly licensed Hennebique contractors). Apply Mr. H. F. Simpson, County Surveyor, Lynn Road, Wisbech.

October 31.—**SEA DEFENCES. Hythe, Kent.**—Driving of six piles and fixing the necessary bracing on the Twiss Groyne, for the Town Council. Apply Mr. J. Singleton-Green, Junr., B.Sc., Deputy Borough Surveyor.

November 1.—**BRIDGE. Failsworth.**—Construction of a bridge to carry the Royton to Failsworth arterial road over the L. and N.W. Railway at Failsworth, for the Failsworth Urban District Council. Construction of foundations, abutments, wing and parapet walls, jack-arches, steel plate girders, carriageway, footpaths, drains and appurtenant works. Apply Messrs. C. J. Lomax and Son, Civil Engineers, 37 Cross Street, Manchester. Deposit £3 3s.

November 1.—**MOTOR TOWER WAGON. Edinburgh.**—Supply and delivery of one 20-25 h.p. motor tower wagon, for the Corporation. Apply Tramways Manager, 2 St. James Square, Edinburgh.

November 14.—**POINT CONTROLLERS. Edinburgh.**—Supply, delivery, and fitting up in position of eight automatic point controllers, for the Corporation. Apply Tramways Manager, 2 St. James Square, Edinburgh.

November 15.—**TUBULAR POLES. Perth.**—The Postmaster-General's Department, Perth, Western Australia, is inviting tenders for supply and delivery of 1,490 galvanized tubular poles. Apply Department of Overseas Trade (Room 47), 35 Old Queen Street, S.W.1.

November 15.—**TUBULAR POLES. Australia.**—Supply of 1,500 galvanized iron or steel tubular poles for telegraph poles, 20 ft. long, schedule 755. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 16.—**GEAR WHEELS. Johannesburg.**—28 tramcar gear wheels (contract No. 965), for the Municipal Council of Johannesburg. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria: Specification No. 282: Coal-handling plant for Morwell power station and briquetting works. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2.

No Date.—**BRIDGE. Selby.**—Erection of a girder or ferro-concrete bridge, for the Selby Urban District Council. Apply Mr. B. Gray, A.M.I.C.E., F.R.S. (Edin.), Council Offices, Selby.

ROADS AND SEWERS.

October 28.—**PAVING. Paddington.**—Paving, &c., the carriageway and footways of Biddulph Road, from Elgin Avenue to Lauderdale Road, for the Paddington Borough Council. Apply Borough Surveyor's Office, Town Hall, Paddington, W.2. Deposit £1 1s.

October 30.—**SEWAGE DISPOSAL WORKS. Newark-on-Trent.**—Construction and erection of concrete detritus chambers, screening chambers, storage tank, No. 12 Dortmund settling tanks and No. 8 mud-drying beds and other appurtenant works at Newark-on-Trent, for the Corporation. Apply Messrs. W. H. Radford and Son, Albion Chambers, King Street, Nottingham. Deposit £3 3s.

October 31.—**SEWERAGE WORKS. Doncaster.**—Construction of the following works, for the Corporation: Storm overflow chambers, screening chambers and screen house, detritus tanks, new pumping station sub-structure, storm water tanks, sludge lagoons, culverts, river-retaining walls, 21 in. cast-iron rising main, &c. Apply Offices of Mr. F. Oscar Kirby, A.M.I.C.E., Borough Engineer, 2 Priory Place, Doncaster. Deposit £5 5s.

October 31.—**STREET WORKS, &c. Erith.**—For the Urban District Council, viz.:—Street Works—Widening Albert Road, Brook Street, Erith Road, and Woolwich Road, Belvedere. Sewerage Works—Construction of sewer between Riverdale Road, Erith, and the River Thames; construction of sewer, West Heath, Abbey Wood, to Bedonwell Road, Belvedere. Apply Surveyor's Office, Bexley Road, Erith. Deposit £1.

November 6.—**ROAD WIDENING, &c. Skipton.**—Works in connection with the Keighley Road, widening and covering of the Skibeden Beck, which includes masonry, retaining walls, concrete invert and superstructure, 20 in. by 7½ in. girders, steel troughing and stanchions, sett paving, flagging, mastic asphalte surfacing, &c., for the Skipton Urban District Council. Apply Mr. A. E. W. Aldridge, Surveyor, Town Hall, Skipton. Deposit £2.

TENDERS.

Cottages at Chelsfield.—The tender of Messrs. Chas. Groom, Sons & Co., Ltd., of The Manor House, Drayton Green, West Ealing, W. (£10,736), has been submitted to the Ministry of Agriculture for approval, for the erection of twenty-three detached cottages at Skeet Hill, Chelsfield, for the Kent County Council. Mr. W. H. Robinson, F.S.Arc., is the architect.

New Premises, Bexley Welling Council School.—The tender of Messrs. Cox Bros., of 22 Stone Street, Maidstone, is recommended for acceptance at £12,313, for the erection of premises at Bexley Welling Council School, for the Kent Education Committee. Mr. W. H. Robinson, F.S.Arc., is the county education architect.

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SOUTHWARK STREET, LONDON, S.E.

Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only, and should be confirmed by Trade inquiry. The Labour Rates are those current at the time of issue and are the Union Rates The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary. The measured prices are based upon the foregoing, and include usual Builders' profit.

LABOUR RATES AND MATERIAL PRICES. — MEASURED WORK PRICES.

EXCAVATOR AND CONCRETOR.

Excavator, 1s. 3d. per hour.
Labourer, 1s. 3d. per hour.
Navvy, 1s. 3d. per hour.
Timberman, 1s. 5d. per hour.
Scaffolder, 1s. 4d. per hour.
Watchman, 6s. 6d. per shift.

Broken brick or stone, 2 in., 9s. per yd.
Thames ballast, 13s. per yd.
Pit gravel, 15s. per yd.
Pit sand, 16s. per yd.
Washed sand, 18s. per yd.
Screened ballast or gravel, add 10 per cent. per yd.
Clinker, breeze, etc., prices according to locality.
Portland cement, 69s. per ton.
Lias lime, 59s. per ton.
Sacks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.
Transport hire per day :
  Cart and horse, 22s.
  3-ton motor lorry, £4.
  Steam lorry, 5-ton, £4 10s.
  Trailer, 20s.
  Steam roller, £4 5s.
  Water cart, 25s.

Excavating and throwing out in ordinary earth not exceeding 6 ft. deep basis price 3s. per yd. cube.
Exceeding 6 ft., but under 12 ft., add 25 per cent.
In stiff clay, add 50 per cent.
In underpinning, add 120 per cent.
In rock, including blasting, add 225 per cent.
If basketed out, add 80 per cent. to 150 per cent.
Headings, including timbering, add 400 per cent.
Return, fill, and ram, ordinary earth, 3s. 6d. per yd.
Spread and level, including wheeling, 3s. 3d. per yd.
Planking, 4d. per ft. sup.
Do. over 10 ft. deep, add for each 5 ft. depth 40 per cent.
Hardcore, 2 in. ring, filled and rammed 4 in. thick, 2s. 6d. per yd. sup.
Do. 6 in. thick, 3s. per yd. sup.
Puddling, 28s. per yd. cube.
Cement concrete, 4-2-1, 42s. per yd. cube.
Do. 6-2-1, 37s. per yd. cube.
Do. in upper floors, add 15 per cent.
Do. in ferro-concrete work, add 20 per cent.
Do. in underpinning, add 60 per cent.
Lias lime concrete, 36s. per yd. cube.
Breeze concrete, 28s. per yd. cube.
Do. in lintols, etc., 2s. 2d. per ft. cube.

DRAINER.

Labourer, 1s. 3d. per hour.
Timberman, 1s. 5d. per hour.
Bricklayer, 1s. 8d. per hour.
Plumber, 1s. 8½d. per hour.
Watchman, 6s. 6d. per shift.

Stoneware pipes, tested quality, 4-in. 1s. 6d., 6-in. 3s., 9-in. 4s. 3d. per yd.
Cast iron pipes, coated, 9-ft. lengths, 4-in. 5s. 6d., 6-in. 8s. 0d. per yd.
Portland cement and sand, see "Excavator" above.
Lead for caulking, 34s. 6d. per cwt.
Gaskin, 6d. per lb.

Stoneware drains, jointed in cement, tested pipes, 4 in. 2s. 6d., 6 in. 3s. 6d., 9 in. 4s. 9d. per ft.
Cast-iron drains, jointed in lead, 4 in. 10s. 0d., 6 in. 14s. per ft.
Note.—These prices include digging and filling for normal depths, and are average prices.
Fittings in Stoneware and Iron according to type. *See* Trade Lists.

BRICKLAYER.

Bricklayer, 1s. 8d. per hour.
Labourer, 1s. 3d. per hour.
Scaffolder, 1s. 4d. per hour.

London stocks, 82s. per M.
Flettons, 61s. per M.
Staffordshire blue, 205s. per M.
Firebricks, 2½ in., 225s. per M.
Glazed salt, white, and ivory stretchers, £24 per M.
Do. headers, £23 10s. per M.
Colours, extra, 110s. per M.
Seconds, less, £1 per M.
Cement and sand, see "Excavator" above.
Lime, grey stone, 59s. per ton.
Mixed lime mortar, 28s. per yd.
Damp course, in rolls of 4½ in. 4s. per roll.
  9 in. 6s. 6d., 14 in. 8s., 18 in. 9s. 3d. per roll.

Brickwork in stone lime mortar, Flettons, or equal £34 per rod
Do. in cement do., £37 per rod.
Do. in stocks, add 30 per cent. per rod.
Do. in blues, add 120 per cent. per rod.
Do. circular on plan, add 12½ per cent. per rod.
Facings, half Brick fair, 1½d. per ft. sup. extra.
Do. picked Flettons, 2d. per ft. sup. extra.
Do. picked stocks, 1½d. per ft. sup. extra.
Do. salt, white or ivory glazed, 5s. 6d. per ft. sup. extra.
Tuck pointing, 1s. per ft. sup. extra.
Weather pointing, 2d. per ft. sup. extra.
Granolithic and Cement paving, 1 in. 3s. per yd. sup.
Do. 1½ in., 4s. per yd. sup.
Do. 2 in., 4s. 9d. per yd. sup.
Fixing only damp course, ex rolls, 1d. per ft. sup.
Asphalt, damp course, ½ in., 8s. per yd. sup.
Do. vertical, 12s. per yd. sup.
Slate damp course, 1s. 3d. per ft. sup.
Asphalt Roofing (Mastic) in two thicknesses, ¾ in., 9s. per yd.
Skirting, 6 in., 1s.
2½ in. Breeze Partition Blocks, set in Cement, 6s. 3d. per yd. sup.
3 in. do. do. 8s.

MASON (INCLUDING SLATE).

Mason, 1s. 8d. per hour.
Do. fixer, 1s. 9d. per hour.
Labourer, 1s. 3d. per hour.
Scaffolder, 1s. 4d. per hour.

Portland stone :
  Whitbed, 4s. 7d. per ft. cube.
  Basebed, 4s. 8d. per ft. cube.
Bath stone, 3s. 1d. per ft. cube.
  Usual trade extras for large blocks.

Hoisting and setting stone, 2s. 0d. per ft. cube.
Do. for every 10 ft. above 30 ft., add 15 per cent.
Plain face Portland basis, 2s. 6d. per ft. sup.
Do. circular, 3s. 8d. per ft. sup.
Sunk face, 3s. 4d. per ft. sup.
Do. circular, 4s. 0d. per ft. sup.
Joints, arch, 2s. 0d. per ft. sup.
Do. sunk, 2s. 1d. per ft. sup.
Do. do. circular, 3s. 8d. per ft. sup.
Circular-circular work, 18s. 0d. per ft. sup.
Plain moulding, straight, per inch of girth, 10½d. per ft. run.
Do. circular, do. 1s. 2d. per ft. run.
Half sawing, 1s. 1d. per ft. sup.
Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES. — MEASURED WORK PRICES.

MASON—continued.

York paving, av. 2½ in. 9s. 6d. per yd. super.
York templates sawn, per ft. cube, 12s.
Slate shelves, rubbed, 1 in., 2s. 1d. per ft. sup.
Cement and sand, see "Excavator," etc., above.

Do. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
Do. for Chilmark, 5 per cent.
Setting 1 in. slate shelving in cement, 7d. per ft. sup.
Rubbed round nosing to do., 8d. per ft. lin.
York steps, rubbed T. & R., 33s. ft. cub. fixed.
York Sills W. & T. 36s. ft. cub. fixed.

SLATING AND TILING.

Slater, 1s. 7d. per hour.
Tiler, 1s. 7d. per hour.
Scaffolder, 1s. 4d. per hour.
Labourer, 1s. 3d. per hour.
N.B.—Tiling is often "Piece-work"

Slates, 1st quality, per M. :
  Portmadoc Ladies £18, Countess £39, Duchess £47.

Clips, lead, 4½d. per lb
Clips, copper, 2s. 4d. per lb.
Nails, compo, 28s per cwt.
Nails, copper, 2s. 3d. per lb.
Cement and sand, see "Excavator," etc., above.
Handmade tiles, 140s. per M.
Machine-made tiles, 130s. per M.
Westmorland slates, large, 210s. per ton, Peggies 170s. per ton.

Slating, 3 in. gauge, compo nails, Portmadoc or equal :
  Ladies 90s., Countess 100s., Duchess 105s. 0d. per square.
Westmorland, in diminishing courses, 135s. per square.
Cornish do., 125s. per square.
Add, if vertical, 10s. per square approx.
Add, if with copper nails, 7½ per cent. per square approx.
Double course at eaves, 1s. 3d. per ft. approx.
Tiling, 4 in. gauge, 5th course nailed, in hand-made tiles, average 125s. per square.
Do., machine-made do., 115s. per square.
Vertical Tiling, including pointing, add 28s. per sq.
Fixing lead soakers, 9d. per dozen.
Stripping old slates and stacking for re-use, and clearing away surplus and rubbish, 8s. 6d. per sq.
Labour only in laying slates, but including nails, 18s. 6d. per sq.
See Sundries for Asbestos Tiling.

CARPENTER AND JOINER.

Carpenter, 1s. 8d. per hour.
Joiner, 1s. 8d. per hour.
Labourer, 1s. 3d. per hour.

Timber, average prices at Docks, London Standard.

Scandinavian, etc. (equal to 2nds) :
  7 × 3, £25 per std. to 11 × 4, £36 per std.
Memel or Equal.
  Slightly less than foregoing.
Flooring P.E., 1-in., 25s. per sq.
Do. T. and G., 1 in. 25s. per sq.
Planed Boards, 1 in. × 11 in. £46 per std.
Wainscot oak, 2s. 9d. per ft. sup. of 1 in.
Mahogany, 2s. 6d. per ft. sup. of 1 in.
Do. Cuba, 3s. 9d. per ft. sup. of 1 in.
Teak, 3s. per ft. sup. of 1 in.

Fir fixed in wall plates, lintels, sleepers, etc., 6s. 0d. per ft. cube.
Do. framed in floors, roofs, etc., 8s. per ft. cube.
Do., framed in trusses, etc., including ironwork, 9s. 6d. per ft. cube.
Pitch pine, add 33½ per cent.
Fixing only boarding in floors, roofs, etc., 14s. per sq.
Sarking felt laid, 1 ply 1s. 4d., 3-ply 1s. 6d. per yd.
Centering for concrete, etc., including horsing and striking, 65s. per sq.
Slate battening, 21s. per sq.
1 in. deal gutter board on firring, 87s. 6d. per sq.
1¾ in. moulded casements in 4 sqs., glazing beads and hung, 2s. 10d. per ft. sup.
2 in. do. do., 3s. 0d. per ft. sup.
Deal cased frames, oak sills, 2 in. D.H. sashes, brass-faced pulleys, etc., 4s. 0d. per ft. sup.
Doors, 4 pan. sq. b.s., 2 in. 2s. 10d. per ft. sup.
Do. do. do., 1½ in. 2s. 9d. per ft. sup.
Do. do., moulded b.s., 2 in. 3s. 3d. per ft. sup.
Do. do. do., 1½ in. 2s. 10d. per ft. sup.
If in oak multiply 6 times.
If in mahogany multiply 6 times.
If in teak multiply 7 times.
Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, 1 in. 14s. 0d., 1¼ in. 16s. 0d. per yd. sup., average.
Do. do., 1¼ in. Maple blocks, 19s. 6d.
Staircase work, deal :
  1 in. riser, 1½ in. tread, fixed, 3s. 3d. per ft. sup.
  2 in. deal strings, fixed, 3s. 6d. per ft. sup.

PLUMBER AND RAIN-WATER GOODS.

Plumber, 1s. 8½d. per hour
Mate or labourer, 1s. 3d. per hour.

Lead, milled sheet, 34s. 6d. per cwt.
Do. drawn pipes, 35s. per cwt.
Do. soil pipe, 37s. 6d. per cwt.
Do. scrap, 21s. per cwt.
Copper, sheet, 2s. 4d. per lb.
Solder, plumbers, 10d. per lb.
Do. fine, 1s. per lb.
Cast-iron pipes, etc. :
  L.C.C. soil, 3 in. 4s. 6d., 4 in 5s. 6d. per yd.
  R.W.P., 2½ in. 2s. 2d., 3 in. 2s. 7d., 4 in. 3s. 6d. per yd.
Gutter, 4 in. H.R., 3s., 4 in. O.G., 3s. 6d. per yd.

Milled lead and labour in gutters, flashings, etc. 57s.
Lead pipe, fixed, including running joints bends, and tacks, ½ in., 1s. 6d. per ft.
Do., ¾ in., 1s. 9d. per ft.
Do., 1 in., 2s. 3d. per ft.
Do., 1¼ in., 2s. 10d. per ft.
Lead waste or soil, fixed as above, complete, 2½ in. 4s. 3d. per ft.
Do., 3 in., 5s. 3d. per ft.
Do., 4 in., 6s. per ft.
Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½ in., 2s. per ft.
Do., 3 in., 2s. 4d. per ft.
Do., 4 in., 2s. 8d. per ft.
Cast-iron H.R. gutter, fixed, with all clips, etc. 4 in., 2s. 4d. per ft.
Do., O.G., 4 in., 2s. 9d. per ft.
Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4 in., 6s. 6d. per ft.
Do., 3 in., 5s. 6d. per ft.
Fixing only :
  W.C. pans and all joints, P. or S., and including joints to water waste preventers, 40s. each.
  Baths only, with all joints, 35s.
  Lavatory basins only, with all joints, on brackets, 25s. each.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

GLAZIER.

Glazier, 1s. 7½d. per hour.
Glass : 4th in crates :
  Clear, 21 oz. 5d., 26 oz. 6⅛d.
Cathedral white, 5½d. per ft.
  Polished Plate, British ¼ in., up to 2 ft. sup. 1s. 11d., 3 ft. sup. 2s. 5d., 7 ft. sup. 3s. 8d., 25 ft. sup. 4s. 2d., 100 ft. sup. 5s. 1d.
  Rough plate, $\frac{3}{16}$ in., 5¾d., ¼ in. 6¼d. per ft.
Linseed oil putty, 17s. per cwt.

Glazing in putty, clear sheet, 21 oz. 10d., 26 oz. 11d.
Glazing in beads, 21 oz. 1s. 0d., 26 oz. 1s. 3d. per ft.
Patent glazing in rough plate, normal span, 1s. 5d. to 1s. 10d. per ft.
Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 3s. 6d., and up, per ft. sup.
Glazing only, polished plate, 6d. to 7½d. per ft., according to size.

PLASTERER.

Plasterer, 1s. 8d. per hour.
Labourer, 1s. 3d. per hour.

Chalk lime, 57s. per ton.
Hair, 20s. per cwt.
Sand and cement, see "Excavator," etc., above.
Lime putty, 3s. 6d. per cwt.
Hair mortar, 30s. per yd.
Fine stuff, 35s. per yd.
Sawn laths, 3s. 9d. per bdl.
Keene's cement, 117s. per ton.
Sirapite, 76s. per ton.
Do. fine, 84s. per ton.
Plaster, 70s. per ton.
Do. fine, 110s. per ton.
Thistle plaster, 69s. per ton.
Lath nails, 5d. per lb.

Lathing with sawn laths, 1s. 5d. per yd.
Metal lathing, 2s. 3d. per yd.
Floating in Portland, 1 to 3, for tiling or woodblock, ¾ in., 2s. 6d. per yd.
Do., vertical, 2s. 10d. per yd.
Render, on brickwork, 1 to 3, 2s. per yd.
Render Portland and set in fine stuff, 3s. per yd.
Render, float, and set, trowelled, 2s. 9d. per yd.
Render and set in Sirapite, 3s. 0d. per yd.
Do., in Thistle plaster, 2s. 10d. per yd.
Extra, if on but not including lathing, any of foregoing, 7d. per yd.
Extra, if on ceilings, 7d. per yd.
Angles, rounded Keene's on Portland, 6d. per ft. lin.
Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin.
White glazed tiling set in Portland and jointed in Parian, 30s. per yd.
Fibrous plaster slabs, 2s. per yd.

DECORATOR.

Painter, 1s. 7d. per hour.
Labourer, 1s. 3d. per hour.
French polisher, 1s. 10d. per hour.
Paperhanger, 1s. 8d. per hour.

Genuine white lead, 54s. 6d. per cwt.
Linseed oil, raw, 3s. 9d. per gall.
Do. boiled, 4s. 1d. per gall.
Turpentine, 6s. per gall.
Liquid driers, 13s. per gall.
Knotting, 35s. per gall.
Distemper, washable, in ordinary colours, 53s. per cwt. and up.
Double size, 3s. 9d. per firkin.
Pumice stone, 7d. per lb.
Varnish, hard oak, 14s. per gall. and up.
Gold Leaf (Transferable), 2s. 4d. per book.

Lime whiting 4d. per yd. sup.
Wash, stop, and whiten, 6d. per yd. sup.
Do., and 2 coats distemper with proprietary distemper, 9½d. per yd. sup.
Knot, stop, and prime 5d. per yd. sup.
Plain painting, including mouldings, and on plaster or joinery, 1st coat, 10d. per yd. sup.
Do., subsequent coats, 8½d. per yd. sup.
Do., enamel coat, 1s. 2d. per yd. sup.
Brush-grain, and 2 coats varnish, 3s. 6d. per yd. sup.
Figured do. do., 5s. per yd. sup.
French polishing, 1s. 6d. per ft. sup.
Stripping old paper and preparing, 1s. 6d. per piece.
Hanging paper, ordinary, 1s. 9d. per piece.
Do., fine, 2s. 3d. and upwards per piece.
Varnishing paper, 1 coat, 10s. per piece.
Canvas, strained and fixed, 2s. 9d. per yd. sup.
Varnishing, hard oak, 1st coat, 1s. 3d. yd. sup.
Do., each subsequent coat, 1s. per yd. sup.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

DECORATOR—continued.

Varnish copal, 20s. per gall. and up.
Do. Flat, 20s. per gall.
Do. Paper, 17s. per gall.
French polish, 29s. per gall.
Ready mixed paints, 12s. per gall. and up.

STEELWORK, SMITHWORK, etc.

Smith, Weekly Rate = 1s. 7¾d. per hour.
Mate, Do. 1s. 3d.
Erector, 1s. 7¾d. per hour.
Fitter, 1s. 7¾d. per hour.
Labourer, 1s. 3d. per hour.

Mild steel in British standard sections, £14 per ton.
Sheet steel :
  Flat sheets, black, £28 per ton.
  Do. Galvd., £32 per ton.
Corrugated sheets, galvd., £28 per ton.
Driving screws, galvd., 2s. 10d. per grs.
Washers,galvd.,1s.10d. per grs.
Bolts and nuts, 45s. per cwt. and up.

Mild steel in trusses, etc., erected, £28 per ton.
Do., in small sections as reinforcement, £18 per ton.
Do., in compounds, £20 per ton.
Do., in bar or rod reinforcement, £21 per ton.
Wrot. iron in chimney bars, etc., including building in, 40s. per cwt.
Do., in light railings and balusters, 47s. per cwt.
Fixing only corrugated sheeting, including washer, and driving screws, 2s. per yd.

SUNDRIES.

Fibre or wood pulp boardings, 3½d. per ft. sup.
Plaster Board, 1s. 9d. per yd. sup.
Asbestos sheeting, $\frac{5}{32}$ in., grey flat, 3s. 0d. per yd. sup.
Do. corrugated, 5s. 0d. per yd. sup.
Asbestos composition.
  Flooring :

Metal casements for wood frames, domestic sizes, 1s. 9d. per ft. sup.
Do. in metal frames, 2s. per ft. sup.
Asbestos cement slates or tiles, $\frac{5}{32}$ in. punched per M. grey £18, red £20.
Waterproofing compounds for cement.

Fibre boardings, fixed on, but not including studs or grounds, 6d. per ft. sup.
Plaster Board, fixed as last, 2s. 6d. per yd. sup.

Asbestos sheeting, fixed as last, flat, 3s. 9d. per yd. sup.
Do. do., corrugated, 5s. 10d. per yd. sup.

Laid in two coats, average ¾ in. thick, in plain colour, 10s. 0d. per yd. sup. Do. ½ in. thick, suitable for domestic work unpolished, 7s. 6d. per yd.

Hanging only metal casements in, but not including wood frames, 2s. 6d. each.

Building in metal casement frames 6d. per ft. sup.

Asbestos slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey 55s. 0d., red 60s. 0d.

Add about 75 per cent. to 100 per cent. to the cost of cement used.

PLYWOOD.

3 m/m Alder 2¼d. per ft. sup.
4½ m/m Amer. White 3¾d. per ft. sup.
5 m/m Figured Ash 5d. per ft. sup.
4½ m/m 3rd Quality, Composite Birch 1½d. per ft. sup.

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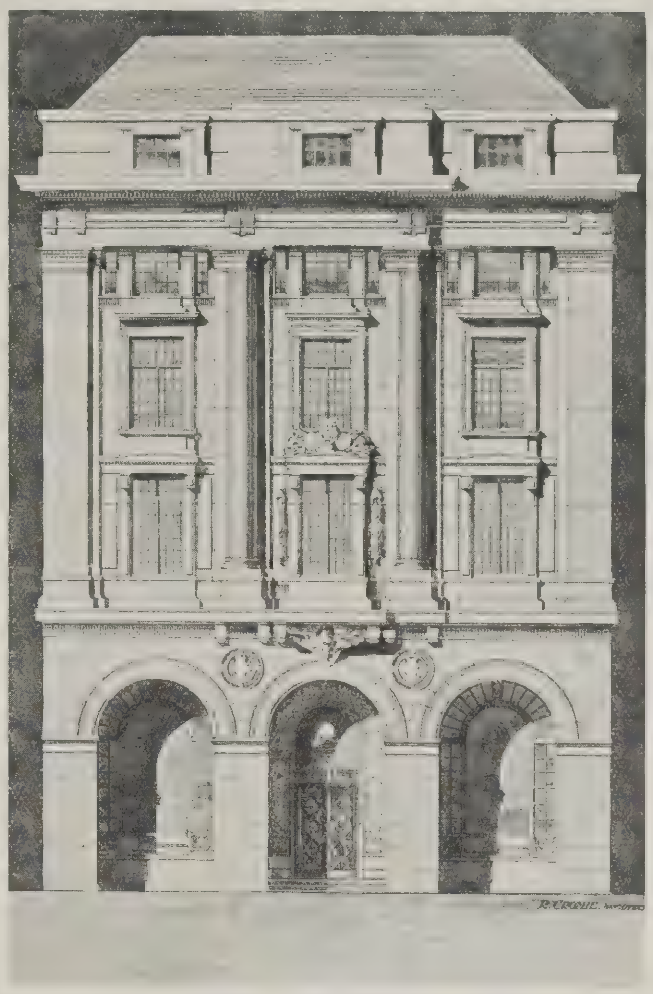

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CONTRACTS OPEN

Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING.

November 1-20.—**HOUSES. Yeovil.**—Erection of 20 non-parlour houses in Goldcroft, Yeovil, for the Town Council. Apply Council's Architects, Messrs. Petter and Warren, FF.R.I.B.A., "Old Sarum" House, Yeovil, November 1. Deposit £2 2s.

November 2.—**HOUSES. Lanchester.**—Erection of 14 Class A two-story houses at Lanchester, for the Lanchester Rural District Council. Apply Mr. T. E. Taylor, L.R.I.B.A., Union Offices, Lanchester.

November 3.—**WORKS AND REPAIRS. War Department Contracts.**—Works and repairs for the undermentioned stations and divisions in the Woolwich Royal Engineer district. Contract 3, Guildford; contract 4, Brighton; contract 5, Chichester. Apply Commanding Royal Engineer, Royal Engineer Office, New Road, Woolwich, S.E.18.

November 4.—**ALTERATIONS. Stratton St. Margaret, Wilts.**—Alterations at the Institution, Stratton St. Margaret, for the Guardians of Swindon and Highworth Union. Apply Union Offices, 17 Bath Road, Swindon.

November 6.—**INSTITUTE. Bridlington.**—Erection at the Union Institute in Marton Road of a motor garage, for the Guardians. Apply Mr. J. R. Earnshaw, Architect, Cliff Street Chambers, Bridlington.

November 6.—**ADAPTATION. Exeter.**—Adaptation of a portion of the Higher Market, Queen Street, into an assembly hall, with ancillary rooms, for the Exeter City Council. Apply City Architect's Office, 2 Southernay West. Deposit £2.

November 6.—**HOUSES. Maesteg.**—Erection of an additional 20 houses on the Park site, Maesteg, for the Maesteg U.D.C. Apply Mr. S. J. Harpur, M.S.A., Talbot Street, Maesteg. Deposit £2 2s.

November 6.—**EXTENSION. Portsoy.**—Proposed extension at Portsoy Public School, for the County of Banff Education Authority. Apply Mr. J. Wood, A.R.I.B.A., Architect, Education Office, East Church Street, Buckie.

November 7.—**REPAIRS AND MATERIALS. War Department Contract, Shrewsbury.**—Artificers' works contract from December 1, 1922, in the following engineer district in the Command: Wrexham Division, R.E. Office, 3 Belmont, Shrewsbury. Apply Commanding Royal Engineer.

November 7.—**COTTAGE. Chingford.**—Providing a cottage at their refuse disposal works, for the Chingford Urban District Council. Apply Mr. L. C. Bowen, Clerk, Council Offices, Chingford, E.4.

November 8.—**POST OFFICE. Darwen.**—Erection of a new post office at Darwen, Lancashire, for H.M.O.W. Apply Postmaster, Darwen, or Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

November 8.—**ALTERATIONS. Hendon.**—Alterations to Nurses' Home to provide additional bedrooms, &c., at Colindale Hospital, Colindale Avenue, Hendon, N.W.9, for the Metropolitan Asylums Board. Apply Mr. T. Cooper, M.I.C.E., M.I.M.E., Engineer-in-Chief, or Office of the Board, Embankment, E.C.4. Deposit £1.

November 9.—**HOUSE. Morpeth.**—Re-erection of the manager's house, for the Stakeford Social Club, Ltd. Apply Mr. C. F. Murphy, Architect, Lloyds Bank Chambers, Morpeth.

November 10.—**HOUSES. Tividale.**—Erection of 12 houses at Rowley Regis and 16 houses at Tividale, for the Rowley Regis Urban District Council. Apply Council House, Old Hill.

November 10.—**HOUSE. Hammersmith.**—Erection of a detached house in Western Avenue new housing estate, Hammersmith. Apply Mr. J. E. Franck, F.R.I.B.A., 1 New Court, Lincoln's Inn. Deposit £2 2s.

November 11.—**MONUMENT. Netherthong, Yorks.**—Making and erection of a monument in Bradford stone, as a memorial to the fallen, at a cost of not more than £150. Apply Hon. Secretary, Mr. T. Dyson, Moorgate, Netherthong, Thongsbridge.

November 13.—**COWHOUSE, &c. Colchester.**—Erection of a new cowhouse and additions to existing farm buildings at the Severalls Mental Hospital, near Colchester, for the Essex County Council. Apply County Architect, Old Court, Springfield, Chelmsford, or at the hospital.

November 14.—**HOUSES. Warsop, Notts.**—Erection of 100 houses near Welbeck Colliery, Warsop, Notts, for the New Hucknall Colliery Co., Ltd., near Mansfield, Notts. Apply Head Office, New Hucknall Colliery, near Mansfield. Deposit £5 5s.

November 20.—**ENGINE-HOUSE. Isle of Dogs.**—Construction of an engine-house in brick and concrete, with slate roof, and foundations for engines, pumps, and auxiliary machinery; also the construction of supply, suction, and delivery culverts, and a penstock chamber and other subsidiary works at the Isle of Dogs pumping station, for the London County Council. Apply Chief Engineer to the Council, at the Old County Hall, Spring Gardens, S.W.1. Deposit £5.

November 30.—**PALACE. Barcelona.**—In construction of the Grand Palace of Nations. Apply Don José y Cadafalch, offices of the exhibition (Lerida Street), and Dept. of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

No Date.—**WORKS. Falkirk.**—Works in connection with additional housing scheme. Apply Mr. W. Gibson, Director of Housing, Arnotdale, Falkirk.

No Date.—**BUNGALOW. Hannafore, Cornwall.**—Erection of a bungalow at Hannafore. Apply Mr. H. Shapcott, Looe.

ELECTRICAL.

November 4.—**PLANT. Wicklow.**—Supply of the following, for the Wicklow Urban District Council:—(Section a) semi-Diesel engines and dynamos; (b) booster; (c) switchboard; (d) battery; (e) overhead mains, house services. Apply to the Consulting Engineers, Messrs. J. P. Tierney & Co., 44 Kildare Street, Dublin. Deposit £2 2s.

November 4.—**CABLES. Montevideo.**—Supply of three-phase high-tension (6,600 volts) cable and accessories. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1. (Ref. 6655/F.L./E.P.(C.).)

November 4.—**SWITCHGEAR. Torquay.**—Supply, delivery, and erection of e.h.t. switchgear for Newton Abbot power station and main sub-station at Torquay, for the Corporation. Apply Mr. H. F. G. Woods, Borough Electrical Engineer and Manager, Electricity Offices, Town Hall, Torquay. Deposit £2 2s.

November 6.—**CONTROL PANEL, &c. London, S.E.**—Manufacture, supply and erection of control panel and switchgear connections for No. 4 generator at Greenwich power station, for the London County Council. Apply Clerk of the Council, County Hall, Westminster Bridge, S.E.1 (Room No. 215). Deposit £2.

November 10.—**TURBO-ALTERNATOR, &c. Aberdeen.**—Supply, delivery, and erection at their electricity works of one 10,000-kw. turbo-alternator with surface condenser and auxiliaries for the Corporation. Apply Office of the City Electrical Engineer, Millburn Street, Aberdeen. Deposit £5 5s.

November 11.—**TURBO-ALTERNATOR. Montevideo, Uruguay.**—Construction, delivery, and erection in the State power-house at Montevideo of a turbo-alternator of 10,000-kw. capacity to run at 3,000 r.p.m., together with the necessary condensing plant and accessories, for the State Electric Light Works. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1. (Ref. 3667/F.L./E.P.)

November 13.—**CABLE. Warrington.**—Supply of high and low tension paper and lead covered cable, for the Electricity and Tramways Committee. Apply Mr. F. V. L. Mathias, Borough Electrical and Tramways Engineer, Howley, Warrington. Deposit £1 1s.

November 14.—**TURBO-ALTERNATOR. Bristol.**—Supply, delivery, and erection of one 4,000 k.v.a. single-phase (93 periodicity) continuously rated steam turbo-alternator, complete with condensing plant, for the Electrical Committee. Apply Mr. H. F. Proctor, M.I.C.E., M.I.E.E., Chief Engineer and General Manager, The Exchange, Bristol. Deposit £2 2s.

November 15.—**CRANES. Riga.**—Latvian Marine Department are inviting tenders for eight electrically driven rotating cranes for the Riga Customs Yard. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, S.W.1.

November 21.—**SWITCHBOARD PARTS. Australia.**—Supply of switchboard parts, schedule 67 (Nov. 21) for the Commonwealth of Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 23.—**SWITCHGEAR, &c. Pretoria.**—His Majesty's Trade Commissioner in South Africa reports that the date for the presentation of tenders for above has been extended from November 9 until 12 noon on November 23.

November 23.—**POLE FITTINGS, &c. Pretoria, S.A.**—Electric Supply and Tramways Department of the Pretoria Municipality is inviting tenders for supply of pole fittings, insulators, &c. Apply Department of Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Reference 9798/E.D./E.P.)

November 28.—**SWITCHGEAR. Mangahao, N.Z.**—Supervision of the erection, and of the testing after erection, of outdoor switchgear (section 21) and indoor switchgear (section 33) for the Khandallah sub-station forming part of the Mangahao power scheme, for the Public Works Tender Board. Apply Department of Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Ref. 9468/Ed./E.P.) Deposit £100.

November 28.—**TRANSFORMERS. Wellington.**—The Public Works Tender Board, Wellington, are inviting tenders for the manufacture, supply, and delivery, ex ship's slings Auckland, of two exciter transformers in connection with the Waikato power scheme, section 57 The transformers are required to transform three-phase 50-cycle power at 5,250 volts between phases to power at 400 volts between phases, and will be used for supplying power to 220 k.w. exciter units in the power house at Horahora. They are to be of the oil-filled and self-cooled type, and to be rated 275 k.v.a. 93 per cent. power factor. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

November 29.—**TRUCKS, &c. Melbourne.**—The Victorian Railways Commissioners are calling for tenders for supply of three electric industrial trucks, one trailer, and two spare batteries. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1. Deposit half per cent. (Reference D.O.T./9623/E.D./E.C.)

December 15.—**PLANT. Wellington.**—The Southland Electric Power Board are calling for tender for supply and delivery of plant and material. Appl Department of Overseas Trade (Room 49), 35 Old Quee Street, Westminster, S.W.1.

December 20.—**ELECTRIC CRANES AND LIFTS FOR EGYPT. Alexandria.**—The Administration o Ports and Lighthouses, Alexandria, is inviting tender for fixed and moveable lifting apparatus for service at th port of Alexandria. Apply Department of Oversea Trade (Room 50), 35 Old Queen Street, London, S.W.1

January 9.—**CRANE. New Zealand.**—Supply an delivery of one electric travelling crane in connectio with the Waikato power scheme, section 58. The cran is to be designed for lifting, traversing and travellin loads up to 27 tons. Apply Department of Oversea Trade (Room 50), 35 Old Queen Street, Westminste London, S.W.1.

January 15-31.—**PLANT. Melbourne.**—Supply delivery, &c., of plant for the Morwell power scheme, fo the State Electricity Commission of Victoria. Appl Agent-General for Victoria, Melbourne Place, Strand London, W.C.2. Deposit £2 2s.

ENGINEERING.

November 3.—**FENCING, &c. Edinburgh.**—Fo (1) wood fencing and gates, and (2) hedges, for the Tow Council, for 360 houses at Wardie, all in accordanc with schedules of quantities. Apply Messrs. Fairbairn Lightbody and Cownie, FF.S., Surveyors, 53 Quee Street, Edinburgh.

November 3.—**PUMP. Cleethorpes.**—Supply of secondhand sand pump suitable for pumping sand on th foreshore, for the Urban District Council. Apply M L. W. Pye, A.M.I.C.E., Engineer and Surveyor, Counci Offices, Cleethorpes.

November 4.—**DOCKING. London, E.C.**—Docking and undocking the ambulance steamer "Red Cross," for the Metropolitan Asylums Board. Apply Office o the Board, Embankment, E.C.4.

November 8.—**OVERBRIDGE, &c. London, S.W**—Supply of (1) overbridge; (2) steel material for construction of wagons, &c.; and (3) wheels and axles, fo the Bombay, Baroda and Central India Railway Company. Apply The White Mansion, 91 Petty France Westminster, S.W.1. Deposit £1 each for Nos. 1 and and 10s. for No. 3.

November 10.—**WATER MAIN. Nuneaton.**—Excavating for and the haulage, laying and jointing o about 430 yards of 15 in. diameter and about 1,600 yard of 12 in. diameter cast-iron water main, for the Corporation. Apply Mr. R. C. Moon, A.M.I.C.E., Water Engineer, Queen's Road, Nuneaton. Deposit £2 2s.

November 14.—**POINT CONTROLLERS. Edinburgh.**—Supply, delivery, and fitting up in position o eight automatic point controllers, for the Corporation Apply Tramways Manager, 2 St. James Square, Edinburgh.

November 15.—**BOILERS, &c. South Shields.**—Manufacture, delivery and erection complete, at th Corporation Electricity Works, West Holborn, Sout Shields, of two water-tube boilers, with mechanica stokers, superheaters, economisers, induced draugh plant, and steel chimney; also for ash-handling plant an extension to boiler-house, for the Corporation. Appl Mr. J. Edgar, Electricity Offices, Victoria Terrace South Shields. Deposit £2 2s.

November 15.—**TUBULAR POLES. Perth.**—Th Postmaster-General's Department, Perth, Wester Australia, is inviting tenders for supply and delivery o 1,490 galvanized tubular poles. Apply Department o Overseas Trade (Room 47), 35 Old Queen Street, S.W.1

November 15.—**TUBULAR POLES. Australia.**—Supply of 1,500 galvanized iron or steel tubular pole for telegraph poles, 20 ft. long, schedule 755. Appl Supply Officer, Room 101, Australia House, Stran London, W.C.2.

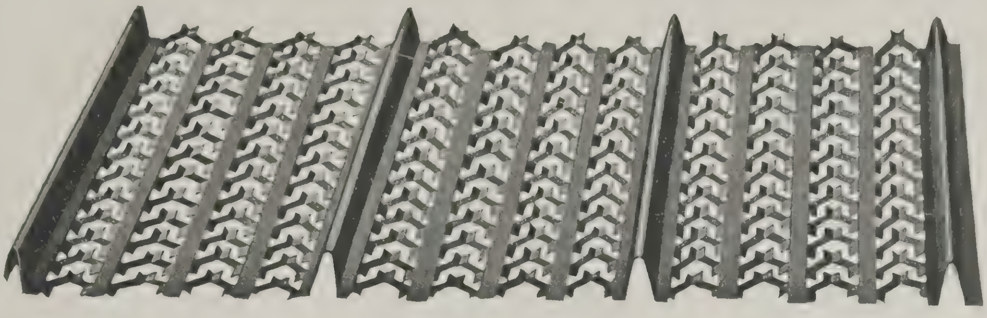
November 16.—**GEAR WHEELS. Johannesburg**—28 tramcar gear wheels (contract No. 965), for th Municipal Council of Johannesburg. Apply Departmen of Overseas Trade (Room 50), 35 Old Queen Stree London, S.W.1.

November 18.—**TUBES. Johannesburg, S.A.**—Hi Majesty's Senior Trade Commissioner in South Afric reports that the Municipal Council of Johannesbur invites tenders for supply and delivery at Presiden Street store of 128 large and 128 small solid-drawn ste superheater tubes, 1½ in. outside diameter, No. 9 s.w.g for 17,000 lb. Babcock and Wilcox boiler, in accordanc with drawing No. 1,511, dated September 12, 1922 (Contract 977.) A deposit of 10 per cent. of the tota amount of the tender. Apply Department of Oversea Trade (Room 47), 35 Old Queen Street, Westminste S.W.1. (Ref. 9855/E.D./E.P.)

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Appl Department of Overseas Trade, 35 Old Queen Stree London, S.W.1.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for th Morwell power scheme, for the State Electricity Commission of Victoria: Specification No. 282: Coal-handlin plant for Morwell power station and briquetting works Apply Agent-General for Victoria, Melbourne Plac Strand, London, W.C.2.

(*Continued on page* xxiv.)



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January 19.—**PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria: Specification No. 23-4.—Steam turbine-driven boiler feed pumps. Apply to Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £1 1s.

No Date.—**FENCING, &c. Cardiff.**—Supplying and fixing approximately 1,436 yards of six wire reinforced concrete post and wire fencing at Craigwen, Penyrheol, and Caerphilly, for the Glamorgan Agricultural Committee. Apply the County Land Agent, 30 Park Place, Cardiff.

PAINTING.

November 6.—**PAINTING. Tolworth.**—External and internal painting at their Isolation Hospital, Red Lion Road, Tolworth, Surrey, for the Tolworth Joint Hospital Board. Apply Mr. A. J. Hardwick, Architect and Surveyor, Eagle Chambers, Kingston-on-Thames.

November 6.—**PAINTING. West Ham.**—Painting works and the construction of a light steel roof over screening chamber at the Abbey Mills pumping station, West Ham, for the London County Council. Apply Chief Engineer of the Council, at the Old County Hall, Spring Gardens, S.W.1. Deposit £1.

November 6.—**PAINTING. Beckton.**—Painting works at the main drainage works, Northern Outfall, near Beckton, East Ham, E.6, for the London County Council. Apply Chief Engineer of the Council, at the Old County Hall, Spring Gardens, S.W.1. Deposit £1.

November 7.—**PAINTING. Rochdale.**—Painters' work, for the Libraries Committee:—(a) Rochdale Free Public Library basement, internal painting; (b) Castleton Branch Library, internal painting. Particulars from the Borough Surveyor, Town Hall, Rochdale. Apply Mr. W. H. Hickson.

November 8.—**CLEANING AND PAINTING. London, S.E.**—Cleaning and painting works and repairs at Goldie Leigh Homes, Abbey Wood, S.E.2, for the Metropolitan Asylums Board. Apply Office of the Board, Embankment, E.C.4. Deposit £1.

ROADS AND SEWERS.

November 3.—**ROADS. Pontypool.**—Providing and fixing kerb and channel, making-up of footpaths, and top metalling and rolling roads, Penygarn housing scheme, Penygarn, Pontypool, for the Abersychan Urban District Council. Apply Mr. O. P. Bevan, Station Road, Bargoed, and at the Works Office, Penygarn.

November 4.—**IMPROVEMENT WORKS. Halifax.**—Private improvement works, at Manor Drive, Halifax, for the Highways Committee. Apply Mr. Alec. C. Tipple, Borough Engineer, Crossley Street, Halifax. Deposit £1 1s.

November 6.—**ROAD WIDENING, &c. Skipton.**—Works in connection with the Keighley Road, widening and covering of the Skibeden Beck, which includes masonry, retaining walls, concrete invert and superstructure, 20 in. by 7½ in. girders, steel troughing and stanchions, sett paving, flagging, mastic asphalte surfacing, &c., for the Skipton Urban District Council. Apply Mr. A. E. W. Aldridge, Surveyor, Town Hall, Skipton. Deposit £2.

November 7.—**MAKING-UP. Portslade-by-Sea.**—Making-up and completion of the following roads within their districts, for the Urban District Council, viz. Brambledean Road, Eastbrook Road, Park Crescent, St. Michael's Road, St. Peter's Road, Vale Road, and Wolseley Road. Apply Surveyor to the Council, Mr. A. Taylor Allen, Council Offices, Portslade-by-Sea. Deposit £1 1s.

November 7.—**SANITARY PIPES, &c. Bow.**—Supply of sanitary pipes and fittings for use at the Saint Andrew's Hospital, Bow, London, E.3, for the managers of the Poplar and Stepney Sick Asylum District. Apply Mr. S. G. Wright, Clerk, Saint Andrew's Hospital, Devons Road, Bow.

November 8.—**WIDENING, &c. Fordingbridge.**—Widening and improvement of the gradient on the Cranborne, Fordingbridge, and Southampton main road, about one mile east of Fordingbridge, for the Hants County Council. Apply Mr. W. J. Taylor, County Surveyor, The Castle, Winchester. Deposit £1 1s.

November 11.—**ROAD WORKS. Chester.**—Reconstruction with granite setts on reinforced concrete foundations of the following streets, viz.:—St. Anne's Street, George Street, Gorse Stacks, Victoria Road; also for the reconstruction with natural rock asphalte on reinforced concrete foundations of the following, viz.:—City Road, for the Town Council. Apply Mr. C. Greenwood, A.M.I.C.E.

November 13.—**MAKING-UP. Mortlake.**—Making-up of the passage at the rear of Nos. 461 to 497 Upper Richmond Road, Mortlake, S.W., with reinforced concrete on a hardcore foundation, for the Barnes U.D.C. Apply Surveyor, Council House, Mortlake.

November 13.—**SUBSOIL DRAINAGE. Mortlake.**—Execution of works of subsoil drainage, &c., at Palewell Common, Mortlake, for the Barnes U.D.C. Apply Surveyor, Council House, Mortlake.

No Date.—**PAVING. Goole.**—Paving of the footpaths to 14 houses in New Close Lane and Brough Street, for the Goole Urban District Council. Apply Mr. J. H. Castle, Engineer and Surveyor, Council Offices, Goole.

Coming Events

Wednesday, November 1.

Glasgow Chapter of the Incorporation of Architects in Scotland.—Smoking concert.

Thursday, November 2.

Institution of Mechanical Engineers, Midland Branch.—"Some Future Possibilities in Mechanical Engineering." By Professor F. W. Burstall.

Birmingham University, Edmund Street.—"Ancient Town Plans." By Mr. Wm. Haywood, F.R.I.B.A. 5.30 p.m.

Friday, November 3.

Institution of Mechanical Engineers.—"Repairs to the Roof of Westminster Hall." By Sir Frank Baines, C.B.E., M.V.O., 6 p.m. Yorkshire Branch.—"The Mechanical Treatment of Structural Steel." By F. Clements.

Royal Technical College, Architectura Craftmen's Society, Glasgow.—"Artificia Illumination of Buildings." By H. C Wheat, M.I.E.S., M.A.I.E.S.

Art Workers' Guild.—Joint meeting with Junior Art Workers' Guild. "The Golden Names of the Guild."

Monday, November 6.

R.I.B.A.—President's opening address 8.30 p.m.

Tuesday, November 7.

Liverpool Architectural Society.—"Fashion and Form." By E. B. Kirby F.R.I.B.A.

Thursday, November 9.

Sheffield, South Yorkshire, and District Society of Architects and Surveyors.—"The Architecture of Two London Streets." By Professor C. H. Reilly

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Law Reports

Light and Air Dispute

Slack v. *Leeds Industrial Co-operative Soc.*

Oct. 19. Chancery Division.
Before Mr. Justice Romer.

His Lordship delivered his reserved judgment in this case, which he tried in July last, a report of which appeared in the JOURNAL at the time.

The action was brought by Mr. Charles Henry Slack, baker and confectioner, of Albion Street, Leeds, for an injunction to restrain the Leeds Industrial Co-operative Society, Ltd., of Albion Street, from erecting a building in or near Albion Square so as to cause a nuisance by the obstruction of his ancient windows as they existed before the pulling down by defendants of 15 Albion Square or so as to obstruct or interfere with the roadway of Albion Square and the free use and enjoyment by plaintiff of that right of way. Plaintiff also complained of interference with his supply of air.

His Lordship, giving judgment, said that after considering the evidence in this case, which raised several issues, he had come to the conclusion that plaintiff had failed to establish the probability that the interference with air would alone entitle him to succeed, and he must hold that Mr. Slack had failed to discharge the onus of proof which lay upon him to satisfy the Court that there would be such an interference. With regard to the issue as to the interference with the lighting, his Lordship said he was not quite convinced that the interference would be as great as the plaintiff desired to set up, but he thought there was a probability that there would be interference, and therefore he would grant an injunction against the defendants on this issue with costs. On the other issues, however, defendants must succeed, and plaintiff must pay their costs.

Questions of Professional Practice

Stott v. *Ram Spinning Co., Ltd.*

Oct. 9 and 10. Chancery Court, Manchester.
Before Mr. R. B. Lawrence, Vice-Chancellor.

This was an action brought by Abraham Henthorn Stott, who carries on business as Stott and Sons, architects and consulting engineers, at Manchester, against the Ram Spinning Co., Ltd., and the Ram Mills, Ltd., to recover £2,073 14s., the balance due to him for services rendered in connection with the construction of the Ram Mill at Chadderton, near Oldham.

Mr. C. Atkinson, K.C., and Mr. Barker appeared for the plaintiff, and the defendants were represented by Mr. J. H. Cunliffe, K.C., Mr. J. Bennett, and Mr. T. Cunliffe.

The plaintiff based his claim upon an agreement dated November 5, 1909, to pay him 5 per cent. on the total amount of the expenditure and disbursements incurred, excluding expenditure charged against revenue. He estimated that the sum which thus became due to him was £9,323 14s., of which he had received £7,250.

The defendants alleged that Mr. Stott had received from contractors secret commissions, and that a payment of £300 in respect of the services of the clerk of works ought to have been credited by him to the company.

Mr. Stott said he had been concerned in the erection of many spinning mills, and in August 1906 he approached a Mr. Smethurst to know if he was prepared to build another mill on the bill of quantities, conditions, etc., which had applied to one of the other mills. They included a provision that 2½ per cent. should be paid to his firm for quantities, and that the contractor should also pay £300 in respect of the clerk of works. The company was registered on February 14, 1907, and the Memorandum of Association stated that the objects were "to erect, equip, and work two cotton spinning mills in the neighbourhood of Oldham, for which Messrs. Stott and Sons, of Manchester, architects, shall be architects and consulting engineers." The conditions of tender were on the table at the meeting of the Board, and were too well known for any particular discussion to arise upon them. One mill was completed, the other was not.

There was no definite arrangement at the beginning as to what his firm should receive for their services, but eventually the agreement of November 5, 1909, was come to. In July 1911 four of the directors were replaced by others, but witness's connection with the company as architect did not cease. He did not press his claim while the war was going on, but during the boom in the cotton trade, in December 1919, the concern was sold to the Ram Mills, Ltd., at an enormous price, and witness put forward his claim. A writ was issued on November 16, 1920.

Mr. Cunliffe quoted from the schedule sanctioned by the R.I.B.A. in 1872, and revised by the Royal Institute in 1898. The rule as to quantities "when an architect takes out and supplies to builders quantities on which to form estimates for executing his designs, he should do so with the concurrence of his client, and it is desirable that the architect should be paid by him rather than by the builder, the cost of such quantities not being included in the commission of 5 per cent."

The witness replied that it had nothing to do with the present case. It was a special bargain. Instead of 2½ per cent. he might have made it 1 per cent. or 10 per cent.

The witness added that the 2½ per cent. was paid by all the contractors except the people who supplied the textile machinery. The reason for that was that one firm of textile machinists decided not to pay any commission except to their recognized and authorized agents, and one of the promoters had stipulated that either this firm or another should supply textile machinery.

Mr. Cunliffe pointed out that Smethurst paid Messrs. Stott more than £1,600 immediately after the first meeting of the Board, when the contracts were made. The witness said the commission became due on the issue of the first certificate. The £1,600 was in excess of 2½ per cent. upon £48,000, the amount of Smethurst's contract, it included the £300 paid in respect of the clerk of works, and other items.

Re-examined: In March last negotiations were entered into with a view to a settlement. He insisted that all charges against him must be withdrawn, and a director of the defendant company, Mr. O'Neill, told him that all charges were unreservedly withdrawn, and they wanted to get the thing settled. He had no doubt that the directors knew about the 2½ per cent. It was not the professional practice, as laid down in the rules of the Institute, to regard the work of the quantity surveyor as part of the architect's services covered by the commission of 5 per cent. It was not an uncommon practice for an architect to employ a quantity surveyor.

When an architect prepares the quantities, *qua* quantity surveyor, what is the professional practice as to the people who pay the 2½ per cent.?—The contractor. Can you see that in any respect what you did here was not in accordance with professional practice?—It was in accordance with it.

Thomas Milnes Foden, an architect practising in Manchester and Liverpool, a member of the R.I.B.A., said the work of preparing quantities was quite different from the architect's services covered by the commission of 5 per cent. Some architects themselves did the work of the quantity surveyor; others did not. It was not uncommon in Manchester for the conditions of tender to specify that 2½ per cent. for quantities should be paid by the contractor to the architect. In cross-examination the witness agreed that the client should know whether his architect or quantity surveyor received remuneration from the contractor. In his opinion the client knew. When instructions were given for quantities to be got out the client must know that someone would have to be paid for the work, and that if he himself did not pay the contractor did.

Mr. E. T. Meadows, builder, of the firm of Messrs. T. W. Meadows, Stockport, said he had thirty-five years' experience of the building trade. In bills of quantities there was always an item which included a certain percentage to be paid on the first certificate by the contractor to the architect in respect of quantities. Sometimes the client paid direct.

On behalf of the defendants Mr. William O'Neill was called, and denied that he had any authority to compromise on behalf of the company. He could not have used the words "all charges are unreservedly withdrawn," because he did not know at the time what the charges were. He asked what Mr. Stott would settle for because he wanted the matter to be cleared out of the way.

Albert Thompson, a director of the company since 1907, stated that he knew nothing of the 2½ per cent. until after the action was brought.

Joseph Platt, the secretary, said he had no suspicion that Mr. Stott was receiving the 2½ per cent. in respect of the supply of engines and other material, but he knew that architects sometimes got 2½ per cent. from contractors for preparing quantities, and he assumed that Mr. Stott had done it.

Mr. Cunliffe submitted that the improper conduct of the plaintiff entitled the company to recover the amounts he had received in respect of his remuneration under the contract, and he must account for every penny that the contractors had paid him. Secret commissions were inconsistent with the decent and honourable conduct of business in the profession of an architect, and for that reason the Courts had laid down in unmistakable terms that whenever commission was paid to the architect, even if it was only in respect of building contracts, it must be disclosed to the client and his concurrence obtained.

The Vice-Chancellor held that the counter-claim failed, and he gave judgment for the plaintiff, the amount due to be ascertained by enquiry.

Professional Classes Aid Council

The Professional Classes Aid Council (Incorporated) have issued their first annual report for the year ended April, 1922. The Council exists to relieve, or assist in relieving, distress among professional and other highly educated people and their dependants. Its predecessor, the Professional Classes War Relief Council, was founded for a similar purpose in October, 1914, when the war had already caused widespread distress. By that Council an enormous amount of valuable work was done, more than 12,000 applications being considered. Help was given to numerous musicians, artists, schoolmasters, teachers and governesses; to architects and surveyors, authors and journalists, barristers and solicitors, engineers, doctors, actors, ministers of religion, nurses, civil servants, and members of many other callings. The close of the war was far from ending distress, and in 1921 the War Relief Council was reconstituted as the Professional Classes Aid Council.

The cardinal principle of the Council is that relief should be constructive. A line is always sought which affords a prospect of rendering the applicant self-supporting. In too many instances, unfortunately, age or infirmity render any such plan impossible, the only effective relief being some form of permanent maintenance. The Council have no funds for such cases, but they have assisted numerous applicants to obtain admission to homes, or to get pensions from funds established for that purpose, and have supported them during the period of waiting.

The forms of constructive relief have been varied. The most usual has been the education of children. With this ensured the parents can often struggle on without further help and with minds comparatively at ease. The school and period of education to be given are determined, according to the circumstances of each case, by an expert Committee in consultation with the parents. Of all the objects on which money is spent by the Council, they regard their large educational outlay as the most satisfactory, and its continuance as a work of the first importance.

Relief takes many other forms. The mere gift of a sum of money has rarely proved satisfactory, and is only made in a few special cases. Sometimes a period of rest or convalescence restores a worker to a state of health in which a living can be earned.

During the year 6,024 letters were received, 7,511 letters were sent out; 746 interviews were recorded in the eleven months during which the office was open. The total number of committee meetings was 135. The number of applicants dealt with during the year was as follows: New applicants—296 advised; 66 assisted financially; 16 under consideration; 57 withdrew or did not reply; 34 unsatisfactory; 49 not within our scope; making a total of 518. Former applicants re-applied—31 advised; 19 assisted financially; 2 under consideration; 12 withdrew or did not reply; 14 unsatisfactory; 30 not within our scope; making a total of 108, and a grand total of 626.

Those who applied before April, 1921, and have been in receipt of regular assistance since the time of their application, are not included in the above figures. The greater part of the direct financial assistance given during the year was to such persons: some have been receiving help for four or even five years, the total help to certain families having exceeded £500.

The office of the Council is 251 Brompton Road, S.W.3.

Obituary

The late Mr. J. Crocker.

We regret to record the death, at the age of seventy-two, of Mr. James Crocker, of Exeter, architect and surveyor. He was a Fellow of the R.I.B.A. (1886), an Institute Silver Medallist (1875), a past president and member of the Council of the Devon and Exeter Architectural Society, and an authority on local archæology. After being educated at Shebbear College, he went to Exeter, where, in 1867, he was articled to Mr. E. H. Harbottle, to whom eventually he was managing assistant for six years. In 1876 he commenced practice on his own account, and up to the time of his death was actively engaged at his office in Castle Street, Exeter. He carried out a large amount of work, including the "Queen's Hall," the Eastgate Arcade, the Coffee Tavern, "St. Just," "Langdon," and many business premises and private houses in Exeter; a small mansion at Torrington, and numerous country houses in the surrounding district, and he was also responsible for a large number of church and chapel restoration and rebuilding schemes. He also acted as arbitrator in many important architectural disputes. In 1886 he published a valuable book, "Old Exeter," containing sketches of old houses and ceilings, etc., many of which have since been demolished. He leaves a widow and two daughters. The interment took place at Throwleigh, where deceased was born.

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New Inventions

Latest Patent Applications.

27100.—Davidson, A. J.—Ceilings, etc. October 6.

26934.—Galloway, H. L.—Building by concrete blocks. October 3.

26792.—Gayner, T. H. B.—Method of road making and paving. October 4.

26951 —Jones, D. Palmer.—Scaffolding, etc. October 5.

27049.—McWhirter, J.—Cast stone with slab of marble, etc., incorporated. October 6.

26791.—Tallack, H. T.—Surveying instruments. October 4.

27213.—Gray, A.—Sliding roof. October 9.

27830.—Hardoncourt, A. — Building blocks or bricks. October 13.

27669.—Heymann, M.—Metal coverings for walls and ceilings. October 12.

27467.—Kammerziegelges. — Manufacture of hollow bricks. October 10.

27741.—Lightbown, J.—Apparatus for use in repairing exteriors of buildings. October 13.

27840.—Tozer, F. M.—Horizontal slating, etc. October 13.

Specifications Published.

186105.—Rowse, J. A.—Manufacture of roofing and building material.

186110.—Mouchel and Partners, Ltd., L. G. and Vesian, J. S. E. de.—Reinforcement of roads, platforms, foundations, and the like.

186115.—Whiffen, C. F.—Reinforcements for concrete and like slabs, beams, posts, piles, sleepers, and slab walls.

186165.—Imperial Trust for the Encouragement of Scientific and Industrial Research, and Schryver, S. B.—Manufacture of plastic material for flooring and other purposes.

186355.—Hamon, Count L. de W.—Compositions for the manufacture of building blocks, slabs, tiles, and other articles.

186531.—Airey, Sir E.—Means or apparatus employed in the construction of concrete walls and pillars or piers connected therewith.

Abstracts Published.

184736.—Walls.—Dorph, V., 13 Adolph Frediks Kyrkogata, Stockholm.—One or two courses of solid bricks alternate with a course composed of solid bricks on edge and hollow bricks, which may be inside the wall or show on the face. The bricks are preferably spaced apart, and the hollows may be continuous along the course, or discontinuous. The spaces and hollows may be filled with turf, moss, sawdust, etc.

184584.—Walls, Building Blocks, etc.—Wallis, J. E., Troy Mill House, West Hyde, Rickmansworth, Hertfordshire. — In building blocks, etc., of the type having on two adjacent edges wedge-shaped ribs and on the remaining edges corresponding channels or grooves, registering ribs B^1, C^1 are provided projecting from the ribs and are adapted to fit the bottom of the grooves of adjacent blocks, so as to make them self-aligning. The horizontal rib B is preferably provided with two ribs B^1, while the vertical rib C has one rib C^1. In order to ensure the proper amount of mortar, etc., in the joints, the mortar, etc., is wiped on each side of the slab by a trowel laid with its edge on the line *x*. The invention is applicable to tiles and bricks.

FIG. 1.

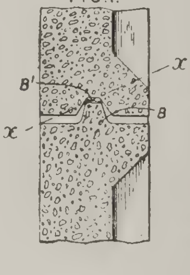
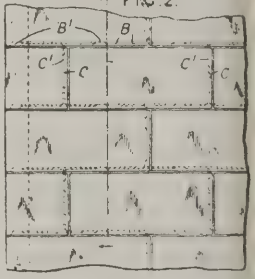


FIG. 2.



The above particulars are prepared specially by Messrs. Rayner & Co., registered patent agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

Electrical Notes

The Use of Light in Hospital Wards

" In designing an installation, whether of electricity, gas, or other illuminant, it should always be remembered that the human eye has been evolved under untold ages of Nature's environment and that any material departure from Nature's principles of illumination must give trouble." Thus Mr. John Darch introduced the subject of the Use of Light in Hospitals in a discussion by the Illuminating Engineering Society. There should, he continued, be no glare from visible light sources, reflections, or glaring glassware. It would be unpleasant to the nurses or doctors, but it may occasion real distress to the sick, particularly when the glare enters the lower part of the eye, so much the more likely with the ward patient. On the other hand, insufficient light is also injurious. I have seen patients straining their eyes and twisting their necks and bodies in the endeavour to read by insufficient and badly placed lights. Many wards have no patients' lights.

The characteristic of ward lighting should be one that is quiet and pleasing. This can best be obtained by a system of general lighting combined with local lighting. The general lighting need not be great—anything from a half to one foot-candle, according to the colour of the room, but it must be well diffused and without glare. It might be had by pendants of either indirect lighting with dishes of a quietly coloured and dense translucency not passing more than $\frac{1}{5}$ candle-power per sq. inch; or by a ring screen of coloured china or silk of size and form just to conceal the lamps. In either case they should spread the light evenly over the ceilings and friezes.

With this quiet and inoffensive general lighting each patient should be provided with his own local light giving him 3 foot-candles on his book, and under his or his nurse's control and for use only when he wants it. This may be on a short smooth bracket, set close back to the wall, so as not to be in view of the patient. It should not be in the centre of the bed head, as is usual, but about 15 inches to the patient's left to avoid heat on his head and gloss on his book. It should illumine the patient's chart and be useful for the nurse or doctor. As this lamp should offend no one else, it should be fully recessed in a dark green shade; or an alternative, which could be more easily cleaned, would be a semi-circular screen of the same material and colour.

Local lighting is also necessary on the sisters' and nurses' tables. Each should have one or more well-shaded table lamps adjustable so as to give an average of 4 foot-candles, with deep rose silk flounces with white lining that would thoroughly screen the lamps and give a cheerful touch of colour to the room.

Night light is of course necessary, and nothing is more soothing than a quiet indirect light. A small lamp could quite well be used in one or more of the general lighting units, but it should be on a separate circuit.

The decoration of the ward is an important factor in its illumination. Although ward ceilings and walls are frequently to be found varnished, there should be no gloss above the dado, as any success in avoiding glare is usually frustrated by seeing all the lamps mirrored in ceilings and walls.

The ceilings and friezes should be white. I am aware that bed-ridden patients' eyes are directed upwards, but this will be no discomfort if the lighting is arranged as I have suggested. The walls below are better of a quiet and restful colour of medium strength, darker or lighter, according to window space and aspect. The dado should be dark, as it is of little value in illumination and the eye needs rest.

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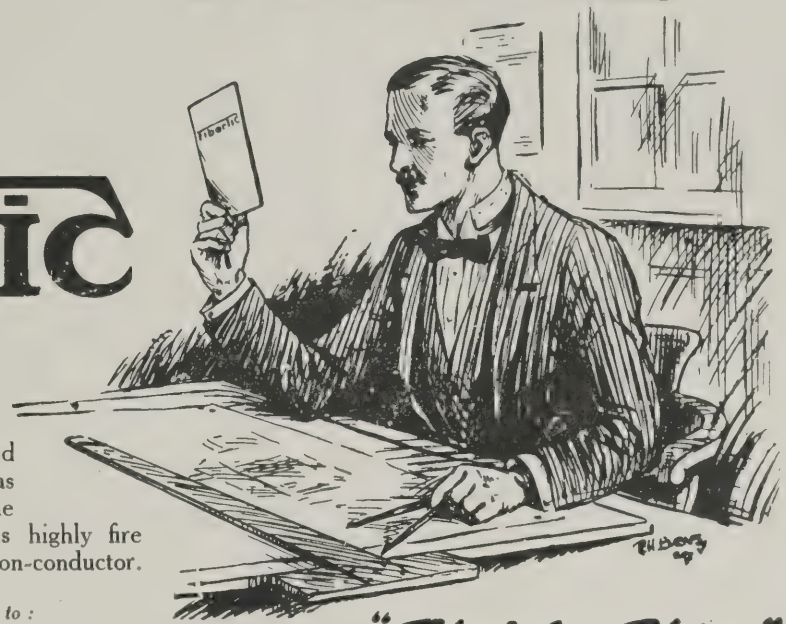

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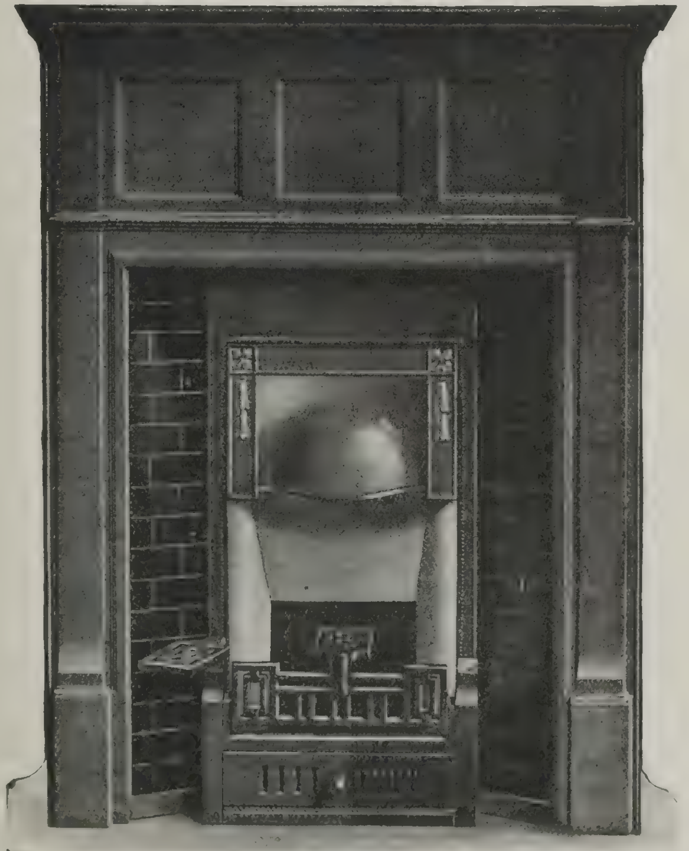
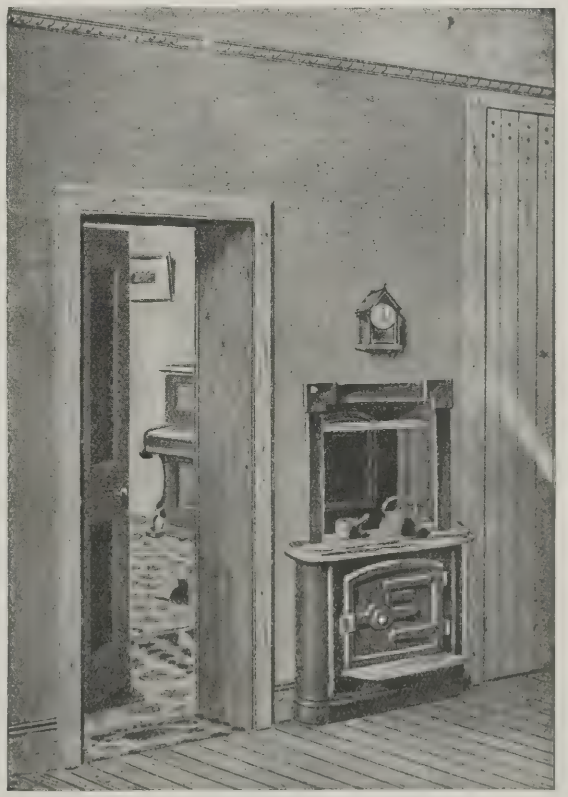


Living-Room Fire.



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CONTRACTS OPEN

Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING.

November 9.—**HOUSE. Morpeth.**—Re-erection of the manager's house, for the Stakeford Social Club, Ltd. Apply Mr. C. F. Murphy, Architect, Lloyds Bank Chambers, Morpeth.

November 9.—**HOUSES. Glasgow.**—Erection of eight houses in Auchinairn and four in Carlyle Drive, Cardonald, for the Glasgow Public Utility Society, Ltd. Apply Mr. J. Laing, Secretary, 203 West George Street. Deposit £1 1s.

November 9.—**HOUSE. Golcar.**—Erection (mason's work excepted) of a dwelling-house in Station Road, Golcar. Apply Messrs. J. Berry and Sons, Architects and Surveyors, 3 Market Place, Huddersfield.

November 9.—**ALTERATIONS, &c. Nantwich.**—Alterations and additions to the premises known as "The Mount," Nantwich, for the Guardians. Apply Mr. C. E. Davenport, Architect, 152 Hospital Street, Nantwich. Deposit 10s. 6d.

November 9-24. — **RESIDENCE. Otley.** — The Governors of Otley Grammar School invite tenders for erection of headmaster's residence in Farnley Lane, Otley. Apply not later than November 9, to the Education Department, County Hall, Wakefield, or Messrs. Sinclair and Atkinson, 40 Boroughgate, Otley.

November 9.—**REPAIRS. Alnwick.**—Repairs to dilapidations at the Workhouse, for the Guardians. Apply at the Workhouse.

November 9.—**GUN PARK AND HARNESS ROOM. Blandford.**—Building a gun park and harness room at Blandford for the Territorial Army Association of the County of Dorset. Apply Mr. C. W. Pike, Architect and Surveyor, Savernake House, High West Street, Dorchester. Deposit £2 2s.

November 10.—**SLATER WORK. Perkinsville, Durham.**—Slater's work at the Perkinsville (Co. Durham) housing site, for H.M.O.W. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1.

November 10.—**ADDITIONS, &c. Hilgay, Norfolk.**—Additions and repairs to farmhouse at Pleasant House Farm, Hilgay, Norfolk, for the Small Holdings Committee. Apply County Land Agent, Shirehouse, Norwich. Deposit £1 1s.

November 10.—**REPAIR. Flitwick, Beds.**—Repair works to the temporary school premises at Flitwick, and the erection of a range of wooden earth closets, for the Education Committee of the Bedfordshire County Council. Apply County Surveyor, Shire Hall, Bedford.

November 10.—**HOUSES. Tividale.**—Erection of 12 houses at Rowley Regis and 16 houses at Tividale, for the Rowley Regis Urban District Council. Apply Council House, Old Hill.

November 10.—**HOUSE. Hammersmith.**—Erection of a detached house in Western Avenue new housing estate, Hammersmith. Apply Mr. J. E. Franck, F.R.I.B.A., 1 New Court, Lincoln's Inn. Deposit £2.2s.

November 11. — **MONUMENT. Netherthong, Yorks.**—Making and erection of a monument in Bradford stone, as a memorial to the fallen, at a cost of not more than £150. Apply Hon. Secretary, Mr. T. Dyson, Moorgate, Netherthong, Thongsbridge.

November 11.—**ADAPTATION. St. Columb, Cornwall.**—Adaptation and repair of the existing farm buildings at Ruthvoes Farm, St. Columb, for the Cornwall County Council. Apply County Land Agent, County Hall, Truro. Deposit £1 1s.

November 11.—**ADAPTATION. St. Columb. Cornwall.**—Adaptation of a cottage and erection of new farm buildings at Quoit Farm, St. Columb, for the Cornwall County Council. Apply County Land Agent, County Hall, Truro. Deposit £1 1s.

November 11.—**PULLING DOWN, &c. Manchester.**—Pulling down and setting back to the improved building line of the stone boundary wall at St. James's Rectory, Wellington Street, Gorton, for the Improvement and Buildings Committee. Apply City Surveyor (Improvement and Buildings Department). Deposit £1 1s.

November 11.—**EXTENSION. Bennitthorpe.**—Extension and alteration of the Comrades' Social Club, Bennitthorpe. Apply Mr. W. H. Butler, Secretary.

November 11.—**HOMES. Brighouse.**—Masons', joiners', plumbers', plasterers', slaters', electric light, and heating, and Terrazzo floor-layers' work in erection of additional homes at the Smith Orphan Homes, Boothroyd, Brighouse. Apply Mr. R. F. Rogerson, Architect, Brighouse.

November 13.—**EXTENSION. Grimsby.**—Extension to the kitchen at the rear of the ladies' lavatory in East Marsh Street, for the Public Conveniences Committee. Apply Borough Engineer, Mr. H. Gilbert Whyatt, M.I.C.E., 170 Victoria Street.

November 13.—**WORKS. Oxford.**—Building and sanitary work at their schools, "The Poplars," Cowley, Oxford, for the Guardians. Apply Schools.

November 13.—**COWHOUSE, &c. Colchester.**—Erection of a new cowhouse and additions to existing farm buildings at the Severalls Mental Hospital, near Colchester, for the Essex County Council. Apply County Architect, Old Court, Springfield, Chelmsford, or at the hospital.

November 14.—**HOUSES. Warsop, Notts.**—Erection of 100 houses near Welbeck Colliery, Warsop, Notts, for the New Hucknall Colliery Co., Ltd., near Mansfield, Notts. Apply Head Office, New Hucknall Colliery, near Mansfield. Deposit £5 5s.

November 14.—**REPAIRS. Sandown, I.W.**—Repairs to roofs of church, also sundry repairs, for the Parochial Church Council of Christ Church, Sandown. Apply Mr. E. L. Smith, P.A.S.I., Architect, Sandown.

November 14.—**ALTERATIONS. Perth.**—Alterations on the Mansion House of Murie, Errol, and the erection of pavilions and other buildings on the grounds thereof, for the Perth and Perthshire Joint Sanatorium Board. Apply Messrs. G. P. K. Young and Son, F. and A.R.I.B.A., 42 Tay Street, Perth. Deposit £2.

November 14.—**WALL. Rochdale.**—Construction of a rubble retaining wall in connection with the extensions of the sewage works at Roch Mills, Rochdale, for the Paving, &c., Committee. Apply Borough Surveyor's Office.

November 14.—**HOUSES. Cowdenbeath.**—Works in connection with erection of 16 houses in Stenhouse Street, for the Town Council. Apply Mr. C. A. Alexander, Burgh Surveyor, Town House, Cowdenbeath. Deposit £2 2s.

November 14.—**CONVENIENCE. Croydon.**—Construction of underground convenience for women, and sundry works of alteration to men's convenience in roadway adjoining the Swan and Sugar Loaf Hotel, South Croydon, for the Town Council. Apply Borough Engineer, Town Hall. Deposit £1 1s.

November 15.—**HOUSES. Dartford.**—Erection of 16 houses (in blocks of 4) on the Lowfield Street housing estate, for the U.D.C. Apply Mr. J. Hurtley, Clerk Council Offices, Dartford. Deposit £2 2s.

November 15.—**BUNGALOW. Huddersfield.** Erection of a bungalow in Talbot Avenue, Huddersfield. Apply Messrs. J. Berry and Sons, Architects and Surveyors, 3 Market Place, Huddersfield.

November 15.—**STABLING, &c. Reigate.**—Erection of stabling, &c., at the New Pond Farm, Earlswood, Redhill, for the Reigate Town Council. Apply Borough Surveyor, Municipal Buildings, Reigate.

November 15. — **TELEPHONE EXCHANGE. Golders Green.**—Erection of a telephone exchange at Golders Green, London, N.W., for H.M.O.W. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

November 20.—**ENGINE-HOUSE. Isle of Dogs.**—Construction of an engine-house in brick and concrete, with slate roof, and foundations for engines, pumps, and auxiliary machinery; also the construction of supply, suction, and delivery culverts, and a penstock chamber and other subsidiary works at the Isle of Dogs pumping station, for the London County Council. Apply Chief Engineer to the Council, at the Old County Hall, Spring Gardens, S.W.1. Deposit £5.

November 20.—**URINAL. Wigan.**—Construction of a public urinal in Wallgate, for the Corporation. Apply Mr. R. B. Donald, M.I.C.E., Borough Engineer, Municipal Buildings, Wigan.

November 28.—**PUBLIC BATHS. Bolton.**—Erection of public baths and washhouses in Moss Street, for the Corporation. Apply Housing Office, 14 Acresfield, Bolton. Deposit £2 2s.

November 30.—**PALACE. Barcelona.**—In construction of the Grand Palace of Nations. Apply Don José y Cadafalch, offices of the exhibition (Lerida Street), and Dept. of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

December 15.—**STAND, &c. Hertford.**—The Ground Improvement Committee of the Hertford Town Football Club invite tenders, together with plans, detail drawings, &c., for provision and erection of a sectional stand and other accommodation to seat 400 people. Apply Hon. Secretary (Mr. H. J. Gray, Club Headquarters, Salisbury Arms Hotel, Hertford).

No Date.—**STEEL STRUCTURE. Bangor.**—Supply and/or erection of steel structure with galvanized sides and roofing for motorbus garage in Bangor, North Wales. Secondhand or new structure, about 90 ft. by 90 ft. Apply Messrs. Avery and Roberts, Ltd., 81 Renshaw Street, Liverpool.

No Date.—**HOUSE. Boston, Lincs.**—Erection of a dwelling-house at Fishtoft. Apply Mr. S. Marjason, Architect, Market Place, Boston.

No Date.—**GARAGE. Burslem.**—Erection of a brick and tile garage, High Lane, Burslem. Apply Messrs. Ford and Slater, Architects, Burslem.

No Date.—**OFFICES, &c. Clitheroe.**—New offices and store at Clitheroe for Messrs. Oswald Rowe & Co., Ltd. Apply Fairbrother and Hall, Architects, Law Courts Chambers, Blackburn.

ELECTRICAL.

November 10.—**TURBO-ALTERNATOR, &c. Aberdeen.**—Supply, delivery, and erection at their electricity works of one 10,000-kw. turbo-alternator with surface condenser and auxiliaries for the Corporation. Apply Office of the City Electrical Engineer, Millburn Street, Aberdeen. Deposit £5 5s.

November 11.—**CRANE, &c. Plymouth.**—Additional electric crane, grab, and storage hoppers, to be erected at Corporation Wharf, Pottery Quay, Devonport, for the Gas Committee of the Plymouth Corporation. Apply Mr. W. P. Tervet, Engineer and Manager, Gasworks, Devonport.

November 11.—**TURBO-ALTERNATOR. Montevideo, Uruguay.**—Construction, delivery, and erection in the State power-house at Montevideo of a turbo-alternator of 10,000-kw. capacity to run at 3,000 r.p.m., together with the necessary condensing plant and accessories, for the State Electric Light Works. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1. (Ref. 3667/F.L./E.P.)

November 13.—**CABLE. Warrington.**—Supply of high and low tension paper and lead covered cable, for the Electricity and Tramways Committee. Apply Mr. F. V. L. Mathias, Borough Electrical and Tramways Engineer, Howley, Warrington. Deposit £1 1s.

November 14.—**TURBO-ALTERNATOR. Bristol.**—Supply, delivery, and erection of one 4,000 k.v.a. single-phase (93 periodicity) continuously rated steam turbo-alternator, complete with condensing plant, for the Electrical Committee. Apply Mr. H. F. Proctor, M.I.C.E., M.I.E.E., Chief Engineer and General Manager, The Exchange, Bristol. Deposit £2 2s.

November 15.—**CRANES. Riga.**—Latvian Marine Department are inviting tenders for eight electrically driven rotating cranes for the Riga Customs Yard. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, S.W.1.

November 21.—**SWITCHBOARD PARTS. Australia.**—Supply of switchboard parts, schedule 67 (Nov. 21) for the Commonwealth of Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 21.—**SLUDGE PUMPS. Dublin.**—The Corporation of Dublin are prepared to receive from the manufacturers of pumping machinery for sewage sludge particulars, designs and tenders for duplicate electrically driven units to raise about 78,000 gallons per hour of sludge through a lift of 34 ft. Apply City Engineer's Office, 28 Castle Street, Dublin, or Mr. J. S. Alford, M.I.C.E., 11 Victoria Street, Westminster, S.W.1. Deposit £2 2s.

November 23.—**SWITCHGEAR, &c. Pretoria.**—His Majesty's Trade Commissioner in South Africa reports that the date for the presentation of tenders for above has been extended from November 9 until 12 noon on November 23.

November 23.—**POLE FITTINGS, &c. Pretoria, S.A.**—Electric Supply and Tramways Department of the Pretoria Municipality is inviting tenders for supply of pole fittings, insulators, &c. Apply Department of Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Reference 9798/E.D./E.P.)

November 28.—**SWITCHGEAR. Mangahao, N.Z.**—Supervision of the erection, and of the testing after erection, of outdoor switchgear (section 21) and indoor switchgear (section 33) for the Khandallah sub-station forming part of the Mangahao power scheme, for the Public Works Tender Board. Apply Department of Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Ref. 9468/Ed./E.P.) Deposit £100.

November 28.—**TRANSFORMERS. Wellington.**—The Public Works Tender Board, Wellington, are inviting tenders for the manufacture, supply, and delivery, ex ship's slings Auckland, of two exciter transformers in connection with the Waikato power scheme, section 57 The transformers are required to transform three-phase 50-cycle power at 5,250 volts between phases to power at 400 volts between phases, and will be used for supplying power to 220 k.w. exciter units in the power house at Horahora. They are to be of the oil-filled and self-cooled type, and to be rated 275 k.v.a. 93 per cent. power factor. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

November 29.—**TRUCKS, &c. Melbourne.**—The Victorian Railways Commissioners are calling for tenders for supply of three electric industrial trucks, one trailer, and two spare batteries. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1. Deposit half per cent. (Reference D.O.T./9623/E.D./E.C.)

December 15.—**PLANT. Wellington.**—The Southland Electric Power Board are calling for tenders for supply and delivery of plant and material. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1.

December 20.—**ELECTRIC CRANES AND LIFTS FOR EGYPT. Alexandria.**—The Administration of Ports and Lighthouses, Alexandria, is inviting tenders for fixed and moveable lifting apparatus for service at the port of Alexandria. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

January 9.—**CRANE. New Zealand.**—Supply and delivery of one electric travelling crane in connection with the Waikato power scheme, section 58. The crane is to be designed for lifting, traversing and travelling loads up to 27 tons. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, London, S.W.1.

January 15-31.—**PLANT. Melbourne.**—Supply, delivery, &c., of plant for the Morwell power scheme, for the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £2 2s.

(*Continued on page* xxxii.)

MODERN SANITARY EQUIPMENT

GENERAL VIEW OF MAIN SHOWROOM.
Baths and Lavatory Basins.

THE wide range of Exhibits in our Showrooms and the complete resources of our Sanitary Department are available as a medium for ensuring uniform quality throughout, and the best in design in planning the installation of Sanitary Equipment in Private Residences, Hotels, Hospitals, Schools, Offices, Industrial Plants, etc.

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It would indeed need a deliberate attempt to cause a slip on Ferodo Stair Treads.

There is no other stair fitting which looks so well after the safety of the user as this chemically impregnated woven cotton.

The closely woven texture chemically "bonded" gives to the Treads the durability of metal. Even when worn to paper thickness they afford a sure foothold.

The many designs and colours in which Ferodo Treads are made are adapted to suit all staircases of wood, iron, marble, or stone.

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Patent **Stair Treads**

Ferodo Stair Treads are designed to take all the wear of foot traffic, leaving the linoleum or carpet practically untouched.

Our illustrated list D gives full particulars of styles, colours, and prices. A post card will bring a copy by return.

FERODO Ltd., CHAPEL-EN-LE-FRITH,
DERBYSHIRE.

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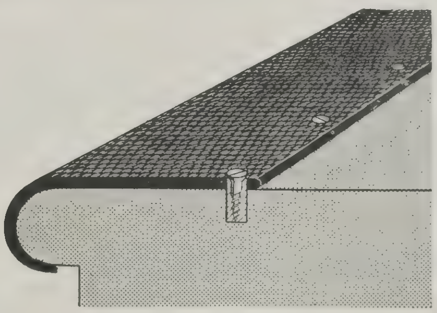
1 ***No 1903. For stone steps.*** A special method of fitting Ferodo Stair Treads to Stone Steps. The tread is cemented to the step and fixed with ordinary wood screws. Can be fixed to worn steps.

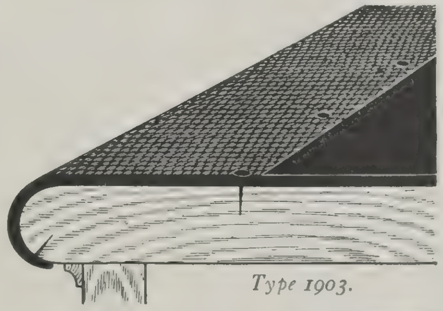
An excellent method of preserving stone staircases against wear.

2 ***No. 1903.***—A simple nosing without flange, may be used with or without linoleum backing. Supplied in any width.

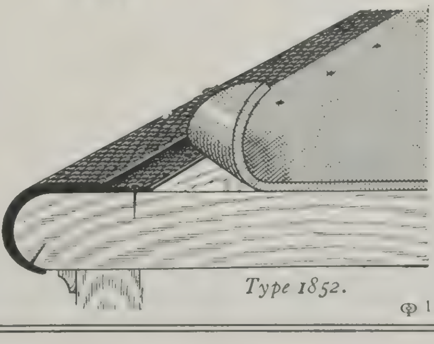
3 ***No. 1852.***—The flanged type to be used in conjunction with lino. or carpet. The flange allows a neat, almost invisible joint to be made and prevents any danger of the nosing breaking adrift.



Type 1903, for stone steps.



Type 1903.



Type 1852.

Φ 1

ENGINEERING.

November 10.—**WATER MAIN. Nuneaton.**—Excavating for and the haulage, laying and jointing of about 430 yards of 15 in. diameter and about 1,600 yards of 12 in. diameter cast-iron water main, for the Corporation. Apply Mr. R. C. Moon, A.M.I.C.E., Water Engineer, Queen's Road, Nuneaton. Deposit £2 2s.

November 14.—**POINT CONTROLLERS. Edinburgh.**—Supply, delivery, and fitting up in position of eight automatic point controllers, for the Corporation. Apply Tramways Manager, 2 St. James Square, Edinburgh.

November 15.—**BOILERS, &c. South Shields.**—Manufacture, delivery and erection complete, at the Corporation Electricity Works, West Holborn, South Shields, of two water-tube boilers, with mechanical stokers, superheaters, economisers, induced draught plant, and steel chimney; also for ash-handling plant and extension to boiler-house, for the Corporation. Apply Mr. J. Edgar, Electricity Offices, Victoria Terrace, South Shields. Deposit £2 2s.

November 15.—**TUBULAR POLES. Perth.**—The Postmaster-General's Department, Perth, Western Australia, is inviting tenders for supply and delivery of 1,490 galvanized tubular poles. Apply Department of Overseas Trade (Room 47), 35 Old Queen Street, S.W.1.

November 15.—**TUBULAR POLES. Australia.**—Supply of 1,500 galvanized iron or steel tubular poles for telegraph poles, 20 ft. long, schedule 755. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 16.—**GEAR WHEELS. Johannesburg.**—28 tramcar gear wheels (contract No. 965), for the Municipal Council of Johannesburg. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

November 18.—**TUBES. Johannesburg, S.A.**—His Majesty's Senior Trade Commissioner in South Africa reports that the Municipal Council of Johannesburg invites tenders for supply and delivery at President Street store of 128 large and 128 small solid-drawn steel superheater tubes, 1½ in. outside diameter, No. 9 s.w.g. for 17,000 lb. Babcock and Wilcox boiler, in accordance with drawing No. 1,511, dated September 12, 1922. (Contract 977.) A deposit of 10 per cent. of the total amount of the tender. Apply Department of Overseas Trade (Room 47), 35 Old Queen Street, Westminster, S.W.1. (Ref. 9855/E.D./E.P.)

November 20.—**LAUNDRY MACHINERY. Hemsworth.**—Delivery and erection of laundry machinery at the Hemsworth Poor Law Institution, Hemsworth, near Wakefield, for the Guardians. Apply Mr. W. T. Lynam, A.M.I.C.E., Engineer, Council Offices, Hemsworth, near Wakefield. Deposit £1 1s.

November 25.—**GASHOLDER TANKS. Birmingham.**—The construction of two concrete gasholder tanks, 254 ft. diameter by 45 ft. deep, at the site of the new gasworks, Washwood Heath, for the Corporation. Apply Engineer-in-Chief, City Gasworks, Saltley. Deposit £5.

November 27.—**PUMPING MACHINERY, &c. Hornchurch, Essex.**—Construction and erection of their proposed outfall works adjoining Rainham Creek, parish of Hornchurch, Essex, of the pumping machinery and other plant required, for Romford R.D.C. The contract includes centrifugal pumps, vertical semi-Diesel engines, overhead travelling crane, sludge ejectors, pipe work, and all auxiliary plant and accessories. Apply Mr. W. Fairley, M.I.C.E., Parliament Mansions, Westminster, S.W.1. Deposit £5 5s.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria : Specification No. 282 : Coal-handling plant for Morwell power station and briquetting works. Apply Agent-General for Victoria, Melbourne Place Strand, London, W.C.2.

January 6.—**BRIDGE. Glasgow.**—The Corporation of Glasgow invite designs and offers for the construction of a ferro-concrete bridge over the Clyde at Oswald Street. Apply Office of Public Works, City Chambers, 64 Cochrane Street.

January 19.—**PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria : Specification No. 23-4.—Steam turbine-driven boiler feed pumps. Apply to Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £1 1s.

No Date.—**FENCING, &c. Cardiff.**—Supplying and fixing approximately 1,436 yards of six wire reinforced concrete post and wire fencing at Craigwen, Penyrheol, and Caerphilly, for the Glamorgan Agricultural Committee. Apply the County Land Agent, 30 Park Place, Cardiff.

PAINTING.

November 11.—**PAINTING. Fence Houses, Durham.**—Painting and decorating of New Lambton Wesleyan Methodist Church. Apply Mr. G. R. Lowdon, 47 Station Avenue South, Fence Houses.

November 17.—**PAINTING. Pontypridd.**—Painting, colouring, and cleaning of the following schools during the Christmas holidays, for the Pontypridd Education Committee : Mill Street H.E. School (all departments); Pontshonorton Schools (manual training and girls' and infant departments); Graig Schools (boys', girls', and infant departments); Hopkinstown Schools (infant department); and Roman Catholic School (mixed and infant departments). Apply Mr. W. E. Lowe. Deposit £2.

November 22.—**PAINTING. Harrogate.**—Painting, colouring, limewashing, &c., at the Royal Bath Hospital and Rawson Convalescent Home, Harrogate. Apply Mr. E. P. L. Dixon, M.A., Secretary.

December 4.—**PAINTING, &c. Milnsbridge.**—Painting and decorating Milnsbridge Baptist Chapel. Apply Mr. G. E. Beaumont, Kirkfield, Cowlersley.

ROADS AND SEWERS.

November 9.—**CONVERSION. Beeston, Notts.**—Conversion of 200 pail closets into w.c.'s, for the Beeston Urban District Council. Apply Surveyor, Mr. E. A. Bush.

November 11.—**ROAD WORKS. Chester.**—Reconstruction with granite setts on reinforced concrete foundations of the following streets, viz. :—St. Anne's Street, George Street, Gorse Stacks, Victoria Road; also for the reconstruction with natural rock asphalte on reinforced concrete foundations of the following, viz. :—City Road, for the Town Council. Apply Mr. C. Greenwood, A.M.I.C.E.

November 13.—**DRAINAGE WORK. Mortlake.**—Drainage, piping-in ditches and watercourse, Palewell Common, Mortlake, for the Barnes U.D.C. Apply Mr. G. B. Tomes, A.M.I.C.E., Engineer and Surveyor, High Street, Mortlake.

November 13.—**MAKING-UP. Mortlake.**—Making-up of the passage at the rear of Nos. 461 to 497 Upper Richmond Road, Mortlake, S.W., with reinforced concrete on a hardcore foundation, for the Barnes U.D.C. Apply Surveyor, Council House, Mortlake.

November 13.—**SUBSOIL DRAINAGE. Mortlake.**—Execution of works of subsoil drainage, &c., at Palewell Common, Mortlake, for the Barnes U.D.C. Apply Surveyor, Council House, Mortlake.

November 15.—**STREET WORKS. Blackpool.**—Surface draining and forming of private streets, for the Highway Committee. Apply Borough Engineer's Office. Deposit £1.

No Date.—**PAVING. Goole.**—Paving of the footpaths to 14 houses in New Close Lane and Brough Street, for the Goole Urban District Council. Apply Mr. J. H. Castle, Engineer and Surveyor, Council Offices, Goole.

MEASURES BROS. 1911 LTD.

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Estimates
on
Application.

Telegrams :
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Market Prices.

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SOUTHWARK STREET, LONDON, S.E.

Trade and Craft

The Strength of Bryscom Stone.

The Bryscom Quarries, Ltd., Draycott, Somerset, have issued a leaflet showing the results obtained by Messrs. D. Kirkcaldy and Sons, who recently carried out some crushing strain tests on their stone. From this it appears that whilst the highest crushing strain of other stones ranged from 128 to 802 tons per sq. ft., Bryscom stone did not crush until tested at 1,011 tons per sq. ft.

Osram Lamps.

The General Electric Company have received the following letter from Mr. A. E. Farrow, chief engineer for the Windsor Electrical Installation Co., Ltd.: "Undoubtedly you saw in the daily papers that there has been an accident in Windsor through two motor-cars colliding with one of our street lighting standards. The standard in question was 25 ft. in height, and was broken in three pieces, but you will be interested to know that the Osram lamp (200 c.p.) was not broken."

"Met-wood."

Mr. E. T. Bartlett, 65 Victoria Street, S.W.1, has introduced on the English market an underfloor known as "Met-wood," a floor finish which has proved a great success. It is claimed to be suitable for flooring in ships' construction, being entirely free from magnesite or lye. The composition is entirely neutral, and it is delivered in liquid and powder form. When mixed on the site in the proportion of three to five, spread to a thickness of ⅜ in., it forms a homogeneous mass with a tenacity to adhere to steel, iron, stone or wood. Met-wood sets in about two or three days, and is then ready to receive lino, parquet, or rubber covering. A layer of Met-wood on old floor boards is said to lengthen the life of the top covering 75 per cent. Architects or others interested are invited to visit the above office and inspect a section of flooring.

The Improved Nautilus Grate.

A new illustrated catalogue has been issued by the Nautilus Fire Co., Ltd., to explain the improvements made to the Nautilus grate. The improvements consist mainly in the elimination of minor details rendered no longer necessary by certain adjustments of design. Though costing substantially less, therefore, the improved Nautilus is no less efficient than its predecessor, whilst it represents a considerable improvement in appearance. The fundamental Nautilus fuel-saving principle consists in the provision of two smoke outlets at the back of the grate. By this means, the heat which escapes up the chimney of an ordinary grate by reason of the chimney outlet being situated above the fire, is collected by the Nautilus heat-conserving canopy and given off into the apartment. With its specially built flue and essential fittings the Nautilus grate constitutes a self-contained heating system. One of the essential fittings is the Nautilus damper embodied in the cast-iron back. By means of this fitting, the rate of combustion can be completely and economically controlled. Wherever heating by coal or other solid fuel is favoured, and wherever it is desired to preserve the charm and associations of the open fire of coal, coke, wood, or peat, the Nautilus grate meets all requirements, decorative and useful. The Nautilus, indeed, is a familiar sight in many a fine old English mansion, where it has been desired to preserve the atmosphere of the particular period, whilst securing the advantages of an efficient principle of heating by solid fuel. Nautilus grates are to be seen in the Royal palaces of Balmoral and Osborne, as well as in clubs, hotels, offices of Government departments, of local authorities, and of railway companies, and in private residences of many descriptions. Copies of the catalogue may be obtained from the Company at 60 Oxford Street, London, W.1.

A Home of Advertising.

The new Samson Clark building, which has been formally opened by Lord Leverhulme, is the largest building in the country devoted solely to advertising service.

On a corner site, the architect, Mr. Courtenay Constantine, F.R.I.B.A., of Messrs. Constantine and Vernon, has endeavoured to take every advantage of its position, both from the architectural standpoint and from the point of utility, particularly as regards lighting and ventilation.

The building is constructed on the steel frame principle, and the façades, designed in a simple treatment of the English Renaissance, are faced in white glazed terra-cotta. The makers have assisted the architect very materially by moulding the material in large blocks, thereby preserving an architectural character which is not generally possible.

The building is surmounted by an octagonal tower placed at the angle of the two frontages, and a red Roman tile roof has been introduced to provide a contrast in colour to the otherwise unbroken front of white faïence.

In the seven floors of the building are assembled all the various departments of advertising work, including printing and block making. The conference room and recreation hall on the third floor is one of the most attractive features of the building, and is intended for business lectures and trade displays as well as for a staff recreation centre

Holophane Filterlite.

Messrs. Holophane, Ltd. (Scientific Illumination), of Elverton Street, Vincent Square, London, S.W.1, have sent us a pamphlet illustrating and describing the Holophane Filterlite, a new type of semi-indirect unit which they have recently placed on the market. The question of a really efficient semi-direct unit is one which has been receiving a great deal of attention for a considerable period, and the firm believe that with the new Holophane Filterlite they have solved the problem satisfactorily.

The Holophane Filterlite is a totally enclosed semi-indirect decorative unit embodying entirely new principles in interior lighting. It is a two-piece bowl having plain exterior surfaces with interior prismatic construction designed to control the light rays to give a wide light distribution with the maximum of efficiency and the minimum of contrasts and glare. Light control is achieved principally by means of retracting and diffusing prisms on the *inside* surface of the glass.

The enclosing glass bowl is horizontally divided into three zones: An upper prismatic light transmitting and diffusing zone; a central zone provided with light transmitting prisms calculated to refract the rays in an upward direction; and a lower zone adapted to reflect part of the light rays upwardly for transmission by the upper zone, diffusing the rays not so reflected, which gives a surface brightness to the bowl of low luminosity.

The construction, beside having the advantage of being dust-proof, gives a minimum of glare, a very wide distribution of light, and since the refracting area acts almost entirely by transmission rather than reflection, the light it governs suffers no diminution due to interference by the unit.

The Filterlite is recommended for showrooms, restaurants, offices, drawing offices, reading rooms, and in similar locations where general even illumination is required over an area without sharp contrasts due to the brightness of the light source or harsh shadows.

The chief advantages claimed for the Filterlite are summarized as follows:—

1. It is the most efficient and semi-indirect unit on the market, and as efficient as any that our engineers have ever produced.
2. It is totally enclosed, and is, therefore, dust and insect proof.
3. The prisms are on the interior, both on the upper and lower halves, which makes it easy to clean.
4. It is, to all intents and purposes, shadowless.
5. It is of imposing design and well suited to match any special architectural feature.

Bell's United Asbestos Company, Limited.

The above company, whose offices are in Southwark Street, have issued particulars of an issue of £100,000 5½ per cent. debentures. The issue is corollary to arrangements for the amalgamation of the "Poilite" (Asbestos-Cement) section of this company's business with the British Everite and Asbestilite Works, Limited, of Manchester, which carries on a similar business. The new company will be known as "Bell's Poilite and Everite Company, Limited," and the combined business will be under the same management as heretofore except that this (Bell's United Asbestos) company will hold a controlling interest therein. By standardizing their manufactures of the well-known "Poilite" and "Everite" (Asbestos-Cement) building materials, the new company will be able to effect deliveries from the factory nearest to customers, thereby saving transport charges, giving a more prompt and efficient service, and, through co-ordination of effort, effecting further improvements and economies in costs of production.

Under the terms of amalgamation this (Bell's United Asbestos) company has agreed to subscribe in cash for £50,000 debentures (forming part of an authorized issue of £150,000) of Bell's Poilite and Everite Company, Limited, secured upon the whole of its property, the purchase consideration for which, including stock-in-trade, is approximately £475,000 to be satisfied as to £20,000 in cash (payable to the British Everite and Asbestilite Works, Limited), and the balance in fully paid shares and debentures of the new company. As the directors of this (Bell's United Asbestos) company attach great importance, in the prevailing conditions of trade, to the maintenance of its exceptionally strong financial position, they have decided to provide for the subscription of £50,000 to Bell's Poilite and Everite Company, Limited, by making the present issue of debentures, which also provides for the redemption of the outstanding balance, viz., £42,200, of this company's 5 per cent. debentures, but holders are given the right of exchanging these for 5½ per cent. debentures now offered in terms of the circular.

British Industries Fair (Birmingham)

The preliminary arrangements for the booking of space and stands at the British Industries Fair (Birmingham) for the 1923 Fair, to be held from February 19 to March 2, are rapidly nearing completion. British manufacturers have flocked very readily to assist by their active support in making the 1923 Fair bigger than any of its predecessors. Hundreds of firms engaged in the production of the commodities and services which the exhibits will comprise have booked their space, anticipating that a very much larger number of home, colonial, and foreign buyers will be in attendance at Castle Bromwich during the period of the Fair than on any previous occasion.

New Inventions

Latest Patent Applications.

29291.—Avis, A.—Compound for weather-proofing pavements, etc. October 27.

29292.—Avis, A.—Paving-blocks, stair-treads, etc. October 27.

28857.—Hepworth, W. — Floors for buildings. October 24.

29041.—Roberts, C. R.—Portland cement. October 25.

28833.—Steinberg, H. E.—Reinforced concrete flooring. October 23.

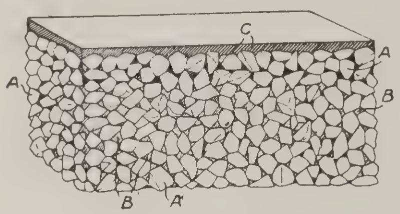
Specifications Published.

187123.—McCoy, W.—Weather-excluding means for doors.

187168.—Fostekew, A. G., and Rowe, J. B.—Centering for concrete and like floors and other structures.

Abstract Published.

185669.—Paving-blocks, etc. — Pochin, C. D., the Hollies, Broughton Astley, near Leicester.—Blocks, etc., for pavings and floors, wall linings, etc., are formed of concrete impregnated with india-rubber or asphalt or other bitumen. Concrete formed of cement and the usual aggregate A with a small amount of water added is placed in a mould, and liquid or very plastic rubber, etc., is poured or compressed into the mould so that the interstices B of the concrete are filled and a tread surface C partly or entirely covers the surface. When rubber is employed the block is then vulcanized.



The above particulars are specially prepared by Messrs. Rayner & Co., Registered Patent Agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

Law Report

Claim for Work Done

Harloch v. *Smith.*

Oct. 24. Official Referees' Court.

Before Mr. G. A. Scott.

In this action the plaintiffs, who are builders and house decorators of Hackney, claimed £355 12s. 6d. from H. Hamilton Smith for work done and materials supplied. There was no appearance on the part of the defendant, who, in his defence, alleged that the work was incompetently done, and that the prices charged were unreasonable and excessive. According to the evidence of Mr. Harry Hastings Stevens, a member of the plaintiff's firm, he first met the defendant, who then resided at Bethnal Green, in October of last year, when he gave an estimate of £90 for certain specified work. That work was carried out, and defendant subsequently ordered other work which brought plaintiff's account up to the amount now claimed. Witness said that the charges were fair and reasonable, and the Referee gave judgment for the plaintiffs for the amount claimed with costs, dismissing the counterclaim, and ordering £75, which had been paid into court, to be paid out to plaintiffs' solicitors.

By Appointment.
Architectural Decorators
— to —
H.M. King George V.

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FIBROUS PLASTER & WOODWORK,
STAINED GLASS WINDOWS.

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"VERONESE"

Proprietors: C. S. Co. Ltd.
Ranelagh Gardens, Fulham, S.W.6.

RELIEF DECORATIONS for CEILINGS and WALLS in FIBROUS PLASTER,
FRENCH STUC, CARTON PIERRE, and WOOD.

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ART METAL STANDARDIZED STEEL SHELVING.

Art Metal Steel Shelving is made in a range of standard sizes that will accommodate any kind of materials, light or heavy, large or small, and may be secured in hundreds of combinations to fit all requirements.

Capacity in any Shelving installation is a matter of the number of shelves, their ability to sustain the necessary weight, and the strength of materials of which this Shelving is made. Judged by these standards Art Metal Shelving offers maximum storage capacity.

Art Metal Steel Shelving combines great strength with small bulk. Every possible cubic inch of space is available for the storage of goods. As compared with wood there is a definite gain per running foot of Shelving, due to the absence of bulk in the Upright members. While this additional capacity is of slight moment in a few feet of shelving, it becomes a decided importance in a large installation where there are several hundred running feet of shelving.

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BUILDING.

November 15–22.—**FLOORBOARDS, &c. Rothwell, Yorks.**—Laying of new floorboards and formation of open hoppers to the windows, &c., at Rothwell Council School, for the West Riding Education Committee. Apply Education Department, County Hall, Wakefield.

November 16.—**HOUSES, &c. Bridlington.**—Erection of dwelling-house and shop, Lansdowne Road, Bridlington, for Miss J. Thompson. Apply 14 Lansdowne Road.

November 16.—**RENOVATIONS, &c. Devonport.**—Renovations at the Children's Homes, 15 and 16 Cotehele Villas, for the Guardians. Apply Superintendent of the Children's Homes.

November 16.—**CONVERSION. Pontyclun.**—Work required to be done in the proposed conversion of the Victoria Buildings, Pontyclun, into Council Offices, for the Llantrisant and Llantwit Fardre Rural District Council. Apply Mr. T. Saunders, Surveyor, Council Offices, Pontyclun. Deposit £1 1s.

November 18.—**SCHOOL EXTENSION. Bromley, Kent.**—Temporary extension of the County School for Boys, Hayes Lane, Bromley, for the Education Committee. Apply Borough Engineer, Municipal Offices, Bromley. Deposit £2 2s.

November 18.—**STORY. Edmonton.**—Erecting and finishing for use an additional story over the Boardroom block, and certain alterations to the same, at 77 Bridport Road, Edmonton, for the Guardians. Apply Mr. E. Ridley, Clerk to the Guardians, 77 Bridport Road, N.18. Deposit £5 5s.

November 18.—**BUSINESS PREMISES. Frome.**—Erection of business premises in Bath Street and Palmer Street, Frome, for the Frome Co-operative and Industrial Society, Ltd. Apply Mr. P. B. Rigg, Architect, Monmouth House, Frome.

November 20.—**CONVENIENCE, &c. Port Talbot.**—Erection of a public convenience and store at the Goytre Cemetery, for the Corporation. Apply Borough Surveyor's Office, Municipal Buildings, Aberavon.

November 20.—**URINAL. Wigan.**—Construction of a public urinal in Wallgate, for the Corporation. Apply Mr. R. B. Donald, M.I.C.E., Borough Engineer, Municipal Buildings, Wigan.

November 20.—**HOUSES. Abergavenny.**—Erection and completion of six houses in three blocks of two, off Penypound, Abergavenny, for the Corporation. Apply Mr. W. H. Hopwood, Town Clerk, Town Hall, Abergavenny. Deposit £2 2s.

November 20.—**BOILER HOUSE. Cambridge.**—Erection of an additional boiler house at the pumping station, River Side, Cambridge, for the Town Council. Apply Borough Surveyor, Guildhall.

November 20.—**PUBLIC MARKET. Dundee.**—Reinforced concrete and other works required in erection of public market, for the Dundee Town Council. Apply Mr. J. Thomson, City Architect, 91 Commercial Street, Dundee.

November 20.—**ENGINE-HOUSE. Isle of Dogs.**—Construction of an engine-house in brick and concrete, with slate roof, and foundations for engines, pumps, and auxiliary machinery; also the construction of supply, suction, and delivery culverts, and a penstock chamber and other subsidiary works at the Isle of Dogs pumping station, for the London County Council. Apply Chief Engineer to the Council, at the Old County Hall, Spring Gardens, S.W.1. Deposit £5.

November 20.—**URINAL. Wigan.**—Construction of a public urinal in Wallgate, for the Corporation. Apply Mr. R. B. Donald, M.I.C.E., Borough Engineer, Municipal Buildings, Wigan.

November 20–27.—**JOINER WORKS, &c. Glasgow.**—Joiner works, etc., at the Gleneagles Hotel, for the Caledonian Railway Co. Apply Mr. M. Adam, Architect, 160 Hope Street, Glasgow. Deposit £2 2s. A representative of the company will attend at the site of the hotel building on November 15, 17, and 20, from 11 a.m. until 3 p.m.

November 21.—**HOUSES. Bargoed.**—Erection of 40 houses in blocks of four and two, types A and B, on the Heolddu site, Bargoed, for the Gellygaer Urban District Council. Apply Mr. P. Jones-Williams, Architect, Council Offices, Hengoed. Deposit £2 2s.

November 22.—**FARM PREMISES. Kelvedon and Coggeshall.**—Erection of sets of farm premises at Kelvedon and Coggeshall, Essex, for the Small Holdings Committee of the Essex County Council Deposit £1 1s.

November 28.—**PUBLIC BATHS. Bolton.**—Erection of public baths and washhouses in Moss Street, for the Corporation. Apply Housing Office, 14 Acresfield, Bolton. Deposit £2 2s.

November 30.—**PALACE. Barcelona.**—In construction of the Grand Palace of Nations. Apply Don José y Cadafalch, offices of the exhibition (Lerida Street), and Dept. of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

December 2.—**ALTERATIONS, &c. Brentford.**—Alterations and additions to the public baths, Clifden Road, Brentford, for the Brentford Urban District Council. Apply Mr. W. J. W. Westlake, Engineer and Surveyor, Clifden House, Brentford. Deposit £2.

December 2.—**HOUSES. Brentford.**—Erection of (a) 20 houses and (b) 38 houses on land fronting Challis Road and Clayton Crescent, Brentford, for the Brentford Urban District Council. Apply Messrs. Dodge and Reid, Architects, 120 High Street, Brentford. Deposit £2.

December 15.—**STAND, &c. Hertford.**—The Ground Improvement Committee of the Hertford Town Football Club invite tenders, together with plans, detail drawings, &c., for provision and erection of a sectional stand and other accommodation to seat 400 people. Apply Hon. Secretary (Mr. H. J. Gray, Club Headquarters, Salisbury Arms Hotel, Hertford).

No Date.—**FARM BUILDINGS. Kirklinton.**—Erection of farm buildings at Dubwath, Kirklinton. Apply Mr. E. S. Simpson, Kirklinton, Carlisle.

No Date.—**HOUSE, &c. Limbury.**—Erection of new house and homestead, &c., at Marsh Farm, Limbury, for the Bedfordshire County Council. Apply Mr. K. Tammell, A.R.I.B.A., Small Holdings Architect, 17 St. Peter's, Bedford. Deposit £2 2s.

No Date.—**REPAIRS. Withington, Salop.**—Repairs to Yew Tree Farm, Withington (between Shrewsbury and Wellington). Apply County Land Agent, Shirehall, Shrewsbury.

ELECTRICAL.

November 16.—**COOLING TOWERS. Hull.**—Supply of four natural-draught water-cooling towers, for the Electricity Committee. Apply City Treasurer, Guildhall, Hull. Deposit £1 1s.

November 20.—**ELECTRIC LIGHT INSTALLATION. Burton-on-Trent.**—Installing of electric light at the imbecile block, Poor Law Institution, Burton-on-Trent, for the Guardians. Apply Mr. H. S. Askew, Clerk to the Guardians, Union Offices, Burton-on-Trent.

November 21.—**SLUDGE PUMPS. Dublin.**—Designs and tenders for duplicate electrically driven units to raise about 78,000 gallons per hour of sludge through a lift of 34 ft., for the Corporation. Apply City Engineer's Office, 28 Castle Street, Dublin, and at the Offices of Mr. J. S. Alford, M.I.C.E., 11 Victoria Street, Westminster, S.W.1. Deposit £2 2s.

November 21.—**SWITCHBOARD PARTS. Australia.**—Supply of switchboard parts, schedule 67 (Nov. 21) for the Commonwealth of Australia. Apply Supply Officer, Room 101, Australia House, Strand, London, W.C.2.

November 21.—**SLUDGE PUMPS. Dublin.**—The Corporation of Dublin are prepared to receive from the manufacturers of pumping machinery for sewage sludge particulars, designs and tenders for duplicate electrically driven units to raise about 78,000 gallons per hour of sludge through a lift of 34 ft. Apply City Engineer's Office, 28 Castle Street, Dublin, or Mr. J. S. Alford, M.I.C.E., 11 Victoria Street, Westminster, S.W.1. Deposit £2 2s.

November 23.—**SWITCHGEAR, &c. Pretoria.**—His Majesty's Trade Commissioner in South Africa reports that the date for the presentation of tenders for above has been extended from November 9 until 12 noon on November 23.

November 23.—**POLE FITTINGS, &c. Pretoria, S.A.**—Electric Supply and Tramways Department of the Pretoria Municipality is inviting tenders tor supply of pole fittings, insulators, &c. Apply Department of Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Reference 9798/E.D./E.P.)

November 28.—**SWITCHGEAR. Mangahao, N.Z.**—Supervision of the erection, and of the testing after erection, of outdoor switchgear (section 21) and indoor switchgear (section 33) for the Khandallah sub-station forming part of the Mangahao power scheme, for the Public Works Tender Board. Apply Department of Overseas Trade, Room 49, 35 Old Queen Street, Westminster, S.W.1. (Ref. 9468/Ed./E.P.) Deposit £100.

November 28.—**TRANSFORMERS. Wellington.**—The Public Works Tender Board, Wellington, are inviting tenders for the manufacture, supply, and delivery, ex ship's slings Auckland, of two exciter transformers in connection with the Waikato power scheme, section 57 The transformers are required to transform three-phase 50-cycle power at 5,250 volts between phases to power at 400 volts between phases, and will be used for supplying power to 220 k.w. exciter units in the power house at Horahora. They are to be of the oil-filled and self-cooled type, and to be rated 275 k.v.a. 93 per cent. power factor. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

November 29.—**TRUCKS, &c. Melbourne.**—The Victorian Railways Commissioners are calling for tenders for supply of three electric industrial trucks, one trailer, and two spare batteries. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1. Deposit half per cent. (Reference D.O.T./9623/E.D./E.C.)

November 29.—**PLANT, &c. St. Marylebone.**—Supply, delivery, and erection of :—Section A—Turbo-alternator and condensing plant. Section B—Water-tube boilers. Section C—Fan draught water-cooling tower. Section D—Rotary convertor plant, for the St. Marylebone Borough Council. Apply Mr. C. H. Smyth, Chief Engineer, Town Hall, Gloucester Place, London, W.

December 15.—**PLANT. Wellington.**—The Southland Electric Power Board are calling for tenders for supply and delivery of plant and material. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1.

December 20.—**ELECTRIC CRANES AND LIFTS FOR EGYPT. Alexandria.**—The Administration of Ports and Lighthouses, Alexandria, is inviting tenders for fixed and moveable lifting apparatus for service at the port of Alexandria. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1

January 9.—**CRANE. New Zealand.**—Supply and delivery of one electric travelling crane in connection with the Waikato power scheme, section 58. The crane is to be designed for lifting, traversing and travelling loads up to 27 tons. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, London, S.W.1.

January 15-31.—**PLANT. Melbourne.**—Supply, delivery, &c., of plant for the Morwell power scheme, for the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £2 2s.

No Date.—**ELECTRIC LIGHTING. Wrexham.**—Electric lighting installations of 22 houses on the Acton Park estate, for the Corporation. Apply Mr. G. D. Coe, A.M.I.E.E., Borough Electrical Engineer, Willow Road, Wrexham.

ENGINEERING.

November 16.—**GEAR WHEELS. Johannesburg.**—28 tramcar gear wheels (contract No. 965), for the Municipal Council of Johannesburg. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

November 18.—**EXCAVATING, &c. Mossend, Lanark.**—Messrs. Stewarts and Lloyds, Ltd., invite tenders for excavating and disposing of about 200,000 cubic yards of material from ground adjoining their Clydesdale Steelworks, Mossend. Apply Clydesdale Works, Mossend.

November 18.—**TUBES. Johannesburg, S.A.**—His Majesty's Senior Trade Commissioner in South Africa reports that the Municipal Council of Johannesburg invites tenders for supply and delivery at President Street store of 128 large and 128 small solid-drawn steel superheater tubes, 1½ in. outside diameter, No. 9 s.w.g. for 17,000 lb. Babcock and Wilcox boiler, in accordance with drawing No. 1,511, dated September 12, 1922. (Contract 977.) A deposit of 10 per cent. of the total amount of the tender. Apply Department of Overseas Trade (Room 47), 35 Old Queen Street, Westminster, S.W.1. (Ref. 9855/E.D./E.P.)

November 18.—**STEELWORK. Walsall.**—Supply and erection of structural steelwork, including 26 steel roof principals, each 64 ft. span, steel purlins, stanchions, and girders, for a motor 'bus garage, to be erected at Birchills, Walsall, for the Town Council. Apply Mr. J. Taylor, M.I.C.E., Borough Engineer and Surveyor, Council House, Walsall.

November 20.—**LAUNDRY MACHINERY. Hemsworth.**—Delivery and erection of laundry machinery at the Hemsworth Poor Law Institution, Hemsworth, near Wakefield, for the Guardians. Apply Mr. W. T. Lynam, A.M.I.C.E., Engineer, Council Offices, Hemsworth, near Wakefield. Deposit £1 1s.

November 20.—**WATER MAIN. Brynmawr.**—Laying of approximately 375 yards of 4 in. diameter, and 270 yards of 3 in. diameter cast-iron water pipes, at their housing site, Brynmawr, for the Brynmawr Urban District Council. Apply Mr. J. J. Quirk, Surveyor.

November 20.—**RECONSTRUCTING BRIDGE. Gargrave, Yorks.**—For the following work, viz. :—The reconstruction in reinforced concrete of Knowles House Bridge (length 36 ft., span 9 ft.), situate on the Keighley and Kendal main road at Gargrave, within the Skipton rural district, for the West Riding County Council. Apply West Riding Surveyor, County Hall, Wakefield. Deposit £1.

November 21.—**BOILERS, &c. Brighton.**—Supply, delivery, and setting at the Poor Law Institution, Elm Grove, Brighton, of two Cornish boilers, each 18 ft. long by 6 ft. diameter, with working pressure of 150 lb., together with the removal of two existing Cornish boilers and sundry builders' and engineers' work necessary to the alteration of the boiler-house, for the Guardians. Apply to the Guardians' Architect, Mr. E. Wallis Long, M.S.A., M.I.M.E., 56 East Street, Brighton. Deposit £3.

November 24.—**RESERVOIR. Minehead.**—Construction of a covered-in reinforced concrete reservoir, on any approved system of reinforcement, and having a capacity of one million gallons, for the Minehead Urban District Council. Apply Mr. A. Douglas Barron, Surveyor and Water Engineer, Council Offices, Minehead, Somerset. Deposit £2 2s.

November 25.—**WEIGHBRIDGE. Edinburgh.**—Delivery and erection of a 30-ton self-contained road weighbridge on the site of the old weighbridge at Baltic Street, Leith, for the Edinburgh Town Council. Apply Mr. J. A. Williamson, A.R.I.B.A., City Architect, City Chambers.

November 25.—**GASHOLDER TANKS. Birmingham.**—The construction of two concrete gasholder tanks, 254 ft. diameter by 45 ft. deep, at the site of the new gasworks, Washwood Heath, for the Corporation. Apply Engineer-in-Chief, City Gasworks, Saltley. Deposit £5.

(*Continued on page* xxxii.)

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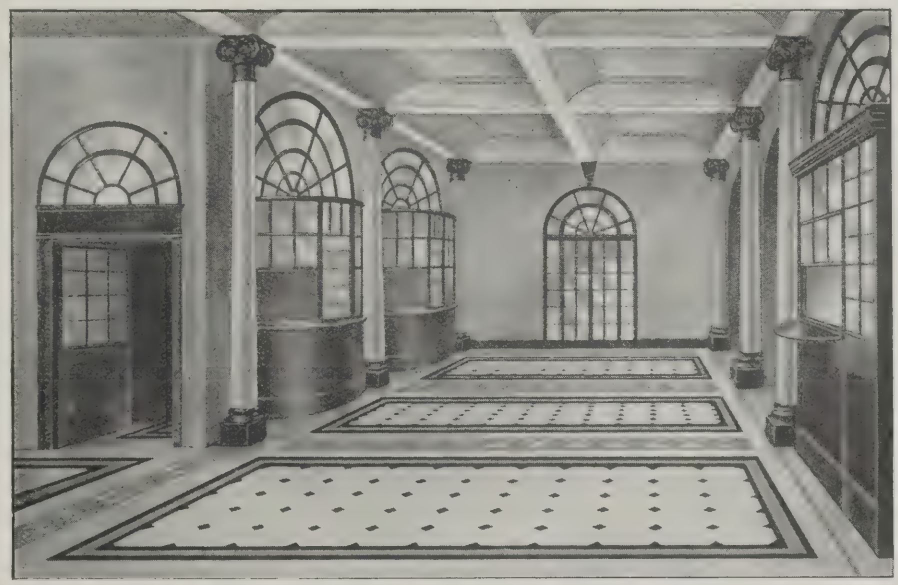

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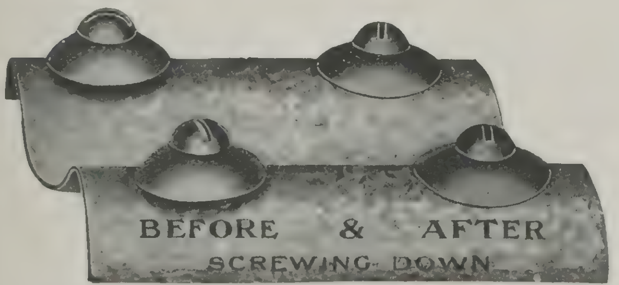

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November 27.—**PUMPING MACHINERY, &c. Hornchurch, Essex.**—Construction and erection of their proposed outfall works adjoining Rainham Creek, parish of Hornchurch, Essex, of the pumping machinery and other plant required, for Romford R.D.C. The contract includes centrifugal pumps, vertical semi-Diesel engines, overhead travelling crane, sludge ejectors, pipe work, and all auxiliary plant and accessories. Apply Mr. W. Fairley, M.I.C.E., Parliament Mansions, Westminster, S.W.1. Deposit £5 5s.

November 27.—**WIDENING BRIDGE. Willesden.**—Widening of the existing brickwork bridge carrying Dudden Hill Lane over the Midland and South-Western Junction Railway from its present width of 25 ft. to 60 ft., for the Willesden Urban District Council. Apply Engineer of the Council, Mr. F. Wilkinson, M.I.C.E., Town Hall, Dyne Road, N.W.6. Deposit £2 2s.

November 27.—**WATER STORAGE TANK, &c. Rathdrum, Wicklow.**—Carrying out certain works in connection with the provision and erection of a galvanized iron water-storage tank, a suction and force pump, and the painting of the external wood and iron work at the Dunganstown Dispensary Residence, for the County Wicklow Board of Health. Apply Mr. P. W. Sheehan, Secretary, Rathdrum.

November 27.—**PUMPING MACHINERY, &c. Hornchurch, Essex.**—The Romford Rural District Council are prepared to consider tenders from approved makers of sewage pumping machinery for the construction and erection at their proposed outfall works adjoining Rainham Creek, parish of Hornchurch, Essex, of the pumping machinery and other plant required. The contract includes centrifugal pumps, vertical semi-Diesel engines, overhead travelling crane, sludge ejectors, pipe work, and all auxiliary plant and accessories. Apply Mr. W. Fairley, M.I.C.E., Parliament Mansions, Westminster, S.W.1. Deposit £5 5s.

November 27.—**ENGINES, &c. London, E.**—Supply of five sets of vertical enclosed steam engines direct-coupled to centrifugal pumps, and two independent condensing sets, for Abbey Mills pumping station, Abbey Lane, Stratford, London, E.15, for the London County Council. The total pumping capacity of the five sets is to be 54,000 gals. a minute. Apply Chief Engineer, Old County Hall, Spring Gardens, Charing Cross, S.W.1. Deposit £5.

November 30.—**BOILER, &c. Camberwell.**—Supply of one new vertical steam boiler, one new horizontal steam calorifier, one new horizontal steam engine, new laundry machinery, &c., in connection with the rearrangement of the boiler-house and service laundry at the Public Baths, East Dulwich Road, East Dulwich, S.E.22, for the Camberwell Borough Council. Apply Mr. F. J. Slater, Borough Engineer, Town Hall, Camberwell, S.E.5.

December 2.—**BRIDGE. Sowerby Bridge.**—Taking down of the present bridge and the erection of a new bridge about 28 ft. span over the Calder and Hebble Navigation Canal, Chapel Lane, Sowerby Bridge, for the Sowerby Bridge Urban District Council. Apply Mr. J. Eastwood, A.M.I.C.E., Surveyor, Council Offices, Sowerby Bridge.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

December 7.—**RESERVOIR. Evington, near Leicester.**—Construction of a covered service reservoir of 5,000,000 gallons capacity at Evington, near Leicester, for the water committee. Apply Mr. G. T. Edwards, M.I.C.E., Water Engineer, Bowling Green Street, Leicester.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria : Specification No. 282 : Coal-handling plant for Morwell power station and briquetting works. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2.

January 6.—**BRIDGE. Glasgow.**—The Corporation of Glasgow invite designs and offers for the construction of a ferro-concrete bridge over the Clyde at Oswald Street. Apply Office of Public Works, City Chambers, 64 Cochrane Street.

Coming Events

Thursday, November 16.

R.I.B.A.—Lantern Lecture on Rheims Cathedral. By Sir Isambard Diven, in aid of Rheims Cathedral Fund. 8.30 p.m.

Concrete Institute. — "Concrete on British Railways." By Mr. W. Marriott, M.Inst.C.E. 7.30 p.m.

A. and S.A.P.U. (Metropolitan Branch).—Cinderella Dance, Australia House, Strand. 7.30 p.m.

Institute of Mechanical Engineers, Midland Branch.—"The Economics of Plant Purchase." By J. Fearn.

Birmingham Town Planning Lecture.—"Renaissance Town Plans." By William Haywood, F.R.I.B.A. 5.30 p.m.

Friday, November 17.

Royal Technical College, Glasgow.—Architectural Craftsmen's Society. Opening night.

Institute of Mechanical Engineers.—Adjourned Discussion on Electric Locomotives. By Sir Vincent L. Raven, K.B.E.

The Art Workers' Guild.—Election of Master. "The Constitution and Results of Mediæval Craft Guilds."

Monday, November 20.

R.I.B.A.—"Illuminating Engineering in Relation to Architecture." By Lawrence M. Tye. 8 p.m.

Tuesday, November 21.

Liverpool Architectural Society. — "Regional Planning." By Professor L. P. Abercrombie, M.A.

Wednesday, November 22.

R.I.B.A.—Meeting of Grand Committee on Bicentenary of Sir Christopher Wren. 4 p.m.

Builders' Benevolent Institution. — Annual Dinner, Edward VII Rooms, Hotel Victoria, W.

Thursday, November 23.

Institute of Mechanical Engineers, South Wales Branch.—"Boiler Efficiency under Test and Working Conditions." By David Wilson, C.B.E.

Birmingham Town Planning Lecture.—"Renaissance Town Plans."

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The Failure of Modern Sculpture, and the Remedy

Mr. W. P. Bloye, in reading a paper on "The Failure of Modern Sculpture, and the Remedy" before the Birmingham Architectural Association, said that sculpture was looked upon nowadays as first a luxury and secondly a something to be made just as the client wants it, and not as an expression of what the sculptor felt. The art of the so-termed Classic period obsessed the intellectual people of the last century. The technical accomplishment of the Classic sculptors gave a sort of material beauty, and the reason it appealed to the greater masses of to-day was because it approached very near to the present-day aspect. It was the awful sense of realism that put them below their archaic predecessors.

The present awakening of interest in the work of the archaic periods was not a fashion, but a genuine reaction against the soulless and commercial art of Modern Europe. Art was not, as some people thought, a limitless expression of anything they chose to do; too much liberty could easily become a hindrance. The substance of a work of art was first its spiritual quality, secondly its material quality, and thirdly its subject quality. By spirit they meant faith or truth. The spirit of the best work was truth, and with truth came force, while the spirit of the great majority of modern art was profane. In the main, our failure was due to the lack of understanding of our materials. The fact of material in sculpture should run through the whole of it, arranging, governing, and reigning over every portion of it. In all great buildings we saw that feeling, and it had come about because every one who had any part in the making of it was always subjected to the special sense of the particular material used.

Under present-day methods, all who were working on a building were subject to the demands of the architect, some of whom were prone to forget that sculptors required at least as much training to do their job as the architect required to do his. Knowledge was based on actual experience and experiment, and the only way to know what was right in stone was to go and carve it. The right and good were the common property of all architects and sculptors, and when these men combined good work would result.

Sculptors had, in the majority of cases, forgotten entirely the part played by material in their work. The failure was due to the fact of the clay model lying behind everything that was done. The word "cut" surely was the reverse to the word "model," or in other words, the thing from which you cut away must have an entirely different character from the thing to which you add.

Clay was the root of the evil of modern sculpture. It should be used only for work to be cast, for clay to be fired, and, to a very limited degree, for the furthering of one's knowledge of form. It was all a matter of finding out the way in which the best had been done, and of doing it The sculptor must be made entirely responsible for what he does, and must be given, within limits, a free hand. If architects, at the commencement of a design for a building where sculpture is required, would consult a sculptor, both would benefit greatly.

At the conclusion of the paper, which was illustrated by many lantern slides, a vote of thanks was proposed to Mr. Bloye by Mr. H. W. Hobbiss, seconded by Mr. A. L. Snow, and carried unanimously.

The Preservation of Stone

Professor A. P. Laurie, Professor of Chemistry at the Royal Academy of Arts, has delivered the last of his course of lectures at the Royal Academy. He took for his subject "The Preservation from Decay of Stone on Buildings." The professor dealt with the general causes of stone decay, and showed by experiments the distinctions between limestone, sandstone, with a calcide cement, and sandstone with a silica cement. He described the different methods necessary to make complete laboratory tests with a suggested preservative, and illustrated by photographs some of the difficult problems which have to be faced.

The Professor then described a new preparation which he had recently discovered. This preparation deposited hydrated silica as a cement between the particles of the stone. While not solving the problem of the preservation of limestones, he had great hopes that it would prove successful in the preservation of sandstones. He described the experiment he had made, and was at present engaged on, with this preservative. Professor Laurie further suggested that it might be worth while for the R.I.B.A. to experiment with this new material.

New Inventions

Latest Patent Applications.

29562.—Allen, H. V.—Method of glazing bricks. October 30.

29906.—Arnot, R.—Compositions for conditioning wood, etc. November 1.

30234.—Cuypers, M. E. J. A.—Buildings. November 4.

30081.—Goddard, L. W.—Ventilation and heating of structures. November 3.

30131.—Marshall, H. C. — Structural material, and applications thereof. November 3.

30080.—Prowse, W. H.—Chimney-pot. November 3.

29661.—Starkey, L. J. — Reinforced-concrete structures. October 30.

30479.—Brightiff, C. H.—Blocks or tiles, and assembling thereof into floors, etc. November 7.

30903.—Carpmael, W. P.—Moulds for erection of concrete buildings. November 11.

30766.—Crittall, R. G.—Heating and cooling buildings. November 10.

30305.—Knapman, E. G.—Scaffolding. November 6.

30531.—Neaves, R. D.—Construction of houses. November 8.

Specifications Published.

187286.—Arquint, H., and Melcator akt.-Ges.—Support for the plaster-work and a reinforcement for ceilings, walls, and roofs.

187289.—Meldrum, F.—Construction of buildings.

187304.—Simkins, E.—Construction of parquet flooring.

187428.—Schonfield, W.—Screw-action apparatus for opening and closing fanlights, casement windows, and such like.

187533.—Winkler, C.—Central-heating systems for houses and the like.

187676.—Willgoose, I.—Means for casting hollow concrete walls with the aid of movably suspended cradles.

187720.—MacDonald, A., McArthur, B. J., and Davidson, J. M.—Casement windows and the like.

167757.—Kambach, H.—Heat, cold, and waterproof material.

187740. – Colman, T. B.—Revolving doors.

187751.—Hall, J. M.—Sectional reinforced concrete dwellings.

168316.—Wild, H.—Theodolites.

187779.—Hines, J.—Methods of making and repairing roads, paths, walls, roofs, and the like.

187834.—Rochester, E., and Ingham, A.—Building walls and concrete blocks for the same.

187918.—Engert, G. J.—Hollow concrete walls and means for constructing same.

Abstracts Published.

185918.—Subaqueous structures. — H. Wade, 111 Hatton Garden, London. — Subaqueous structures for use in piers, wharves, docks, walls, jetties, foundations, bridges, etc., comprise a number of tubular units, with closed conical bottoms and internal strengthening ledges; the units, which may be built up of superposed sections, are sunk by filling them with concrete, and are slidably connected with each other so as to allow independent settling movement. The connections may consist of **I**-beams secured to the units and working in channel-irons bolted together. Where the units are spaced widely apart and connected by rods or metal frames, similar sliding joints are provided at the ends and points of intersection of the bracing-rods.

186165.—Building-blocks.—P. J. White, 329 High Holborn, London.—A building-block consists of two hollow bricks which are joined together and overlap one another to the extent of half the length of each. One brick is shorter than the other and the overlap is equal to half the length of the shorter brick. The blocks are adapted to be used with auxiliary blocks, and they may have grooves on their sides for purposes of grouting.

The above particulars are specially prepared by Messrs. Rayner & Co., Registered Patent Agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

Architects' Fees for Scottish Housing

The Scottish Board of Health has issued a memorandum with regard to the scale of fees payable to private architects in connection with abandoned, or partially abandoned, State-aided housing schemes. The terms and conditions have been approved by the Incorporation of Architects in Scotland. The terms and conditions do not apply in cases where an agreement providing for a specific payment for abandoned work has been made, or where a final settlement has been come to, between the local authority and the architect prior to the date of the memorandum.

The payments set forth are for the preparation of plans which have been abandoned after approval by the Board; but provision is also made for payment for work on plans that have not been approved by the Board or even submitted for approval. Copies of the memorandum may be obtained on application to the Board at 125 George Street, Edinburgh.

An Armenian Chapel for London

An Armenian chapel, designed by Mr. Davis (of Messrs. Mewès and Davis), has just been completed on a site in Kensington behind Harrod's stores. It is in the tradition of Armenian Byzantine of the thirteenth century, with a slight Saracenic influence. Mr. Davis has introduced into the art of London a building characteristic of Asia Minor, recalling the building and the cloisters of Haghbat, Armenia.

There is no external carving, the effect being obtained by masses, reposeful surfaces, accurate mouldings and inscriptions. In the angles of this cruciform structure there are some curious niches, which are compressed at the top like the corbelling of Moorish art. These are typical features of Armenian work. The building is crowned by a hexagonal turret, supported on seven columns. The doors are of oak, with intricate Arabesque carving.

The building is of diminutive size, designed to hold a congregation of seventy-five people, yet its scale is impressive both externally and internally. The architect has produced a building expressive of its purpose in Portland stone that does not look the least out of place in London.

Roadwork in London

Bermondsey is spending £33,700 on road work.

About 130 men will be found work for the winter on a new main from Lea Bridge waterworks to Woodford reservoir (about four miles).

Glasshouse Street, off Regent Street, near Piccadilly Circus, is to be widened at a cost of £16,000.

It is recommended by the L.C.C. Education Sub-Committee that preliminary work on the extension of the Hackney Institute should be begun forthwith; £9,000 will be expended before acceptance of tenders for the remainder of the work.

Trade and Craft

New Depots at Chadwell Heath.

The British Roofing Co., Ltd., of Premier House, 150 Southampton Row, W.C.1, have opened two builders' merchants' depots at Chadwell Heath, where they have good stocks of bricks, lime, cement, and all roofing materials.

The National Museum of Wales.

We understand that the floors in the above building, described in our issue for November 15, are of Ruboleum, supplied by the Korkoid and Ruboleum Tile Co.

New Thames Bridges

At the last meeting of the London County Council the Improvements Committee, holding that priority should be given to the widening of Putney Bridge, recommended the Council to decline to join in representations to be made to the Ministry of Transport by the Battersea, Fulham, and Wandsworth Borough Councils with regard to the suggested construction of an arterial road from Fulham to Streatham, including the reconstruction of Wandsworth Bridge. The recommendation was approved. It is now practically certain that the preliminary work in connection with the building of the new bridge over the Thames in the neighbourhood of St. Paul's will be taken in hand during the course of the next few weeks. The plans for this bridge and its approaches were drawn up before the war, and include the construction of a viaduct over Thames Street.

Educational Tour of Rome

Following on the successful educational tours arranged from "Leplay House," Rome is to be the next centre of study. A party will be taken to Rome during the Christmas vacation, leaving London on Wednesday, December 27 (nineteen days' tour, inclusive). The educational side of the tour is under the direction of Mr. Alexander Farquharson, M.A. Visits will be made to churches, palaces, and institutions of every kind, with guides who are authorities on the history of each centre. For those wishing to specialize on classical Rome, a series of visits devoted to that alone is being organized. A further group, to study Rome of to-day, with special reference to its educational, social and political institutions, is being arranged for. A course of lectures on the general history of Rome in relation to Italy and the world will be given during the tour. For full particulars, application should be made to Miss Margaret Tatton, director, Leplay House Educational Tours, 65 Belgrave Road, Westminster, S.W.1.

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CONTRACTS OPEN

Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING.

November 30.—**HOUSES. Oxford.**—Erection of 14 houses in Abingdon Road, for the Corporation. Apply to the City Engineer, Town Hall, Oxford. Deposit £3 3s.

November 30.—**PALACE. Barcelona.**—In construction of the Grand Palace of Nations. Apply Don José y Cadafalch, offices of the exhibition (Lerida Street), and Dept. of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

November 30.—**HOUSES. Blackwood, Mon.** Erection of 12 houses off Twynffald Road, Blackwood, for the Bedwelty Urban District Council. Apply Mr. D. H. Price, Architect and Surveyor, Aberbargoed.

November 30.—**TILE HANGING, &c. Kingston-upon-Thames.**—Tile hanging and weatherboarding of 69 cottages built of Clare's patent interloc blocks on the Little Woodcote estate, Carshalton and Wallington, for the Surrey Small Holdings and Allotments Sub-committee. Apply Major C. R. Harding, County Land Agent, County Hall Annexe, Kingston-upon-Thames. Deposit £1 1s.

November 30.—**REPAIRS. London, E.**—Carrying out certain repairs at their Bromley House Institution at St. Leonard's Street, Bromley-by-Bow, E.3, for the Limehouse Board of Guardians. Apply at the Offices, Barnes Street, Ratcliff, E.14. Deposit £2 2s.

November 30.—**RESIDENCES. Dewsbury.**—Erection of a pair of semi-detached residences, Birkdale Road, Dewsbury. Apply Messrs. Firth, Son, and Blackburn, A.R.I.B.A., Architects, 22 Wellington Road, Dewsbury.

December 1.—**ALTERATIONS, &c. Hereford.**—Works for the Herefordshire County Council: Tedstone Wafer School, in the Bromyard district, 3¼ miles from Bromyard Station, alterations and repairs to existing school and cottage adjoining; How Caple School, on the road between Fownhope and Ross, 3 miles from Fawley Station, extension and general repairs; Adforton School, on the main road between Wigmore and Brampton Brian, 4 miles from Bucknell Station, and 7¼ miles from Kingsland Station, new drainage. Apply Mr. G. H. Jack, County Architect, Hereford.

December 1.—**CONVENIENCES. Chester.**—Construction of public conveniences at the Groves, for the Town Council. Apply Mr. C. Greenwood, A.M.I.C.E., City Engineer and Surveyor, Chester. Deposit £1 1s.

December 1.—**CLOAKROOM, &c. Bingley.**—Works for the West Riding Education Committee, viz.: Bingley Grammar School, new cloakroom (chiefly joiner and glazier). Apply Education Department, County Hall, Wakefield.

December 1.—**VERANDAH. Bridlington.**—Erection and completion of a verandah in the Hospital, for the Guardians of Bridlington Union. Apply Mr. J. R. Earnshaw, Architect, Cliff Street, Bridlington.

December 1.—**URINAL. Portsmouth.**—Construction of a urinal in St. George's Road, Portsmouth, for the Corporation. Apply Borough Engineer's Office, Town Hall, Portsmouth.

December 2.—**ALTERATIONS, &c. Brentford.**—Alterations and additions to the public baths, Clifden Road, Brentford, for the Brentford Urban District Council. Apply Mr. W. J. W. Westlake, Engineer and Surveyor, Clifden House, Brentford. Deposit £2.

December 2.—**HOUSES. Brentford.**—Erection of (a) 20 houses and (b) 38 houses on land fronting Challis Road and Clayton Crescent, Brentford, for the Brentford Urban District Council. Apply Messrs. Dodge and Reid, Architects, 120 High Street, Brentford. Deposit £2.

December 2.—**MAINTENANCE WORKS. Edinburgh, &c.**—The Commissioners of His Majesty's Works, &c., invite tenders for the execution of maintenance works in the specified trades during one year from January 1, 1923, as follows: Edinburgh—Carpenter, &c., excavator, &c., painter, &c., slater, &c. Glasgow—Blindmaker, carpenter, &c., excavator, &c., glazier, painter, &c., slater. Stirling—Carpenter, &c., excavator, &c., painter, &c. Greenock — Carpenter, &c., painter, &c. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1.

December 2.—**BATHS. Birmingham.**—Erection of cottage baths in Grosvenor Road, Aston, and Willis Street, Ashted, for the Corporation. Apply Mr. M. J. Butcher, Architect, King's Court, 117 Colmore Row, Birmingham. Deposit £2.

December 2.—**SWIMMING BATH. Birmingham.**—Erection of swimming bath at Saltley, for the Corporation. Apply Messrs. Cooke and Twist, Architects, Queen's College, Paradise Street, Birmingham. Deposit £2.

December 2.—**EXTENSION. Huddersfield.**—Erection of extension to existing club building for the Hillhouse and Birkby Bowling Club. Apply Mr. N. Culley, F.R.I.B.A., F.S.A., 13 John William Street, Huddersfield.

December 2.—**WALL. Wirksworth.**—Taking down and rebuilding the retaining and fence wall of the Cromford Road, Wirksworth, adjoining the cemetery grounds, for the Urban District Council. Apply Mr. H. Hopkins C.E., Engineer and Surveyor, Town Hall, Wirksworth. Deposit £2.

December 4.—**REPAIRS, &c. Ormskirk.**—General repairs and minor alterations at the Industrial School, Ormskirk, for the Lancashire Education Committee. Apply County Architect, Mr. H. Littler, 16 Ribblesdale Place, Preston. Deposit £2.

December 4.—**MATERIALS, &c. Sheffield.**—Supply of materials and works required in connection with the erection and completion of a transformer substation in Sterndale Road, Millhouse, Sheffield, for the Electric Supply Committee. Apply Offices, Commercial Street, Sheffield. Deposit £1 1s.

December 5.—**PAVILION. Cardiff.**—New Hospital pavilion and X-ray room at City Lodge, for the Guardians. Apply Messrs. Willmott and Smith, 4 Park Place, Cardiff. Deposit £3 3s.

December 5.—**ALTERING, &c. Salisbury.**—Altering and rebuilding the boundary wall at the corner of Fisherton Street and St. Paul's Road, for the Town Council. Apply Office of the City Engineer and Surveyor, Municipal Offices, Salisbury.

December 7.—**HOUSES. Stourbridge.**—Erection of 24 B-type houses (12 north aspect and 12 south aspect) on the Grange Estate, for the Corporation. Apply Mr. F. Woodward, Borough Surveyor and Architect, Market Street, Stourbridge.

December 11.—**HOUSES. Wigan.**—Erection of 50 houses on the Ridyard Street site, in lots of 8, 8, 8, 12, and 14, for the Corporation. Apply Borough Engineer, Mr. R. B. Donald, M.I.C.E., Municipal Buildings, Library Street, Wigan. Deposit £2 2s.

December 15.—**STAND, &c. Hertford.**—The Ground Improvement Committee of the Hertford Town Football Club invite tenders, together with plans, detail drawings, &c., for provision and erection of a sectional stand and other accommodation to seat 400 people. Apply Hon. Secretary (Mr. H. J. Gray, Club Headquarters, Salisbury Arms Hotel, Hertford).

December 15.—**SCHOOL. Brighton.**—Erection of a school of two departments on a site adjoining the northern boundary of the borough in Loder Road, Brighton, for the Education Committee. Apply Messrs. T. Simpson and Son, 16 Ship Street, Brighton. Deposit £3.

December 16.—**OPEN-AIR SWIMMING BATH. Harrow-on-the-Hill.**—Construction of an open-air swimming bath, together with conveniences, dressing sheds, &c., adjoining the Council's housing estate, for the Harrow-on-the-Hill Urban District Council. Apply Mr. J. P. Bennetts, Engineer and Surveyor to the Council. Deposit £5.

No Date.—**OFFICES. Nelson.**—Altering premises, 9 Manchester Road, Nelson, for the Tramways Committee. Apply Borough Surveyor, Town Hall, Burnley.

No Date.—**EXCAVATING. Nottingham.**—Proposed business premises at the corner of Beastmarket Hill and Friar Lane, Nottingham. Contract No. 1, excavating. Apply Mr. H. Wilson, Architect and Surveyor, 12 Victoria Park Avenue, Kirkstall, Leeds.

ELECTRICAL.

December 4.—**ROTARY CONVERTERS. Manchester.**—Supply, delivery, and erection of rotary converters or motor converters, Specification No. 29: Two 2,500 kw.; one 1,500 kw.; and one 1,000 kw.; together with static transformers, switchgear, l.t. starting transformer, &c.; and four 500 kw.; automatically controlled rotary converters and static transformers, or, alternatively, motor converters, complete with the necessary switchgear and full automatic equipment, for the Electricity Committee. Apply Mr. F. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester. Deposit £2 2s.

December 4.—**CONVERTING SET. Edinburgh.**—Plant, for the Town Council:—Specification No. 45, one 500-kw. converting set. Apply Sir A. Kennedy, Broadway Court, 8 Broadway, Westminster, London, S.W.1. Deposit £2 2s.

December 15.—**PLANT. Wellington.**—The Southland Electric Power Board are calling for tenders for supply and delivery of plant and material. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1.

December 20.—**ELECTRIC CRANES AND LIFTS FOR EGYPT. Alexandria.**—The Administration of Ports and Lighthouses, Alexandria, is inviting tenders for fixed and moveable lifting apparatus for service at the port of Alexandria. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

January 9.—**CRANE. New Zealand.**—Supply and delivery of one electric travelling crane in connection with the Waikato power scheme, section 58. The crane is to be designed for lifting, traversing and travelling loads up to 27 tons. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, London, S.W.1.

January 9.—**PLANT. London, E.C.**—Supply of the following plant for electrification of Bombay suburban lines, for the Great Indian Peninsula Railway Co., viz.:—(1) Electrical equipment of coaches, fee for specification £2; (2) overhead equipment of permanent way and overhead distribution lines, £2. Apply Company's Offices, 48 Copthall Avenue, E.C.2.

January 15-31.—**PLANT. Melbourne.**—Supply, delivery, &c., of plant for the Morwell power scheme, for the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £2 2s.

ENGINEERING.

November 30.—**BOILER, &c. Camberwell.**—Supply of one new vertical steam boiler, one new horizontal steam calorifier, one new horizontal steam engine, new laundry machinery, &c., in connection with the re-arrangement of the boiler-house and service laundry at the Public Baths, East Dulwich Road, East Dulwich, S.E.22, for the Camberwell Borough Council. Apply Mr. F. J. Slater, Borough Engineer, Town Hall, Camberwell, S.E.5.

November 30.—**HEATING APPARATUS INSTALLATION. London.**—Installation of heating apparatus, &c., at the New Science Museum, London, for H.M.O.W. Deposit £1 1s.

November 30.—**BRIDGE. Woking.**—Construction of a road bridge over the Woking and Basingstoke Canal at Chertsey Road, Woking, for the Urban District Council. Apply Mr. G. J. Wooldridge, Engineer and Surveyor, Council Offices, Woking. Deposit £5.

November 30.—**REPLACING MAIN. Ashford, Kent.**—Replacing 300 yards of 8 in. main with a 12 in. main, 370 yards of 6 in. main with a 10 in. main, and 1,017 yards of 4 in. main with a 9 in. main, for the Ashford Urban District Council (Gas Department). Apply Mr. H. R. Turner, Engineer and Manager, Gas Offices, Ashford, Kent.

December 2.—**TANKS. Todmorden.**—Work required to be done in the construction of storm-water tanks at the sewage disposal works, Eastwood, for the Health Committee. Apply Mr. H. Crabtree, Borough Engineer, Municipal Offices, Todmorden. Deposit £2.

December 2.—**BRIDGE. Sowerby Bridge.**—Taking down of the present bridge and the erection of a new bridge about 28 ft. span over the Calder and Hebble Navigation Canal, Chapel Lane, Sowerby Bridge, for the Sowerby Bridge Urban District Council. Apply Mr. J. Eastwood, A.M.I.C.E., Surveyor, Council Offices, Sowerby Bridge.

December 2.—**RESERVOIR. Chapel-en-le-Frith.**—Construction of a concrete service reservoir and the providing, laying, and jointing complete of about 5,200 lineal yards of 5 in. cast-iron spigot-and-socket pipes with all necessary valves, hydrants, &c., for the Chapel-en-le-Frith Rural District Council. Apply Messrs. Brady and Partington, Town Hall, Chapel-en-le-Frith. Deposit £5.

December 4.—**BOILERS. Dublin.**—Supply of five locomotive boilers, complete with mountings, for the Midland Great Western Railway of Ireland Co. Apply Mr. P. A. Hay, Secretary, Broadstone Terminus, Dublin. Deposit £2 2s.

December 4.—**BOILERS, &c. East Ham.**—Supply of two water-tube boilers with mechanical stokers and accessories for the Northern outfall works, by Beckton Gasworks, East Ham, London, E.6, for the London County Council. Each boiler to have a normal evaporative capacity of 15,000 lb. of water an hour. Apply Chief Engineer, Old County Hall, Spring Gardens, S.W.1. Deposit £2.

December 4.—**BRIDGE, &c. Stanford-le-Hope, Essex.**—Erection of a new bridge, retaining walls, and sundry other works in the parish of Stanford-le-Hope, in Hennebique ferro-concrete, for Essex County Council. Apply Mr. W. H. Morgan, A.M.I.C.E., County Surveyor, Chelmsford.

December 4.—**MAINS. Kenfig Hill.**—Providing and laying about 1,800 lineal yards of 8 in. diameter cast iron mains, with all necessary sluice valves, hydrants, &c., at Kenfig Hill, for the Mid-Glamorgan Water Board. Apply Board's Offices, and Mr. B. W. Davies, Superintendent and Manager, Water Board Offices, Bridgend. Deposit £1 1s.

December 5.—**BOILERS. Dover.**—Replacement of two Cornish boilers at the waterworks by two Lancashire boilers now lying at the drainage works, for the Corporation. Apply Mr. W. B. Smith, A.M.I.C.E., Borough and Waterworks Engineer, Maison Dieu House, Dover.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

December 6.—**WIDENING, &c., BRIDGE. Cardiff.**—Widening and reconstruction of Mill Bridge, Dinas Powis, for the Cardiff Rural District Council. Apply Engineer, Mr. W. Farrow, Park House, 20 Park Place, Cardiff. Deposit £2 2s.

December 7.—**RESERVOIR. Evington, near Leicester.**—Construction of a covered service reservoir of 5,000,000 gallons capacity at Evington, near Leicester, for the water committee. Apply Mr. G. T. Edwards, M.I.C.E., Water Engineer, Bowling Green Street, Leicester.

(*Continued on page* xxiv.)

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December 9.—**EXTENSION OF REFUSE DESTRUCTOR. Southgate.**—Extension of the refuse destructor, Barrowell Green, Winchmore Hill, for the Southgate Urban District Council. Apply Mr. R. Phillips, Surveyor to the Council.

December 11.—**BOREHOLE. Bolton.**—Sinking borehole having a commencing diameter of not less than 30 inches and a terminating diameter of not less than 18 inches at a depth of 600 ft., and construction of other works connected therewith, at Belmont, near Bolton, for the Bolton Corporation. Apply Mr. J. K. Swales, M.I.C.E., Waterworks Engineer, St. George's Street, Bolton. Deposit £2 2s.

December 16.—**CONCRETE DECK. St. Peter Port.**—Removal of the timber deck at the North (White Rock) Pier head and the construction of a new deck in reinforced concrete on the Considere system at the Harbour of St. Peter Port, Guernsey, for the Board of Administration. Apply Mr. J. H. Duquemin, States Engineer, States Office, Guernsey.

December 18.—**WATER TANK. Hitchin.**—Construction of a reinforced concrete water tank of 390,000 gallons capacity, with 12 in. cast-iron connections, to be erected at their pumping station, Queen Street, Hitchin, for the U.D.C. Apply Council Offices or Mr. W. Phillips, Gasworks, Luton. Deposit £2 2s.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria : Specification No. 282 : Coal-handling plant for Morwell power station and briquetting works. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2.

January 1.—**CONDUIT. Littleton and Hampton.**—Construction of about 35 yards of twin 96 in. diameter reinforced concrete conduits and about 3,900 lineal yards of 72 in. reinforced concrete conduit from Littleton to Kempton, also the laying only of about 2,000 yards of 48 in. diameter cast-iron pipe from Kempton to Hampton, together with a concrete intake channel to the Staines aqueduct and for contingent works, for the Metropolitan Water Board. Apply Offices of the Board, Chief Engineer's Department (Room 201). Deposit £20.

January 6.—**BRIDGE. Glasgow.**—The Corporation of Glasgow invite designs and offers for the construction of a ferro-concrete bridge over the Clyde at Oswald Street. Apply Office of Public Works, City Chambers, 64 Cochrane Street.

No Date.—**RUSTENBERG.** — The Rustenburg Boeren Ko-operatieve Vereeniging invites tenders for different machineries to enlarge their cotton ginnery. Apply Secretary of the Society, P.O. Box 41, Rustenburg, South Africa.

PAINTING.

November 30.—**PAINTING. Alnwick.**—Painting at the Fever Hospital, for the U.D.C. Apply Mr. J. T. Robson, F.S.I., Town Surveyor, Urban District Council Offices, Green Bat, Alnwick.

December 1.—**PAINTING, &c. Tewkesbury.**—Painting and decorating interior and exterior of the branch at 114 High Street, Tewkesbury, for the Gloucester Co-operative and Industrial Society, Ltd. Apply Office, Brunswick Road, Gloucester.

December 2.—**PAINTING, &c. Wirksworth.**—Painting and decorating of the interior of certain rooms and offices at the Town Hall, Wirksworth, and for other works in connection therewith, for the U.D.C. Apply Mr. H. Hopkins, C.E., Engineer and Surveyor, Town Hall, Wirksworth. Deposit £2.

ROADS AND SEWERS.

November 30.—**ROADS. Edinburgh.**—Works for the Board of Agriculture for Scotland, viz. : (1) Construction of roads; (2) providing and laying of water mains; (3) providing material and erection of wire fencing at Damhead, Midlothian. Apply Chief Surveyor, Board of Agriculture for Scotland, York Buildings, Edinburgh.

November 30.—**ROADS, &c. Nantymoel.**—Construction of roads and sewers to complete the lay-out for 24 houses at Blandy Terrace, Nantymoel, for the Ogmore and Garw Urban District Council. Apply Mr. E. J. Dart, F.A.A., Clerk to the Council, Council Offices, Brynmenyn, or to Mr. A. H. Jenkins, P.A.S.I., Housing Surveyor, Council Offices, Brynmenyn.

November 30.—**RECONSTRUCTING DRAINAGE SYSTEM. Dinsdale, near Darlington.**—Reconstruction of the drainage system, and the provision of small sewage purification works at Dinsdale Park Residential School, Dinsdale, near Darlington, for the Durham County Council. Apply County Surveyor's Office, Shire Hall, Durham, or Mr. A. E. Brooke, M.I.C.E., County Engineer and Surveyor, Shire Hall, Durham.

December 4.—**STREET WORKS. Barnsley.**—Making and completing of the following private streets within the county borough, for the Town Council, viz. : Belgrave Road, Meadow Street, Denton Street, Coniston Road, back road from Day Street to Pond Street. Apply Borough Engineer, Fairfield House, Barnsley.

December 6.—**ROAD WORKS. Hove, Sussex.**—Work to be executed in making-up the roadway, laying new sewer, new footway and other works in connection therewith in Westbourne Place, for the Corporation. Apply Borough Surveyor.

December 6-13.—**CONVERSION. Crigglestone, Yorks.**—Conversion of the conveniences into w.c.'s at Crigglestone Newmillerdam Council School, for the West Riding Education Committee. Apply Education Department, County Hall, Wakefield.

List of Competitions Open

Date of Delivery.	Competition.
Dec. 1	Pavilion to be erected in the Eastern Esplanade Gardens, Ryde, for the Town Council. Cost to be from £8,000 to £10,000. Premiums £50 to the successful competitor if the scheme is not carried out, otherwise he will be appointed at an inclusive sum of £300 to carry out the work; and £30 and £20 to competitors placed second and third respectively. Apply for site plans, together with conditions and instructions to Mr. B. F. Holness, M.Inst.M.&Cy.E., Borough Surveyor, Ryde.
Dec. 16	Laying-out of Hill's Estate of 14 acres, Douglas, Isle of Man, for the erection of four- and five-room houses suitable for the working class: 12 houses to the acre. First prize, £50; second prize, £20. The Council do not intend to engage the successful competitor to carry out the work, Apply Mr. H. A. Bridge, M.I.M.C.E. Borough Surveyor. Deposit £1.
Jan. 15	Hospital for a typical small community in America. Competition open to all Architects. Premiums $500, $300, and $200. Apply The Modern Hospital Publishing Company, Inc., 22 E. Ontario Street, Chicago, Ill. Closing date for applications, November 15.
March 31	War Memorial for Port Said, Egypt, to the memory of the soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during 1916, 1917, and 1918. Premiums: 250 guineas, 100 guineas, and 50 guineas. Apply High Commissioner for Australia, Australia House, Strand, W.C.

Ryde Pavilion Competition.

The R.I.B.A. have issued the following notice : "Members and Licentiates of the R.I.B.A. must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions." The R.I.B.A. and the S. of A. have also issued similar notices with regard to the Douglas (Isle of Man) Housing Scheme competition.

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Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only, and should be confirmed by Trade inquiry. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary. The measured prices are based upon the foregoing, and include usual Builders' profit.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

EXCAVATOR AND CONCRETOR.

Excavator, 1s. 3d. per hour.
Labourer, 1s. 3d. per hour.
Navvy, 1s. 3d. per hour.
Timberman, 1s. 5d. per hour.
Scaffolder, 1s. 4d. per hour.
Watchman, 6s. 6d. per shift.

Broken brick or stone, 2 in., 10s. per yd.
Thames ballast, 13s. 6d. per yd.
Pit gravel, 15s. per yd.
Pit sand, 16s. per yd.
Washed sand, 18s. per yd.
Screened ballast or gravel, add 10 per cent. per yd.
Clinker, breeze, etc., prices according to locality.
Portland cement, 69s. per ton.
Lias lime, 59s. per ton.
Sacks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.
Transport hire per day :
  Cart and horse, 22s.
  3-ton motor lorry, £4.
  Steam lorry, 5-ton, £4 10s.
  Trailer, 20s.
  Steam roller, £4 5s.
  Water cart, 25s.

Excavating and throwing out in ordinary earth not exceeding 6 ft. deep basis price 3s. per yd. cube.
Exceeding 6 ft., but under 12 ft., add 25 per cent.
In stiff clay, add 50 per cent.
In underpinning, add 120 per cent.
In rock, including blasting, add 225 per cent.
If basketed out, add 80 per cent. to 150 per cent.
Headings, including timbering, add 400 per cent.
Return, fill, and ram, ordinary earth, 3s. 6d. per yd.
Spread and level, including wheeling, 3s. 3d. per yd.
Planking, 4d. per ft. sup.
Do. over 10 ft. deep, add for each 5 ft. depth 40 per cent.
Hardcore, 2 in. ring, filled and rammed 4 in. thick, 2s. 6d. per yd. sup.
Do. 6 in. thick, 3s. per yd. sup.
Puddling, 28s. per yd. cube.
Cement concrete, 4-2-1, 42s. per yd. cube.
Do. 6-2-1, 37s. per yd. cube.
Do. in upper floors, add 15 per cent.
Do. in ferro-concrete work, add 20 per cent.
Do. in underpinning, add 60 per cent.
Lias lime concrete, 36s. per yd. cube.
Breeze concrete, 28s. per yd. cube.
Do. in lintols, etc., 2s. 2d. per ft. cube.

DRAINER.

Labourer, 1s. 3d. per hour.
Timberman, 1s. 5d. per hour.
Bricklayer, 1s. 8d. per hour.
Plumber, 1s. 8½d. per hour.
Watchman, 6s. 6d. per shift.

Stoneware pipes, tested quality, 4-in. 1s. 4d., 6-in. 2s. 10d., 9-in. 3s. 9d. per yd.
Cast iron pipes, coated, 9-ft. lengths, 4-in. 5s. 6d., 6-in. 8s. 0d. per yd.
Portland cement and sand, see "Excavator" above.
Lead for caulking, 35s. 6d. per cwt.
Gaskin, 6d. per lb.

Stoneware drains, jointed in cement, tested pipes, 4 in. 2s. 6d., 6 in. 3s. 6d., 9 in. 4s. 9d. per ft.
Cast-iron drains, jointed in lead, 4 in. 10s. 0d., 6 in. 14s. per ft.
Note.—These prices include digging and filling for normal depths, and are average prices.
Fittings in Stoneware and Iron according to type. *See* Trade Lists.

BRICKLAYER.

Bricklayer, 1s. 8d. per hour.
Labourer, 1s. 3d. per hour.
Scaffolder, 1s. 4d. per hour.

London stocks, 82s. per M.
Flettons, 61s. per M.
Staffordshire blue, 192s. per M.
Firebricks, 2½ in., 225s. per M.
Glazed salt, white, and ivory stretchers, £22 per M.
Do. headers, £21 10s. per M.
Colours, extra, 110s. per M.
Seconds, less, £1 per M.
Cement and sand, see "Excavator" above.
Lime, grey stone, 57s. per ton.
Mixed lime mortar, 27s. per yd.
Damp course, in rolls of 4½ in. 3s. 9d. per roll.
  9 in. 6s., 14 in. 7s. 6d., 18 in. 8s. 9d. per roll.

Brickwork in stone lime mortar, Flettons or equal, £34 per rod
Do. in cement do., £37 per rod.
Do. in stocks, add 30 per cent. per rod.
Do. in blues, add 120 per cent. per rod.
Do. circular on plan, add 12½ per cent. per rod.
Facings, half Brick fair, 1½d. per ft. sup. extra.
Do. picked Flettons, 2d. per ft. sup. extra.
Do. picked stocks, 1½d. per ft. sup. extra.
Do. salt, white or ivory glazed, 5s. 6d. per ft. sup. extra.
Tuck pointing, 1s. per ft. sup. extra.
Weather pointing, 2d. per ft. sup. extra.
Granolithic and Cement paving, 1 in. 3s. per yd. sup.
Do. 1½ in., 4s. per yd. sup.
Do. 2 in., 4s. 9d. per yd. sup.
Fixing only damp course, ex rolls, 1d. per ft. sup.
Asphalt, damp course, ½ in., 8s. per yd. sup.
Do. vertical, 12s. per yd. sup.
Slate damp course, 1s. 3d. per ft. sup.
Asphalt Roofing (Mastic) in two thicknesses, ¾ in., 9s. per yd.
Skirting, 6 in., 1s.
2½ in. Breeze Partition Blocks, set in Cement, 6s. 3d. per yd. sup.
3 in. do. do. 8s.

MASON (INCLUDING SLATE).

Mason, 1s. 8d. per hour.
Do. fixer, 1s. 9d. per hour.
Labourer, 1s. 3d. per hour.
Scaffolder, 1s. 4d. per hour.

Portland stone :
  Whitbed, 4s. 7d. per ft. cube.
  Basebed, 4s. 8d. per ft. cube.
Bath stone, 3s. 1d. per ft. cube.
  Usual trade extras for large blocks.

Hoisting and setting stone, 2s. 0d. per ft. cube.
Do. for every 10 ft. above 30 ft., add 15 per cent.
Plain face Portland basis, 2s. 6d. per ft. sup.
Do. circular, 3s. 8d. per ft. sup.
Sunk face, 3s. 4d. per ft. sup.
Do. circular, 4s. 0d. per ft. sup.
Joints, arch, 2s. 0d. per ft. sup.
Do. sunk, 2s. 1d. per ft. sup.
Do. do. circular, 3s. 8d. per ft. sup.
Circular-circular work, 18s. 0d. per ft. sup.
Plain moulding, straight, per inch of girth, 10½d. per ft. run.
Do. circular, do. 1s. 2d. per ft. run.
Half sawing, 1s. 1d. per ft. sup.
Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

MASON—continued.

York paving, av. 2½ in. 9s. per yd. super.
York templates sawn, per ft. cube, 12s.
Slate shelves, rubbed, 1 in., 2s. per ft. sup.
Cement and sand, see "Excavator," etc., above.

Do. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
Do. for Chilmark, 5 per cent.
Setting 1 in. slate shelving in cement, 7d. per ft. sup.
Rubbed round nosing to do., 8d. per ft. lin.
York steps, rubbed T. & R., 33s. ft. cub. fixed.
York Sills W. & T. 36s. ft. cub. fixed.

SLATING AND TILING.

Slater, 1s. 7d. per hour.
Tiler, 1s. 7d. per hour.
Scaffolder, 1s. 4d. per hour.
Labourer, 1s. 3d. per hour.
N.B.—Tiling is often "Piecework"

Slates, 1st quality, per M. :
  Portmadoc Ladies £16, Countess £34, Duchess £42.

Clips, lead, 4½d. per lb
Clips, copper, 2s. 4d. per lb.
Nails, compo, 28s per cwt.
Nails, copper, 2s. 3d. per lb.
Cement and sand, see "Excavator," etc., above.
Handmade tiles, 130s. per M.
Machine-made tiles, 120s. per M.
Westmorland slates, large, 210s. per ton, Peggies 170s. per ton.

Slating, 3 in. gauge, compo nails, Portmadoc or equal :
  Ladies 87s., Countess 95s., Duchess 100s. 0d. per square.
Westmorland, in diminishing courses, 130s. per square.
Cornish do., 120s. per square.
Add, if vertical, 10s. per square approx.
Add, if with copper nails, 7½ per cent. per square approx.
Double course at eaves, 1s. 3d. per ft. approx.
Tiling, 4 in. gauge, 5th course nailed, in hand-made tiles, average 120s. per square.
Do., machine-made do., 110s. per square.
Vertical Tiling, including pointing, add 28s. per sq.
Fixing lead soakers, 9d. per dozen.
Stripping old slates and stacking for re-use, and clearing away surplus and rubbish, 8s. 6d. per sq.
Labour only in laying slates, but including nails, 18s. per sq.
See Sundries for Asbestos Tiling.

CARPENTER AND JOINER.

Carpenter, 1s. 8d. per hour.
Joiner, 1s. 8d. per hour.
Labourer, 1s. 3d. per hour.

Timber, average prices at Docks, London Standard.

Scandinavian, etc. (equal to 2nds) :
  7×3, £23 per std. to 11×4, £36 per std.
Memel or Equal.
  Slightly less than foregoing.
Flooring P.E., 1-in., 25s. per sq.
Do. T. and G., 1 in. 25s. per sq.
Planed Boards, 1 in.×11 in. £40 per std.
Wainscot oak, 2s. 9d. per ft. sup. of 1 in.
Mahogany, 2s. 6d. per ft. sup. of 1 in.
Do. Cuba, 3s. 9d. per ft. sup. of 1 in.
Teak, 3s. per ft. sup. of 1 in.

Fir fixed in wall plates, lintels, sleepers, etc., 6s. 0d. per ft. cube.
Do. framed in floors, roofs, etc., 8s. per ft. cube.
Do., framed in trusses, etc., including ironwork, 9s. 6d. per ft. cube.
Pitch pine, add 33⅓ per cent.
Fixing only boarding in floors, roofs, etc., 14s. per sq.
Sarking felt laid, 1 ply 1s. 4d., 3-ply 1s. 6d. per yd.
Centering for concrete, etc., including horsing and striking, 65s. per sq.
Slate battening, 21s. per sq.
1 in. deal gutter board on firring, 87s. 6d. per sq.
1¾ in. moulded casements in 4 sqs., glazing beads and hung, 2s. 10d. per ft. sup.
2 in. do. do., 3s. 0d. per ft. sup.
Deal cased frames, oak sills, 2 in. D.H. sashes, brass-faced pulleys, etc., 4s. 0d. per ft. sup.
Doors, 4 pan. sq. b.s., 2 in. 2s. 10d. per ft. sup.
Do. do. do., 1½ in. 2s. 9d. per ft. sup.
Do. do., moulded b.s., 2 in. 3s. 3d. per ft. sup.
Do. do. do., 1½ in. 2s. 10d. per ft. sup.
If in oak multiply 6 times.
If in mahogany multiply 6 times.
If in teak multiply 7 times.
Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, 1 in. 14s. 0d., 1¼ in. 16s. 0d. per yd. sup., average.
Do. do., 1¼ in. Maple blocks, 19s. 6d.
Staircase work, deal :
  1 in. riser, 1¼ in. tread, fixed, 3s. 3d. per ft. sup.
  2 in. deal strings, fixed, 3s. 6d. per ft. sup.

PLUMBER AND RAIN-WATER GOODS.

Plumber, 1s. 8½d. per hour
Mate or labourer, 1s. 3d. per hour.

Lead, milled sheet, 35s. 6d. per cwt.
Do. drawn pipes, 36s. per cwt.
Do. soil pipe, 38s. 6d. per cwt.
Do. scrap, 23s. per cwt.
Copper, sheet, 2s. 4d. per lb.
Solder, plumbers, 10d. per lb.
Do. fine, 1s. per lb.
Cast-iron pipes, etc. :
  L.C.C. soil, 3 in. 4s. 6d., 4 in 5s. 6d. per yd.
  R.W.P., 2½ in. 2s. 2d., 3 in. 2s. 7d., 4 in. 3s. 6d. per yd.
Gutter, 4 in. H.R., 3s., 4 in. O.G., 3s. 6d. per yd.

Milled lead and labour in gutters, flashings, etc. 58s.
Lead pipe, fixed, including running joints bends, and tacks, ½ in., 1s. 6d. per ft.
Do., ¾ in., 1s. 9d. per ft.
Do., 1 in., 2s. 3d. per ft.
Do., 1¼ in., 2s. 10d. per ft.
Lead waste or soil, fixed as above, complete, 2½ in. 4s. 3d. per ft.
Do., 3 in., 5s. 3d. per ft.
Do., 4 in., 6s. per ft.
Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½ in., 2s. per ft.
Do., 3 in., 2s. 4d. per ft.
Do., 4 in., 2s. 8d. per ft.
Cast iron H.R. gutter, fixed, with all clips, etc. 4 in., 2s. 4d. per ft.
Do., O.G., 4 in., 2s. 9d. per ft.
Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4 in., 6s. 6d. per ft.
Do., 3 in., 5s. 6d. per ft.
Fixing only :
  W.C. pans and all joints, P. or S., and including joints to water waste preventers, 40s. each.
  Baths only, with all joints, 35s.
  Lavatory basins only, with all joints, on brackets, 25s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, 1s. 7½d. per hour. Glass : 4th in crates : Clear, 21 oz. 4⅝d., 26 oz. 5¾d. Cathedral white, 5½d. per ft. Polished Plate, British ¼ in., up to 2 ft. sup. 1s. 11d., 3 ft. sup. 2s. 5d., 7 ft. sup. 3s. 8d., 25 ft. sup. 4s. 2d., 100 ft. sup. 5s. 1d. Rough plate, 3/16 in., 5¾d., ¼ in. 6¼d. per ft. Linseed oil putty, 17s. per cwt.	Glazing in putty, clear sheet, 21 oz. 10d., 26 oz. 11d. Glazing in beads, 21 oz. 1s. 0d., 26 oz. 1s. 3d. per ft. Patent glazing in rough plate, normal span, 1s. 5d. to 1s. 10d. per ft. Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 3s. 6d., and up, per ft. sup. Glazing only, polished plate, 6d. to 7½d. per ft., according to size.
PLASTERER.	
Plasterer, 1s. 8d. per hour. Labourer, 1s. 3d. per hour. —— Chalk lime, 57s. per ton. Hair, 17s. per cwt. Sand and cement, see "Excavator," etc., above. Lime putty, 3s. 6d. per cwt. Hair mortar, 30s. per yd. Fine stuff, 35s. per yd. Sawn laths, 3s. per bdl. Keene's cement, 113s. per ton. Sirapite, 76s. per ton. Do. fine, 84s. per ton. Plaster, 70s. per ton. Do. fine, 112s. per ton. Thistle plaster, 72s. per ton. Lath nails, 4d. per lb.	Lathing with sawn laths, 1s. 6d. per yd. Metal lathing, 2s. 8d. per yd. Floating in Portland, 1 to 3, for tiling or wood-block, ¾ in., 2s. 6d. per yd. Do., vertical, 3s. per yd. Render, on brickwork, 1 to 3, 2s. per yd. Render Portland and set in fine stuff, 3s. per yd. Render, float, and set, trowelled, 2s. 9d. per yd. Render and set in Sirapite, 3s. 0d. per yd. Do., in Thistle plaster, 2s. 10d. per yd. Extra, if on but not including lathing, any of foregoing, 6d. per yd. Extra, if on ceilings, 6d. per yd. Angles, rounded Keene's on Portland, 6d. per ft. lin. Plain cornices, in plaster, per inch girth, including dubbing out, etc., 3½d. per ft. lin. White glazed tiling set in Portland and jointed in Parian, 30s. per yd. Fibrous plaster slabs, 2s. per yd.
DECORATOR.	
Painter, 1s. 7d. per hour. Labourer, 1s. 3d. per hour. French polisher, 1s. 10d. per hour. Paperhanger, 1s. 8d. per hour. —— Genuine white lead, 55s. 6d. per cwt. Linseed oil, raw, 3s. 6d. per gall. Do. boiled, 4s. 1d. per gall. Turpentine, 10s. per gall. Liquid driers, 10s. 3d. per gall. Knotting, 27s. per gall. Distemper, washable, in ordinary colours, 50s. per cwt. and up. Double size, 3s. 6d. per firkin. Pumice stone, 4½d. per lb. Varnish, hard oak, 14s. per gall. and up. Gold Leaf (Transferable), 2s. 4d. per book.	Lime whiting 4d. per yd. sup. Wash, stop, and whiten, 6d. per yd. sup. Do., and 2 coats distemper with proprietary distemper, 9½d. per yd. sup. Knot, stop, and prime 5d. per yd. sup. Plain painting, including mouldings, and on plaster or joinery, 1st coat, 10d. per yd. sup. Do., subsequent coats, 8½d. per yd. sup. Do., enamel coat, 1s. 2d. per yd. sup. Brush-grain, and 2 coats varnish, 3s. 6d. per yd. sup. Figured do. do., 5s. per yd. sup. French polishing, 1s. 6d. per ft. sup. Stripping old paper and preparing, 1s. 6d. per piece. Hanging paper, ordinary, 1s. 9d. per piece. Do., fine, 2s. 3d. and upwards per piece. Varnishing paper, 1 coat, 10s. per piece. Canvas, strained and fixed, 2s. 9d. per yd. sup. Varnishing, hard oak, 1st coat, 1s. 3d. yd. sup. Do., each subsequent coat, 1s. per yd. sup
DECORATOR—continued.	
Varnish copal, 20s. per gall. and up. Do. Flat, 20s. per gall. Do. Paper, 17s. per gall. French polish, 21s. per gall. Ready mixed paints, 9s. per gall. and up.	
STEELWORK, SMITHWORK, etc.	
Smith, Weekly Rate = 1s. 7¾d. per hour. Mate, Do. 1s. 3d. Erector, 1s. 7¾d. per hour. Fitter, 1s. 7¾d. per hour. Labourer, 1s. 3d. per hour. —— Mild steel in British standard sections, £13 per ton. Sheet steel : Flat sheets, black, £24 per ton. Do. Galvd., £28 per ton. Corrugated sheets, galvd., £24 per ton. Driving screws, galvd., 2s. 6d. per grs. Washers, galvd., 1s. 6d. per grs. Bolts and nuts, 42s. per cwt. and up.	Mild steel in trusses, etc., erected, £26 per ton. Do., in small sections as reinforcement, £16 per ton. Do., in compounds, £17 per ton. Do., in bar or rod reinforcement, £20 per ton. Wrot. iron in chimney bars, etc., including building in, 38s. per cwt. Do., in light railings and balusters, 45s. per cwt. Fixing only corrugated sheeting, including washer, and driving screws, 2s. per yd.
SUNDRIES.	
Fibre or wood pulp boardings, 3¼d. per ft. sup.	Fibre boardings, fixed on, but not including studs or grounds, 5½d. per ft. sup.
Plaster Board, 1s. 7d. per yd. sup.	Plaster Board, fixed as last, 2s. 8d. per yd. sup.
Asbestos sheeting, 5/32 in., grey flat, 2s. 9d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 3s. 6d. per yd. sup.
Do. corrugated, 4s. 0d. per yd. sup.	Do. do., corrugated, 4s. 9d. per yd. sup.
Asbestos composition. Flooring :	Laid in two coats, average ¾ in. thick, in plain colour, 8s. 0d. per yd. sup. Do. ½ in. thick, suitable for domestic work unpolished, 7s. 0d. per yd.
Metal casements for wood frames, domestic sizes, 1s. 9d. per ft. sup.	Hanging only metal casements in, but not including wood frames, 2s. 6d. each.
Do. in metal frames, 2s. per ft. sup.	Building in metal casement frames 6d. per ft. sup.
Asbestos cement slates or tiles, 5/32 in. punched per M. grey £18, red £20.	Asbestos slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey 55s. 0d., red 60s. 0d.
Waterproofing compounds for cement.	Add about 75 per cent. to 100 per cent. to the cost of cement used.
PLYWOOD.	
3 m/m Alder 2¼d. per ft. sup. 4½ m/m Amer. White 3¾d. per ft. sup. 5 m/m Figured Ash 5d. per ft. sup. 4½ m/m 3rd Quality, Composite Birch 1½d. per ft. sup.	

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Room 614, IMPERIAL HOUSE, KINGSWAY, LONDON, W.C.2.

Electrical Notes

MR. L. GASTER, Hon. Secretary of the Illuminating Engineering Society, in reading a paper on "Notes on Events during the Vacation" before the Society, said that an event of outstanding importance had been the issue of the Third Report of the Home Office Departmental Committee on Lighting in Factories and Workshops. After summarizing recommendations contained in previous reports on the subject of glare, avoidance of shadows, etc., it is pointed out that further research is necessary before legal standards for working illumination can be framed. This matter, it is suggested, should be studied in co-operation with the chief industries concerned, but meanwhile minimum values, illustrative of good practice, are recommended for fine work (requiring three foot-candles) and very fine work (requiring five foot-candles). The original scheme of work of the Committee has been curtailed by the urgent demands in the interests of national economy, and it is, therefore, of importance that the aims of the Committee should be made familiar, both to the lighting industry and to managers of factories, and their aims fully understood. It is hoped to arrange for several papers before leading scientific societies and trade associations with the object of making these aims widely known.

The subject of street-lighting has been receiving attention, several new schemes having been recently introduced in Oxford Street and elsewhere in London, while in some provincial cities substantial economies, coupled with improvements in illumination, have been effected by the substitution of the latest superheated inverted gas burners for those of an obsolete type. Street-lighting as a factor in "street safety" has also been receiving attention from the London "Safety First" Council, with whom the Society continues to co-operate, and statistics have been published in the United States leading to the conclusion that 17·6 per cent. of street accidents occurring at night are due to inadequate lighting.

Progress in the Electrical Industry.

The committee on progress in electric lamps and lighting appliances—Mr. S. H. Callow (chairman), Mr. J. E. Edgecombe, Mr. J. W. Elliott (secretary), Mr. J. Y. Fletcher—have presented their report to the Illuminating Engineering Society.

It is stated that the past twelve months has been a period of steady progress for the electric lamp and fittings industry, and one of considerable interest and activity. December last witnessed the conclusion in the House of Lords of the long-drawn-out litigation concerning the gas-filled patent, which was there unanimously declared to be valid and of great commercial value.

The research laboratories and testing departments of the various manufacturers have been very active in research and experimental work, with the result that the quality of electric lamps, particularly of the gas-filled type, has been considerably improved. Furthermore, standardization has progressed, and it is hoped shortly to issue complete specifications (on the lines of those now existing for the vacuum type lamps) covering all the various types of electric lamps manufactured under the auspices of the B.E.S.A.

The manufacturers, always desirous of cheapening electric lighting with the idea of assisting to popularize its use, reduced, in some cases very considerably, the prices of electric lamps in September last, bringing such prices below pre-war level. This action was made possible, not by decreased labour and material costs, which naturally remain very much higher than in pre-war days, but by improved machinery and manufacturing methods.

There has been an increased demand recently for special types of lamps, such as candle types for electroliers, etc., and double-ended tubular lamps for shop-window and cornice lighting, and all such requirements can be satisfactorily met.

Noticeable developments in the case of gas-filled lamps are, firstly, the special lamps with opal bulbs which are meeting with much favour for shop-window lighting, and in such positions where the light from the lamp is almost on the eye level; secondly, the daylight lamp which has a spectrum closely approximating to that of daylight, and is suitable for colour matching, dye works, drapery stores, etc., and also in art schools, picture galleries, etc.; thirdly, considerable progress has been made with the projector type of gas-filled lamp, suitable for cinematograph work and special forms of flood-lighting.

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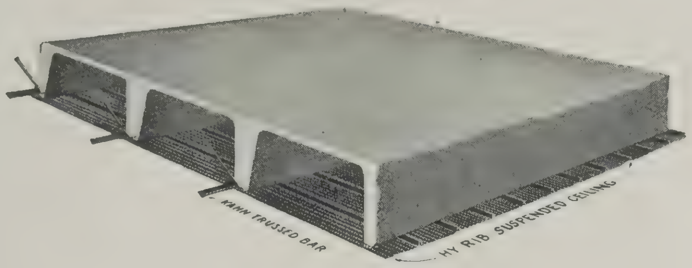

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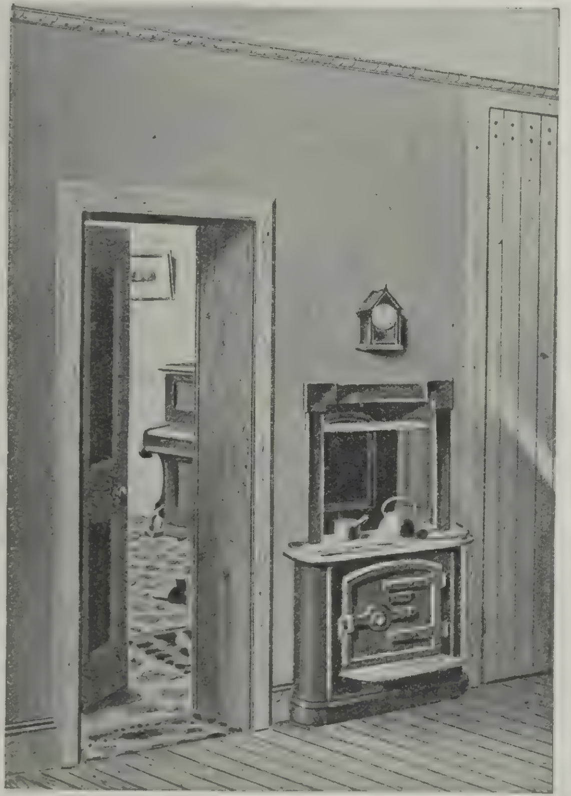

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BUILDING.

December 6.—**WALL, &c. Withnell, Lancs.**—Building a shoddy wall round the Council Offices, with piers and coping, etc.; also for an ornamental railing, gates, &c., to be fixed to the wall, for the Withnell U.D.C. Apply Surveyor, Council Offices, Brinscall.

December 6.—**HOMESTEAD, &c. Llanfechell.**—Erection of a homestead and the division and adaptation of existing house and buildings at Cromlech, Llanfechell. Apply Shire Hall, Llangefni.

December 7.—**HOUSE. Turriff.**—Mason, carpenter, slater, plaster and plumber works of house in Turriff, for Provost Stewart. Apply Mr. W. L. Duncan, Architect, Turriff.

December 7.—**HOUSES. Stourbridge.**—Erection of 24 B-type houses (12 north aspect and 12 south aspect) on the Grange Estate, for the Corporation. Apply Mr. F. Woodward, Borough Surveyor and Architect, Market Street, Stourbridge.

December 8.—**TELEPHONE EXCHANGE. Southall.**—Erection of a temporary telephone exchange at Southall (Middlesex), for H.M.O.W. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

December 8.—**ADDITIONS. Southampton.**—Additions to the pavilion, Royal Pier, Southampton, for the Southampton Harbour Board. Apply Engineer, at the Board's Offices. Deposit £1.

December 8.—**ALTERATIONS. Liverpool.**—Alterations at the Custom House, Liverpool, for the Commissioners of His Majesty's Works. Apply H.M. Office of Works, National Provincial Bank Chambers, James Street, Liverpool, or Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

December 8.—**ADDITIONS, &c. Burlingham St. Peter, &c., Norfolk.**—Additions and repairs to farm buildings at Glebe Farm, Burlingham St. Peter, and Willow Farm (late Red Farm), Burlingham St. Edmund, Norfolk, for the Norfolk Small Holdings Committee. Apply County Land Agent, Shirehouse, Norwich. Deposit £1 1s.

December 9.—**EXTENDING. Blackpool.**—Extending the common room and providing oak panelling and parquet floor at the Blackpool Secondary School War Memorial in Raikes Road. Apply Mr. F. Wood, M.I.C.E., Borough Engineer, Municipal Buildings, Blackpool. Deposit £1 1s.

December 11.—**TREATMENT CENTRE. Dewsbury.**—Erection and completion of proposed treatment centre at the General Infirmary, Dewsbury. Apply Mr. H. Dearden, Borough Engineer, Town Hall, Dewsbury.

December 11.—**HOUSE. Glasgow.**—Erection of a doctor's house at Robroyston Hospital, for the Corporation. Apply Office of Public Works, City Chambers, 64 Cochrane Street.

December 11.—**HOUSES. Royston, Yorks.**—Erection and completion of 12 houses, in two blocks of four and two pairs, on ground situate off Station Road, Royston; also for necessary roadmaking and laying 9 in. pipe sewer, for the Royston Urban District Council. Apply Messrs. Dyson, Cawthorne and Coles, Architects, 10 Regent Street, Barnsley. Deposit £1 1s.

December 11.—**WALL, &c. Saltash.**—Structural alterations—new north wall and new roof—at the Guildhall, Saltash, for the Corporation. Apply Borough Surveyor.

December 11.—**HOUSES. Wigan.**—Erection of 50 houses on the Ridyard Street site, in lots of 8, 8, 8, 12, and 14, for the Corporation. Apply Borough Engineer, Mr. R. B. Donald, M.I.C.E., Municipal Buildings, Library Street, Wigan. Deposit £2 2s.

December 12.—**HOUSES. Weybourne.**—Erection of five pairs of houses near the Elm Tree, Weybourne, for the Farnham Urban District Council. Apply Mr. J. W. Wright, Clerk, Council Offices, Farnham. Deposit £2 2s.

December 15.—**STAND, &c. Hertford.**—The Ground Improvement Committee of the Hertford Town Football Club invite tenders, together with plans, detail drawings, &c., for provision and erection of a sectional stand and other accommodation to seat 400 people. Apply Hon. Secretary (Mr. H. J. Gray, Club Headquarters, Salisbury Arms Hotel, Hertford).

December 15.—**SCHOOL. Brighton.**—Erection of a school of two departments on a site adjoining the northern boundary of the borough in Loder Road, Brighton, for the Education Committee. Apply Messrs. T. Simpson and Son, 16 Ship Street, Brighton. Deposit £3.

December 16.—**OPEN-AIR SWIMMING BATH. Harrow-on-the-Hill.**—Construction of an open-air swimming bath, together with conveniences, dressing sheds, &c., adjoining the Council's housing estate, for the Harrow-on-the-Hill Urban District Council. Apply Mr. J. P. Bennetts, Engineer and Surveyor to the Council. Deposit £5.

December 16.—**HOUSES. Methley.**—Erection and completion of 12 class "A" State-aided houses in blocks of four on the Mickletown housing site. Apply Mr. T. Thompson, Red House, Methley.

December 19.—**BOWL STORE, &c. Rochdale.**—Erection of bowl store and shelter at Falinge Park, for the Parks Committee. Apply Borough Surveyor, Town Hall, Rochdale.

December 19.—**HOUSES. Conisbrough.**—Erection of 22 non-parlour type houses, semi-detached, type 8a, in one to eleven blocks, and eight parlour-type houses, in blocks of four, type 9a, for the U.D.C. Apply Mr. H. Thirlwall, M.I.M. and Cy.E., Council Offices, Conisbrough, via Rotherham. Deposit £2 2s.

December 19.—**MOTOR GARAGE. London, S.W.**—Building construction of motor garage, Drayton Gardens, S.W.10 (other than steelwork and reinforced concrete). Apply Messrs. Waterer and Sons, Surveyors, Weybridge, Surrey, or 23 Westminster Palace Gardens, Victoria Street, London, S.W.1. Deposit £2 2s.

December 31-January 23.—**UNIVERSITY BUILDINGS. Cape Town.**—Buildings for the University on the Groote Schuur estate at Rondebosch, near Cape Town, for the Council of the University of Cape Town. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C. Deposit £15.

No Date.—**WORKS. Fraserburgh.**—For painter and glazier work of 10 houses (2nd development) in connection with the Fraserburgh housing scheme. Plans, &c., seen with Messrs. D. and J. R. M'Millan, Architects, 105 Crown Street, Aberdeen, from whom schedules of quantities may be obtained.

No Date.—**BUSINESS PREMISES. Pontypool.**—Erection of business premises and general offices. Apply Messrs. Badman, Williams & Co., Ltd., Trosnant Wharf, Pontypool.

No Date.—**BUNGALOWS. Lightcliffe, Halifax.**—Erection of three bungalows at Lightcliffe. Apply Mr. W. Hall, M.S.A., Architect and Surveyor, 26 George Street, Halifax.

No Date.—**STORY. Tillicoultry.**—Raising the spinning mill at Devonpark, Tillicoultry, an additional story. Apply Mr. A. Bracewell, A.R.I.B.A., for Messrs. Robert Archibald and Sons, Tillicoultry.

No Date.—**LIBRARY. Ystrad Mynach.**—Erection of the Penallta Workmen's Library and Institute, Ystrad Mynach. Apply Mr. H. G. Jones, Architect and Surveyor, Bank Chambers, Hengoed.

ELECTRICAL.

December 7.—**CABLE. London, S.W.**—The Pacific Cable Board, Queen Anne's Chambers, Westminster, tenders for the manufacture and laying of 1,313.75 nautical miles of submarine telegraph cable between Auckland (New Zealand) and Suva (Fiji), and also for the manufacture and laying on the same expedition of 539 nautical miles between Sydney (New South Wales, Australia) and Southport (Queensland, Australia), making in all a total length of cable of 1,852.75 nautical miles. Apply Offices of the Board, or Messrs. Clark, Forde and Taylor, 4 Gt. Winchester Street, E.C. Deposit £5 5s.

December 8.—**TELEPHONE INSTALLATION. Leeds.**—Supplying and fixing a switchboard for th private installation of telephones, at the lodge of the institutions. Beckett Street, Leeds, for the Guardians. Apply Master of the Institution.

December 9.—**ELECTRIC LIGHT INSTALLATION. Headington, Oxon.**—Installation of electric light in the infirmaries in their Institution situate on the London Road, Headington, near Oxford, for the Guardians of Headington Union. Apply the Master (Mr. L. Williams).

December 11.—**BATTERY, &c. Long Eaton.**—Supply, delivery, and erection at their electricity works of storage battery, three-wire booster, switchboard, and steel platform, for the U.D.C. Apply Mr. F. Newey, A.M.I.E.E., Engineer and Manager, Milner Road, Long Eaton, Notts. Deposit £2 2s.

December 15.—**EQUIPMENT. Abertillery.**—Supply, delivery, erection, and connection, at Aberbeeg Electricity Works, of (a) 2,200-volt h.t. feeder (500 yards overhead, 1,000 yards underground), including erection and laying; one 200-k.w. and one 30-k.w. converting sets, h. and l.t. switchgear; and (b) at Abertillery Town—static transformers and l.t. switchgear, a.c. overhead and underground distribution system, for the A.U.D.C. Apply Mr. M. J. Mortimer, A.M.I.C.E., Engineer and Manager, Aberbeeg. Deposit £2 2s.

December 15.—**PLANT. Wellington.**—The Southland Electric Power Board are calling for tenders for supply and delivery of plant and material. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1.

December 20.—**ELECTRIC CRANES AND LIFTS FOR EGYPT. Alexandria.**—The Administration of Ports and Lighthouses, Alexandria, is inviting tenders for fixed and moveable lifting apparatus for service at the port of Alexandria. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

January 9.—**CRANE. New Zealand.**—Supply and delivery of one electric travelling crane in connection with the Waikato power scheme, section 58. The crane is to be designed for lifting, traversing and travelling loads up to 27 tons. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, London, S.W.1.

January 9.—**PLANT. London, E.C.**—Supply of the following plant for electrification of Bombay suburban lines, for the Great Indian Peninsula Railway Co., viz. :—(1) Electrical equipment of coaches, fee for specification £2; (2) overhead equipment of permanent way and overhead distribution lines, £2. Apply Company's Offices, 48 Copthall Avenue, E.C.2.

January 15-31.—**PLANT. Melbourne.**—Supply, delivery, &c., of plant for the Morwell power scheme, for the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £2 2s.

January 17.—**TELEPHONE AND TELEGRAPH APPARATUS, &c. Perth.**—Supply and delivery of telephone apparatus, testing instruments, and protective apparatus (schedule No. W.A. 751). Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

January 26.—**ELECTRIC LIGHTING PLANT. Malmesbury, S. Africa.**—Electric lighting plant for Malmesbury as follows: (1) Supply, delivery, and erection of (a) superheated steam engines, boilers, pumps, piping, valves, alternatively (b) suction gas engines and producers, alternatively (c) Diesel oil engine and all accessories, with dynamos, and switchboard in power-station; the supply of all necessary cables and connections, trenches, chequer plating, hand rails, and the leaving of same in good working order, and completed according to specification and guarantee in a thoroughly efficient manner. (2) Supply, delivery, and erection of poles, overhead cables, street lamps and standards, house connections, &c., and all sundries and incidental material necessary to complete the outside work from the switchboard in the power-station to the consumer's premises, according to specification and guarantee, with the exception of items contained in (3). (3) Supply and delivery on site of meters and general testing instruments as specified. (4) Supply, delivery, erection of battery, connection to switchboard, and all sundries attached thereto as specified. Apply Department of Overseas Trade (Room 49).

ENGINEERING.

December 6.—**CULVERT. Wood Green.**—Construction of a granite concrete tube culvert and incidental work to carry the Mus Well stream from the Muswell Hill School, Albert Road, to Durnsford Road, for the U.D.C. Apply Mr. C. H. Croxford. Deposit £1 1s.

December 6.—**HARBOUR WORKS. Madeira.**—Construction of an artificial harbour at Funchal. Apply Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.

December 6.—**WIDENING, &c., BRIDGE. Cardiff.**—Widening and reconstruction of Mill Bridge, Dinas Powis, for the Cardiff Rural District Council. Apply Engineer, Mr. W. Farrow, Park House, 20 Park Place, Cardiff. Deposit £2 2s.

December 7.—**RESERVOIR. Evington, near Leicester.**—Construction of a covered service reservoir of 5,000,000 gallons capacity at Evington, near Leicester, for the water committee. Apply Mr. G. T. Edwards, M.I.C.E., Water Engineer, Bowling Green Street, Leicester.

December 9.—**EXTENSION OF REFUSE DESTRUCTOR. Southgate.**—Extension of the refuse destructor, Barrowell Green, Winchmore Hill, for the Southgate Urban District Council. Apply Mr. R. Phillips, Surveyor to the Council.

December 11.—**BOREHOLE. Bolton.**—Sinking borehole having a commencing diameter of not less than 30 inches and a terminating diameter of not less than 18 inches at a depth of 600 ft., and construction of other works connected therewith, at Belmont, near Bolton, for the Bolton Corporation. Apply Mr. J. K. Swales, M.I.C.E., Waterworks Engineer, St. George's Street, Bolton. Deposit £2 2s.

December 12.—**PNEUMATIC PLANT. London, E.C.**—Supply of pneumatic plant for the Bengal Nagpur Railway Co., Ltd. Apply Company's Offices, 132 Gresham House, Old Broad Street, London, E.C.2. Fee £1 1s.

December 14.—**GIRDER BRIDGES. London, S.E.**—The High Commissioner for India is prepared to receive tenders for supply of girder bridges, 100 ft. spans. Apply Director-General, India Store Department, Branch No. 14, Belvedere Road, Lambeth, S.E.1.

December 14.—**AQUEDUCT. Aberdeen.**—Transporting, laying, and jointing of 1½ miles of 4 ft. piping and ancillary works between West Cults and Pitfodels, for the T.C. Apply Water Engineer's Office, 41½ Union Street, Aberdeen. Deposit £5.

December 16.—**CONCRETE DECK. St. Peter Port.**—Removal of the timber deck at the North (White Rock) Pier head and the construction of a new deck in reinforced concrete on the Considere system at the Harbour of St. Peter Port, Guernsey, for the Board of Administration. Apply Mr. J. H. Duquemin, States Engineer, States Office, Guernsey.

December 18.—**WATER TANK. Hitchin.**—Construction of a reinforced concrete water tank of 390,000 gallons capacity, with 12 in. cast-iron connections, to be erected at their pumping station, Queen Street, Hitchin, for the U.D.C. Apply Council Offices or Mr. W. Phillips, Gasworks, Luton. Deposit £2 2s.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria: Specification No. 282: Coal-handling plant for Morwell power station and briquetting works. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2.

(*Continued on page* xxxii)

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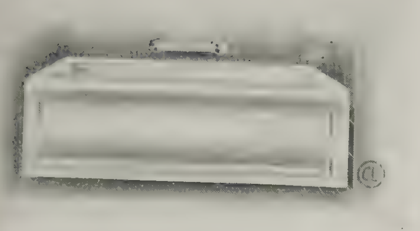

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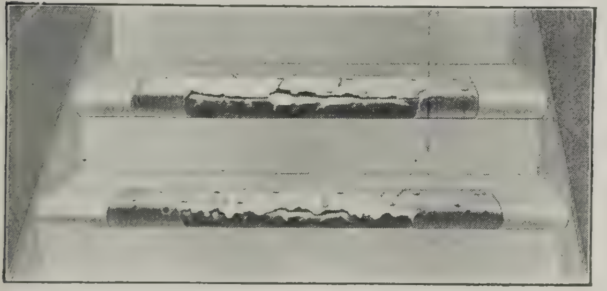

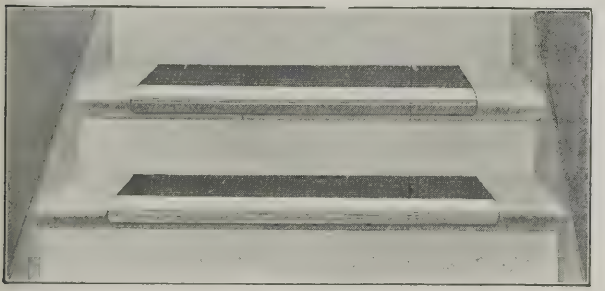

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December 19.—**WATER-TUBE BOILERS. Barking, Essex.**—Supply and erection of water-tube boilers for their Barking power-station, for the County of London Electric Supply Co., Ltd. Apply Mr. F. C. McQuown, Manager and Secretary, Moorgate Court Moorgate Place, E.C. Deposit £5 5s.

December 19.—**WATER SUPPLY WORKS. Lowdham, &c.**—Carting, excavating for, and laying about 14 miles of 7 in., 6 in., 5 in., 4 in., and 3 in. cast-iron pipes, including fixing of valves, hydrants, &c., erection of pumping station, service reservoir, in connection with water supply works for the parishes of Oxton, Epperstone, Lowdham, Gunthorpe, Caythorpe, and Hoveringham, for the Southwell Rural District Council. Apply Messrs. Sands and Walker, Milton Chambers, Milton Street, Nottingham. Deposit £3 3s.

December 19.—**STORM WATER BASIN. Birmingham.**—Construction of an additional storm water basin at their Nechells Outfall Works, for the Birmingham Tame and Rea District Drainage Board. Work includes the construction of a concrete basin of 6,000,000 gallons capacity, inlet channel, the laying of 12 in. and 15 in. dia. cast-iron suction and delivery mains, and other incidental works. Apply Mr. J. D. Watson, M.I.C.E., Engineer, The Rookery, Erdington Park, Birmingham.

PAINTING.

December 6.—**PAINTING. Manchester.**—Painting work at the Reference Library and Extension Buildings, Piccadilly, and Blackley Library, for the Libraries Committee. Apply City Architect. Deposit 10s. 6d. each.

December 6.—**PAINTING, &c. Aberayron.**—Painting, decorating and repairs inside and outside at the Aberayron Town Hall, for the Cardiganshire County Council. Apply 3 Market Street, Aberayron, and the office of the County Surveyor.

December 6.—**CLEANING AND PAINTING. Nottingham.**—Internal cleaning and painting at the following schools, for the Education Committee :—All Saints' Council School (Forest Road); Lenton Council School; New Basford Council School; Sneinton Boulevard Council School; St. Mary's Trust School, Barker Gate. Apply Mr. A. Dale, City Architect, Guildhall. Deposit £1.

December 11.—**PAINTING. Bridgwater.**—Works for the Education Authority :—(a) Exterior painting and renovation of teacher's house, Eastover Council School; (b) new flooring, Albert Street School; and (c) pulling down and reconstruction of back buildings, Moat Lane Cottages. Apply Office of the Borough Surveyor, Municipal Buildings, High Street.

December 14.—**CLEANING AND PAINTING. London, S.E.**—Internal cleaning and painting works, &c., at their hospital, East Dulwich Grove, S.E., for the Guardians of Southwark Union. Apply Guardians' Architects, Messrs. A. Saxon Snell and Phillips, 9 Bentinck Street, Manchester Square, W.1, from December 1 to 6. Deposit £2.

ROADS AND SEWERS.

December 6.—**ROAD WORKS. Hove, Sussex.**—Work to be executed in making-up the roadway, laying new sewer, new footway and other works in connection therewith in Westbourne Place, for the Corporation. Apply Borough Surveyor.

December 6.—**WIDENING, &c. Cardiff.**—Works, for the Glamorgan County Council :—(1) Widening and improving the Neath and Glynneath main road between Aberdulais and Resolven; (2) widening and improving the Swansea, Killay and Port Eynon main road between Killay and Fairwood Common; (3) widening and improving the Bridgend and Llantrisant main road between Lanelay and Talbot Inn; and (4) kerbing of footways at Caerphilly and Bedwas, Caerphilly and Llanbradach, and Neath and Port Talbot. Apply (1) at the County Police Station, Neath; for work No. (2) at the Police Station, Gowerton; for work No. (3) at the Police Station, Llantrisant, and at the County Hall Cardiff.

December 6-13.—**CONVERSION. Crigglestone, Yorks.**—Conversion of the conveniences into w.c.'s at Crigglestone Newmillerdam Council School, for the West Riding Education Committee. Apply Education Department, County Hall, Wakefield.

December 7.—**WIDENING. Newton Abbot, Devon.**—Widening of the Ashburton Road, for the Newton Abbot U.D.C. Apply Surveyor, Mr. Coleridge D. White, Town Hall, Newton Abbot.

December 9.—**PASSAGES. Ellesmere Port.**—Making and completing of the passages at the rear and gable ends of Beechfield Road and Briarfield Road, and passages at the rear of Prince's Road, within their district, for the U.D.C. Apply Council Offices, Ellesmere Port, during office hours.

December 9.—**WIDENING, &c. Bexleyheath.**—Widening and improvement of Vicarage Road, Bexley, for the Bexley U.D.C. Apply Mr. W. T. Howse, Surveyor to the Council. Deposit £3 3s.

December 11.—**SEWER WORKS. Kensington.**—Construction of a number of manholes, together with incidental means of ventilation on certain dead ends of sewers in the borough, for the Kensington B.C. Apply Borough Engineer and Surveyor, Town Hall, Kensington, W.8.

December 12.—**STREET WORKS. Easington.**—Making-up private street between North-Western Terrace and South-Western Terrace, Murton, for the Easington Rural District Council. Apply Mr. R. Urwin Harper, Highway Surveyor, Castle Eden. Deposit £2.

December 18.—**ALTERATIONS, &c., to SEWAGE WORKS. Kempston, Beds.**—Alterations of and additions to the existing sewage works, for the Kempston U.D.C. Apply Council Offices, New Town, Kempston, Bedford. Deposit £3 3s.

December 29.—**ROAD WORKS. Southport.**—Levelling, paving, metalling and making good Chesterfield Road and Sandringham Road, Ainsdale, for the Highways Committee. Apply Mr. A. E. Jackson, M.I.C.E., Borough Engineer, Town Hall, Southport. Deposit £2 2s.

Coming Events

Wednesday, December 6.

Royal Society of Arts.—"Recent Developments in the Manufacture of Safes and Strong Rooms." By H. Emory Chubb.

Glasgow Chapter of the Incorporation of Architects in Scotland.—"Some Notes on Reinforced Concrete Construction." By G. Allen, M.C.I.

Thursday, December 7.

Institute of Mechanical Engineers, N.W. Branch.—Thomas Hawksley Lecture : "Some Recent Researches on Lubrication." By T. E. Stanton, C.B.E., F.R.S.

Birmingham Town-Planning Lecture "Municipal Recreation; American Park Systems; Neighbourhood Centres." By Mr. Wm. Haywood, F.R.I.B.A. 5.30 p.m

Friday, December 8.

Institute of Mechanical Engineers.—Informal meeting.

Institute of Heating and Ventilating Engineers.—"Centrifugal Pumps as applie to Heating Installations." By Prof A. H. Barker, B.A., B.Sc., Wh.S. 7 p.m

Town-Planning Institute.—"The Sit for London University." By Professor B Abercrombie. Lecture Theatre of th Institute of Civil Engineers.

Saturday, December 9.

R.I.B.A. visit to Messrs. Farmer an Brindley, 63 Westminster Bridge Road 10.30 a.m.

Monday. December 11.

A.A. Revue. 8 p.m.

Tuesday, December 12.

A.A. Revue. 2.30 and 8 p.m.

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Mr. F. J. Gayer on Building

The third public lecture of the Department of Architecture, Building, and Surveying of the Northern Polytechnic has been given by Mr. F. J. Gayer, F.I.O.B., past-president of the London Master Builders' Association, and vice-president of the Institute of Builders. Mr. Gayer commenced his lecture by referring to the many difficulties that the London master builder encountered either from the idiosyncrasies of those in authority—the difficulty, in some cases, of convincing a building owner that it is to his interests to employ an architect and a surveyor—or from certain stringent clauses in a building contract, all of which tended to destroy the value of organization and to cause in many cases serious financial loss. He then traced in detail the progress of building work from the invitation to tender to the completion of the work and the final settlement of accounts.

For the accurate framing of an estimate great experience was required of detailed and analysed costs. The successful estimator was one who had taken careful records of labour costs, covering capacities, wastage, shrinkage, and consolidation of materials. By reason of the highly technical nature of the work, there might be room for some small differences of opinion, based on varying records, but there was certainly no justification for the extraordinary differences that are occasionally revealed in the tender lists. These points pointed to the great need for more research and the publication of more reliable data.

During the execution of building work, it was suggested that clear records should be kept of all materials sent to a specific contract in order that they could be used as a rough check on the bills of quantities. By this means any variation could be noted readily and the way paved for an equitable adjustment at the completion of the contract. The timing of the arrival of materials in logical sequence was one of the great points of practical organization, and one that needed very special attention, since failure in this direction would frequently be the cause of loss to the builder. A knowledge of the subsoil of a building site was often a big factor in estimating, especially on large works, since the question of pumping and baling to keep a site free from water was an item which called for the greatest possible consideration. The estimator, n addition to his many qualifications, required to be a "water diviner."

There were two systems in operation with regard to maintaining contact between the office and the works; one being the employment of a walking foreman or works superintendent, and the other of passing the responsibility of this work to the estimator. The latter ystem was the one that Mr. Gayer advocated, since it placed the estimator n a much better position for settling he variation account, and incidentally ave the estimator an opportunity of adding to his practical knowledge, and t the same time assisting the general oreman with the more theoretical side—combination which undoubtedly produces the best results.

The present hours of labour he eferred to as being unreasonably short nd as depriving the operative of a means f adding to his wages without in any ay causing hardship to the worker. He stated that the present working hours were as unreasonably short as they were unreasonably long in the last century.

The actual form of contract was the next point surveyed, with the important question as to whether or not the quantities should be incorporated as part of the contract. The lecturer stated that there was only one fair system, and that was, that the quantities which had been used in arriving at a tender price should be included as part of the contract. This course had the virtue of granting the builder payment for any work not included in the quantities, and in a like manner an omission for any work included in the quantities but not executed.

Reference was made to public and other bodies who endeavour to use their own special form of contract and ignore the standard form which had been agreed between the R.I.B.A., the National Federation of Builders, and the Institute of Builders. Sub-contracting clauses of the standard form of agreement were also dealt with, and the difficulties encountered under this head were pointed out.

Safes and Strong Rooms

"Recent Developments in the Manufacture of Safes and Strong Rooms" was the subject of a paper read by Mr. Emory Chubb, M.I.Mech.E., before the last meeting of the Royal Society of Arts. Mr. Chubb said that, apart from the historical antiquity of the society, the occasion was one of peculiar interest to him as his grandfather and also his father had both addressed them within the last seventy years on this subject. In the more recent paper given them by the late Mr. H. W. Chubb, considerable attention was given to the early growth and development of the art of lock-making, but the speaker devoted the greater part of his remarks to the more modern aspect of this question of security. After explaining certain factors which influence them in design, the speaker showed a film to demonstrate the practical and detailed construction of what he believed were two of the finest security units yet built in this country. He also referred to the art and craft of the mediæval locksmith and safemaker.

Dealing with strong rooms, he said: In all strong-room work the greatest interest centres on the door, because provided you have good strong walls which are properly designed, the safemaker has to provide for blocking up the one weak spot in the room, which, of course, is the doorway. Here you have a break in your line of defence, and the skill of the safemaker is shown by the manner in which he can arrange to make this good.

Now, the ideal door towards which all thoughtful safe designers are working is not one which allows of the exposure of its component plates on which it relies for its principal strength. In this new design we have departed from all precedent, and although I do not claim that the new type of door is perfect, it represents, so far as I am aware, a great advance on anything that has yet been built in this country. The door itself consists of a hollow cast steel manganese box two inches thick all over and about two feet deep. Externally this is very accurately machined so as to ensure that it makes a metal to metal joint with its surrounding frame, which is cast in one piece out of the same metal. The interior of this box is filled up to a depth of about sixteen inches with the doorplate of armourplate and unburnable alloy, together with its additional flame-resisting covering. In front of the flame protector and directly behind the two-inch slab of manganese steel is placed an electric screen, which gives an alarm on being penetrated by any method. Inside the doorplate is placed the lock and bolt mechanism. When the smaller wheel on the outside of the door is turned the circular bolts shoot out and are secured behind the frame, which, of course, prevents the door from being pulled open, and the driving mechanism of these bolts is controlled by four keyless combination locks, which can be used either singly or in pairs. I fear there is not time to dilate on the merits of this type of lock, which from every point of view is superior to the key lock on security work of this sort. Instead of a keyhole extending from the outside right to the most vital part of the mechanism, you have a steel spindle or propeller, which is itself fortified to resist the action of drill and flame; it is turned to various diameters as it passes through the different layers of material, thus preventing the successful injection of liquid explosives. It is also worthy of note that the locks are not set in a direct line with the spindles, but by an arrangement of gears they assume a position independent of the lines of force which drive them. On the outside of the door is a knob attached to a small dial with numbers 1 to 100, and to withdraw the lock bolt, prior to opening the door, all that is necessary is to turn the knob to any four pre-arranged numbers between 1 and 100. The variety of possible combinations runs into several millions, and the numbers can be readily changed by the owner in a few minutes.

An additional control is given by the time lock. This consists of a bronze case containing four independent high quality chronometer movements. When the door is closed at night the time lock is wound and set in such a way that it will not permit of the door being opened, even by those in possession of the combination, until the pre-arranged hour. This lock was invented as the result of a burglary, when a bank manager disclosed his combination at the point of a revolver, and it is evident that where these locks are used no apprehension need be felt if the combination becomes known, or in some cases if keys are stolen.

The method of swinging this door is one of some interest, and the hinge stretches right across from the frame to the centre of the door. This is called a crane hinge, and is so made to ensure a metal to metal fit. By this means the last movement in closing is that of a direct slide inwards when both the back and front edges of the door move parallel to each other. Thus, to close the door, the first movement is to swing it in the ordinary way until it is within some three inches of being closed; at that point the pressure mechanism, which consists of a bar fitted with an eccentric movement at each end, is engaged, and on the large wheel being turned the door is driven bodily home. The steel bolts are next thrown by means of the smaller wheel, and the combination lock knobs are given a half turn and the door is locked.

Trade and Craft

B.R.C. Roads.

In reviewing a book of photographs, published by the British Reinforced Engineering Co., Ltd., the unfortunate omission of a word may possibly have led to some misapprehension. In the first column on page 706 of THE ARCHITECTS' JOURNAL of November 15, the paragraph beginning "In concrete less preparation is needed . . ." should read "In concrete *footpaths*, etc.," which, of course, gives rather a different meaning.

Office Requisites.

The Shannon, Ltd., of 57-59 Victoria Street, Westminster, S.W.1, have sent us a booklet which illustrates and describes many of the firm's desks and other office requisites. Each of the desks shown has its own special features, and it is easy from the many varieties illustrated for a professional or business man to choose one to more than satisfy his particular needs. One of the most striking is the "Efficiency" desk. When a desk is clear, and yet all papers relative to current contracts are at your finger-tips the minute you require them, one advantage is apparent. Further, your notes are on cards, properly indexed, which simplify reference and cannot be mislaid. Quarto or foolscap papers can be accommodated, and the drawers will take cards 5×3 in., 6×4 in., and 8×5 in., according to personal requirements. This is a characteristic feature of the "Efficiency" desk—its individuality. It can be adapted to the needs of the user. Telephonic communications entailing memorization can, without effort in hunting for a scrap of paper, be written on the slate at your elbow—a constant reminder of details that are otherwise apt to be forgotten. Office "tools," for which a special receptacle is provided of facile access, are always available for instant use. The desk is mouse-proof. The drawers of this desk are fitted with frictionless steel suspensions; they roll in or out at the lightest touch, however heavily loaded. Among the other useful requisites shown are a work organizer, swinging office stand, typists' desks, and tables.

"Pyruma."

A new booklet on "Pyruma," the fire cement with a hundred and one uses, has been issued by Messrs. J. H. Sankey and Son, Ltd., of 74 Cheapside, E.C.2. Sankey's "Pyruma" fire cements are specially suitable for setting, jointing, pointing and repairing all kinds of firebrick work in furnaces, kilns, retorts, dust destructors, anthracite stoves, ranges, grates, fixing tiles round stoves, etc. The use of "Pyruma" fire cement is a practical expression of the householder's "safety first," besides being a convenient and inexpensive preparation in actual use. For facing and coating firebrick work all that is necessary is to moisten the surface and apply "Pyruma" wash with a brush. This is supplied ready for use. This fills all interstices in the face of the brickwork.

"Pyruma" is made in two grades: "Pyruma" (coarse) for temperatures up to 1,760°C. approx. "Pyruma" putty (fine) for temperatures up to 1,400°C.

The firm's "Siluma" fire cement, which is finer ground and more siliceous, is specially useful for setting silica bricks. It can be used either as a fire cement or as a wash. "Graphuma" is made for resisting corrosion and clinkering in firebrick work, either as a cement or as a wash.

Because of its scientific composition and special process of manufacture, "Pyruma" can be used for repairs to a *red-hot* surface—therefore no cooling time is necessary.

The point of importance is that "Pyruma" fire cement sets hard without heat, and, possessing strong adhesive qualities, forms an efficient bonding medium whether submitted to a high temperature or not.

Relay Automatic Telephones.

One of the most interesting exhibits at the Institute of Engineering Exhibition, Cardiff, was that of the Relay Automatic Telephone Co., Ltd., who were showing a complete inter-departmental automatic telephone system, comprising automatic switchboard, power board, two sets of 24-volt batteries, and telephone instruments. The switchboard consists of an iron frame into which the relay groups are fitted. These groups can be increased as desired from time to time without putting the service out of action. The relay takes the place of the human operator, and, by a series of electrical circuits actuated through the dial on the telephone instrument, the caller becomes his own operator, and can automatically get into touch with any connection required within four seconds. The functions of power board and accumulators are to store and distribute the electric energy for working the switchboard. The power used for this purpose is supplied from a 24-volt battery of accumulators, which can be charged from the existing electric light system, either direct or through a motor generator. Instruments of the post office pattern were exhibited with a dial attachment, also a convenient form of box-type instrument, with combination hand-telephone, which is recommended for both desk and wall use. An important feature of the wiring system is that two wires only are necessary from each telephone to the switchboard, and that the caller can connect himself to any of the other telephones served by the switchboard. The General Post Office will now install on rental the Relay automatic telephone system for private branch exchanges, combining automatic communication between departments and connection to the public exchange service.

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Unless expressly stated to the contrary, all deposits required for bills of quantities. etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the contract, which requires them to pay the rates of wages current in the district.

BUILDING.

December 14.—**FLATS, &c. Exeter.**—Works in Coombe Street, Exeter, for the T.C.: (1) Demolition of buildings and clearing site; (2) concrete paving and drainage; (3) erection of flats. Apply City Architect, 2 Southernhay West. Deposit £1.

December 14-January 1.—**BATHING PAVILION, &c. Margate.**—Works, for the T.C.:—(1) Erection of a bathing pavilion (steel and timber construction) with provision for 300 bathers, dressing-rooms, hot and cold shower baths, promenade, kiosks and shelter, on the sands in front of the Marine Terrace, Margate. Deposit £5; (2) General builders' work in connection with alterations and additions to the Westbrook lavatories, Westbrook Promenade, Margate; (3) the supply and fixing of sanitary fittings at Westbrook lavatories. Apply Borough Engineer's Office, 13 Grosvenor Place, Margate.

December 15.—**STAND, &c. Hertford.**—The Ground Improvement Committee of the Hertford Town Football Club invite tenders, together with plans, detail drawings, &c., for provision and erection of a sectional stand and other accommodation to seat 400 people. Apply Hon. Secretary (Mr. H. J. Gray, Club Headquarters, Salisbury Arms Hotel, Hertford).

December 15.—**SCHOOL. Brighton.**—Erection of a school of two departments on a site adjoining the northern boundary of the borough in Loder Road, Brighton, for the Education Committee. Apply Messrs. T. Simpson and Son, 16 Ship Street, Brighton. Deposit £3.

December 15.—**REPAIRS. Romford.**—Erection of farm premises and the execution of repairs at Crowlands Farm, Romford, for the Small Holdings Committee of the Essex County Council. Apply Mr. C. Lock, P.A.S.I., County Land Agent, Chelmsford. Deposit £1 1s.

December 15.—**HOUSES. Rhymney.**—Erection of 10 houses at Nant-y-melin, Rhymney, Mon., for the Rhymney U.D.C. Apply Mr. A. F. Webb, M.S.A., Tredegar Chambers, Blackwood, Mon.

December 15.—**HOUSES. Bristol.**—Erection of 52 houses at St. John's Lane housing site, Bedminster, and six houses at Fishponds housing site, for the Housing Committee. Apply City Engineer, Housing Department, 51 Princes Street. Deposit £1.

December 15.—**HOUSES. Crompton, Lancs.**—Erection of 20 additional houses (four types) on the Crompton housing site, for the U.D.C. Apply Surveyor's Office, Town Hall, Shaw, any weekday. Deposit £2.

December 15.—**TELEPHONE EXCHANGE. Birkenhead.**—Erection of a telephone exchange at Birkenhead, for H.M.O.W. Apply Head Post Office, Birkenhead, or Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

December 16.—**OPEN-AIR SWIMMING BATH. Harrow-on-the-Hill.**—Construction of an open-air swimming bath, together with conveniences, dressing sheds, &c., adjoining the Council's housing estate, for the Harrow-on-the-Hill Urban District Council. Apply Mr. J. P. Bennetts, Engineer and Surveyor to the Council. Deposit £5.

December 16.—**HOUSES. Methley.**—Erection and completion of 12 class "A" State-aided houses in blocks of four on the Mickletown housing site. Apply Mr. T. Thompson, Red House, Methley.

December 18.—**HOUSES. Hull.**—Erection of 50 houses on the Cottingham Road estate and 74 houses on the Hessle Road estate, for the Corporation. Apply City Architect's Office.

December 18.—**TELEPHONE EXCHANGE. Hull.**—Erection of an automatic telephone exchange, Holderness Road, for the Corporation. Apply City Architect's Office. Deposit £2 2s.

December 18.—**HOUSES. Edinburgh.** — Erection of thirty-six additional three-story tenement houses at Wardie. Apply Messrs. Fairbairn, Lightbody, and Cownie, F.F.S., Surveyors, 53 Queen Street, Edinburgh.

December 18.—**EXTENSION. Croydon.**—Extension of the present general stores at the Electricity Works, Factory Lane, Croydon, for the Town Council. Apply Engineer at above address.

December 19.—**BOWL STORE, &c. Rochdale.**—Erection of bowl store and shelter at Falinge Park, for the Parks Committee. Apply Borough Surveyor, Town Hall, Rochdale.

December 19.—**TELEPHONE EXCHANGE. Altham, Kent.**—Erection of a temporary telephone exchange at Altham, Kent, for H.M.O.W. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

December 19.—**HOUSES. Conisbrough.**—Erection of 22 non-parlour type houses, semi-detached, type 8a, in one to eleven blocks, and eight parlour-type houses, in blocks of four, type 9a, for the U.D.C. Apply Mr. H. Thirlwall, M.I.M. and Cy.E., Council Offices, Conisbrough, via Rotherham. Deposit £2 2s.

December 19.—**MOTOR GARAGE. London, S.W.**—Building construction of motor garage, Drayton Gardens, S.W.10 (other than steelwork and reinforced concrete). Apply Messrs. Waterer and Sons, Surveyors, Weybridge, Surrey, or 23 Westminster Palace Gardens, Victoria Street, London, S.W.1. Deposit £2 2s.

December 19. — **SUB-STATION. Glasgow.**—Works required in connection with the erection of a new sub-station at Bearsden, viz.: (1) Excavator, concrete, brick, and mason works; (2) steel work; (3) carpenter, joiner, glazier, and ironmongery works; (4) patent roof glazing; (5) plumber work; (6) slater work; (7) plaster work; (8) painter work, for the Corporation. Apply Mr. J. Dalrymple, General Manager, 46 Bath Street, Glasgow.

December 22.—**MONUMENT. Dundee.**—Excavator, mason, and brickwork of the proposed monument on The Law, for the Dundee War Memorial Committee. Apply Mr. W. H. Blyth Martin, Clerk to the Committee, Town House, Dundee, or Mr. W. Gauldie, 26 Commercial Street, Dundee.

December 29.—**HOUSES. Dagenham, Essex.**—Erection of 222 houses and flats on the estate, for L.C.C. Apply Messrs. C. J. Wills and Sons, Ltd., Becontree Housing Estate, Chadwell Heath, Essex. Deposit £5 5s.

December 31-January 23.—**UNIVERSITY BUILDINGS. Cape Town.**—Buildings for the University on the Groote Schuur estate at Rondebosch, near Cape Town, for the Council of the University of Cape Town. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C. Deposit £15.

No Date.—**HOUSES. Shipley.**—Erection of eight pairs of semi-detached houses, Shipley Fields estate, Shipley. Apply Mr. E. Dawson, F.S.I., A.M.S.A., Architect and Surveyor, Parkinson's Chambers, Hustlergate, Bradford. Deposit £2 2s.

No Date.—**FLATS. Birmingham.**—Large block of service flats (81 suites), reinforced fireproof concrete building, steam heating, lifts and gas. Apply Messrs. Ingall, Bridgwater, and Porter, or Mr. E. Stanley Mitton, 147 Corporation Street, Birmingham.

ELECTRICAL.

December 15.—**EQUIPMENT. Abertillery.**—Supply, delivery, erection, and connection, at Aberbeeg Electricity Works, of (a) 2,200-volt h.t. feeder (500 yards overhead, 1,000 yards underground), including erection and laying; one 200-k.w. and one 30-k.w. converting sets, h. and l.t. switchgear; and (b) at Abertillery Town—static transformers and l.t. switchgear, a.c. overhead and underground distribution system, for the A.U.D.C. Apply Mr. M. J. Mortimer, A.M.I.C.E., Engineer and Manager, Aberbeeg. Deposit £2 2s.

December 15.—**PLANT. Wellington.**—The Southland Electric Power Board are calling for tenders for supply and delivery of plant and material. Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, S.W.1.

December 20.—**ELECTRIC CRANES AND LIFTS FOR EGYPT. Alexandria.**—The Administration of Ports and Lighthouses, Alexandria, is inviting tenders for fixed and moveable lifting apparatus for service at the port of Alexandria. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, London, S.W.1.

January 1.—**ELECTRIFICATION. Manchester.**—Conversion of Davyhulme sewage works, Urmston, from steam to electric drive, for the Rivers Committee. Apply Secretary of the Rivers Department, Town Hall, Manchester.

January 9.—**CRANE. New Zealand.**—Supply and delivery of one electric travelling crane in connection with the Waikato power scheme, section 58. The crane is to be designed for lifting, traversing and travelling loads up to 27 tons. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, London, S.W.1.

January 9.—**PLANT. London, E.C.**—Supply of the following plant for electrification of Bombay suburban lines, for the Great Indian Peninsula Railway Co., viz.:—(1) Electrical equipment of coaches, fee for specification £2; (2) overhead equipment of permanent way and overhead distribution lines, £2. Apply Company's Offices, 48 Copthall Avenue, E.C.2.

January 15-31.—**PLANT. Melbourne.**—Supply, delivery, &c., of plant for the Morwell power scheme, for the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £2 2s.

January 17.—**TELEPHONE AND TELEGRAPH APPARATUS, &c. Perth, Australia.**—Supply and delivery of telephone apparatus, testing instruments, and protective apparatus (schedule No. W.A. 751). Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

January 26.—**ELECTRIC LIGHTING PLANT. Malmesbury, S. Africa.**—Electric lighting plant for Malmesbury as follows: (1) Supply, delivery, and erection of (a) superheated steam engines, boilers, pumps, piping, valves, alternatively (b) suction gas engines and producers, alternatively (c) Diesel oil engine and all accessories, with dynamos, and switchboard in power-station; the supply of all necessary cables and connections, trenches, chequer plating, hand rails, and the leaving of same in good working order, and completed according to specification and guarantee in a thoroughly efficient manner. (2) Supply, delivery, and erection of poles, overhead cables, street lamps and standards, house connections, &c., and all sundries and incidental material necessary to complete the outside work from the switchboard in the power-station to the consumer's premises, according to specification and guarantee, with the exception of items contained in (3). (3) Supply and delivery on site of meters and general testing instruments as specified. (4) Supply, delivery, erection of battery, connection to switchboard, and all sundries attached thereto as specified. Apply Department of Overseas Trade (Room 49).

ENGINEERING.

December 14.—**GIRDER BRIDGES. London, S.E.**—The High Commissioner for India is prepared to receive tenders for supply of girder bridges, 100 ft. spans. Apply Director-General, India Store Department, Branch No. 14, Belvedere Road, Lambeth, S.E.1.

December 14.—**AQUEDUCT. Aberdeen.**—Transporting, laying, and jointing of 1½ miles of 4 ft. piping and ancillary works between West Cults and Pitfodels, for the T.C. Apply Water Engineer's Office, 41½ Union Street, Aberdeen. Deposit £5.

December 16.—**CONCRETE DECK. St. Peter Port.**—Removal of the timber deck at the North (White Rock) Pier head and the construction of a new deck in reinforced concrete on the Considere system at the Harbour of St. Peter Port, Guernsey, for the Board of Administration. Apply Mr. J. H. Duquemin, States Engineer, States Office, Guernsey.

December 18.—**WATER TANK. Hitchin.**—Construction of a reinforced concrete water tank of 390,000 gallons capacity, with 12 in. cast-iron connections, to be erected at their pumping station, Queen Street, Hitchin, for the U.D.C. Apply Council Offices or Mr. W. Phillips, Gasworks, Luton. Deposit £2 2s.

December 18.—**COAL HANDLING PLANT. Melbourne.**—Supply, delivery, &c., of the following for the Morwell power scheme, for the State Electricity Commission of Victoria: Specification No. 282: Coal-handling plant for Morwell power station and briquetting works. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2.

December 18.—**OPEN-AIR SWIMMING BATHS, &c. London.**—Construction, in reinforced concrete, of open-air swimming baths at Highbury Fields and Southwark Park, and a swimming pool at Peckham Rye, for the L.C.C. Apply Chief Officer, Parks Department, County Hall, Westminster Bridge, S.E.1.

December 19.—**WATER-TUBE BOILERS. Barking, Essex.**—Supply and erection of water-tube boilers for their Barking power station, for the County of London Electric Supply Co., Ltd. Apply Mr. F. C. McQuown, Manager and Secretary, Moorgate Court, Moorgate Place, E.C. Deposit £5 5s.

December 19.—**WATER SUPPLY WORKS. Lowdham, &c.**—Carting, excavating for, and laying about 14 miles of 7 in., 6 in., 5 in., 4 in., and 3 in. cast-iron pipes, including fixing of valves, hydrants, &c., erection of pumping station, service reservoir, in connection with water supply works for the parishes of Oxton, Epperstone, Lowdham, Gunthorpe, Caythorpe, and Hoveringham, for the Southwell Rural District Council. Apply Messrs. Sands and Walker, Milton Chambers, Milton Street, Nottingham. Deposit £3 3s.

December 19.—**STORM WATER BASIN. Birmingham.**—Construction of an additional storm water basin at their Nechells Outfall Works, for the Birmingham Tame and Rea District Drainage Board. Work includes the construction of a concrete basin of 6,000,000 gallons capacity, inlet channel, the laying of 12 in. and 15 in. dia. cast-iron suction and delivery mains, and other incidental works. Apply Mr. J. D. Watson, M.I.C.E., Engineer, The Rookery, Erdington Park, Birmingham.

January 1.—**CONDUIT. Littleton and Hampton.**—Construction of about 35 yards of twin 96 in. diameter reinforced concrete conduits and about 3,900 lineal yards of 72 in. reinforced concrete conduit from Littleton to Kempton, also the laying only of about 2,000 yards of 48 in. diameter cast-iron pipe from Kempton to Hampton, together with a concrete intake channel to the Staines aqueduct and for contingent works, for the Metropolitan Water Board. Apply Offices of the Board, Chief Engineer's Department (Room 201). Deposit £20.

January 6.—**BRIDGE. Glasgow.**—The Corporation of Glasgow invite designs and offers for the construction of a ferro-concrete bridge over the Clyde at Oswald Street. Apply Office of Public Works, City Chambers 64 Cochrane Street.

(*Continued on page* xxviii.)

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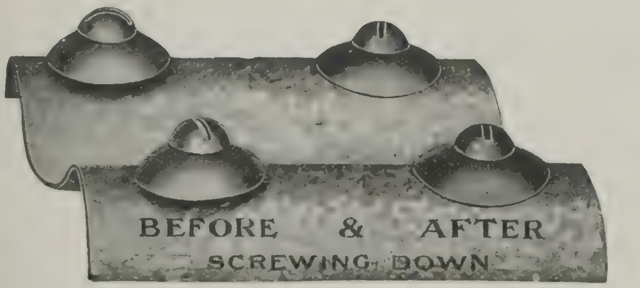

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PAINTING.

December 14.—**CLEANING AND PAINTING. London, S.E.**—Internal cleaning and painting works, &c., at their hospital, East Dulwich Grove, S.E., for the Guardians of Southwark Union. Apply Guardians' Architects, Messrs. A. Saxon Snell and Phillips, 9 Bentinck Street, Manchester Square, W.1, from December 1 to 6. Deposit £2.

December 16.—**PAINTING. Harrow-on-the-Hill.**—Painting and decorating the Council Offices and buildings, High Street, Harrow, for the Harrow-on-the-Hill U.D.C. Apply Mr. J. P. Bennetts, Engineer and Surveyor to the Council.

ROADS AND SEWERS.

December 15.—**WIDENING, &c. Barking.**—Widening and surface-water draining Longbridge Road (Upney Lane to Goodmayes Lane), and in widening, sewering and surface-water draining Upney Lane (Longbridge Road to Upney Hospital), for the Barking U.D.C. Apply Surveyor to the Council, Clock House Chambers, East Street, Barking.

December 16.—**RECONSTRUCTING. Bootle, Lancs.**—Widening and reconstruction of Watts Lane and Moss Lane, Orrell, the carriageways to be constructed of asphalt and the footways to be flagged, for the Corporation. Apply Borough Engineer's Office. Deposit £1 1s.

December 18.—**ALTERATIONS, &c., to SEWAGE WORKS. Kempston, Beds.**—Alterations of and additions to the existing sewage works, for the Kempston U.D.C. Apply Council Offices, New Town, Kempston, Bedford. Deposit £3 3s.

December 18.—**ROAD WORKS. Hendon.**—Making-up Millway (part of), Mill Hill, and Hodford Road (part of), Golders Green, within their district, for the Hendon U.D.C. Apply Mr. A. O. Knight, A.M.I.C.E., Engineer and Surveyor to the Council, Town Hall, Hendon, N.W.4. Deposit £2 2s.

December 18. — **ROAD RECONSTRUCTION. Hendon.**—Reconstruction of Station Road, Hendon, within their district, for the Hendon Urban District Council. Apply Mr. A. O. Knight, A.M.I.C.E., Engineer and Surveyor, Town Hall, Hendon, N.W.4. Deposit £10 10s.

December 19.—**SEWAGE DISPOSAL WORKS, &c. Epsom.**—Constructing (1) sewage tanks, sewers, &c., and for (2) additions to the pumping station at their sewage works, Hook Road, Epsom, for the Epsom U.D.C. Apply Mr. E. R. Capon, Engineer and Surveyor, Council Offices, 33 Church Street, Epsom. Deposit £5 5s.

December 29.—**ROAD WORKS. Southport.**—Levelling, paving, metalling and making good Chesterfield Road and Sandringham Road, Ainsdale, for the Highways Committee. Apply Mr. A. E. Jackson, M.I.C.E., Borough Engineer, Town Hall, Southport. Deposit £2 2s.

List of Competitions Open

Date of Delivery.	Competition.
Dec. 16	Laying-out of Hill's Estate of 14 acres, Douglas, Isle of Man, for the erection of four- and five-room houses suitable for the working class: 12 houses to the acre. First prize, £50; second prize, £20. The Council do not intend to engage the successful competitor to carry out the work. Apply Mr. H. A. Bridge, M.I.M.C.E., Borough Surveyor. Deposit £1.
1923 Jan. 15	Hospital for a typical small community in America. Competition open to all Architects. Premiums $500, $300, and $200. Apply The Modern Hospital Publishing Company. Inc., 22 E. Ontario Street, Chicago, Ill. Closing date for applications, November 15.
Feb. 28	Scheme for the distribution of drinking water for the town of Mantes-sur-Seine. Apply Mairie, Mantes, or at the offices of La Renaissance des Cités, 23 Rue Louis le Grand (11c). Premiums: 4,000, 3,000, and 2,000 francs.
March 31	War Memorial for Port Said, Egypt, to the memory of the soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during 1916, 1917, and 1918. Premiums: 250 guineas, 100 guineas, and 50 guineas. Apply High Commissioner for Australia, Australia House, Strand, W.C.
March 31	War Memorial in Crow Nest Park, Dewsbury. Assessor, Professor C. H. Reilly, O.B.E., M.A., F.R.I.B.A. A copy of the conditions together with plans of the site may be obtained on application to Mr. H. Dearden, A.R.I.B.A., Borough Surveyor, Town Hall, Dewsbury, on payment of one shilling.

Douglas (Isle of Man) Housing Scheme of Competition.

Members of the Society of Architects are requested not to take part in the above-named competition without first ascertaining that the Conditions have been approved by the Council of the Society.

"The Competitions Committee of the R.I.B.A. desire to call the attention of Members and Licentiates to the fact that the Conditions of this Competition are unsatisfactory. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment."

Coming Events

Thursday, December 14.

Institute of Mechanical Engineers.—Annual Dinner.

L.C.C. School of Building, Ferndale Road, Brixton.—Lantern Lecture: "Old London." By Mr. H. Cox, F.C.A.

A.A.—Revue. 2.30 and 8.

Edinburgh A.A.—"Development of Modern Security Work." Mr. Emory Chubb, M.I.M.E.

Sheffield, South Yorkshire, and District Society of Architects. — "The Modern Architecture of Two London Streets." By Professor C. H. Reilly, F.R.I.B.A.

Birmingham Town Planning Lecture.—"Civic Consciousness and Birmingham Possibilities." By Mr. Wm. Haywood, F.R.I.B.A.

Friday, December 15.

Institute of Mechanical Engineers.—"Reclamation Plant and Its Operation." By Mr. Gascoigne Lumley. Midland Branch Graduates Section: Annual Lecture.

The Art Workers' Guild. — Annual General Meeting.

Monday, December 18.

R.I.B.A.—"The Law of Building Outside London." Mr. A. N. C. Shelley, M.A.Oxon, B.C.L.

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Law Reports

Building Contract Cancelled

Clarkson v. *Aldwych Building Estates Co., Ltd.*

November 16. Before Mr. Justice Romer.

This was an action by Mr. W. Clarkson, he theatrical costumier, against the Aldwych Building Estates Co., Ltd., for he cancellation of a building contract, possession of a site in Catherine Street, W.C., and other relief. The action was undefended.

Mr. Mulligan, for the plaintiff, stated hat he was the freeholder of certain land n Catherine Street, and two years ago ntered into a building agreement with he defendant company, and a second efendant guaranteed the performance of he contract. That gentleman had died ince the action was commenced, and his xecutors had not yet been added as parties, so that the action now came on gainst the company alone.

Counsel asked for judgment against the ompany for recovery of possession of he property, a declaration that the agreement was at an end, and delivery up for ancellation of the document, a declaration that £1,300 deposit paid by the company to the plaintiff was forfeited, udgment for £1,735 accrued rent, and an nquiry as to the rents and profits received by the company from advertisements on the hoardings round the property. He added that there was no respect of getting the last two items, nd that possession of the site was the mportant thing, as Mr. Clarkson had een offered £25,000 for the property.

His Lordship entered judgment for the laintiff as asked with costs.

Subsidence or Explosion?—Important Issue

Ellwood v. *The Salt Union, Ltd.*

November 24–28. King's Bench Division.
Before Mr. Justice Shearman.

His Lordship continued the hearing of he action he commenced at the Chester ssizes, by Mr. H. Ellwood and Mrs. H. llwood, of Ollershaw Lane, Marston, hester, against the Salt Union, Ltd., of olonial House, Liverpool, to recover amages for injuries to their property at Marston, due, they alleged, to an explosion or a nuisance at the defendant's elson mine. Alternatively plaintiffs ought damages on the ground of negligence. Defendants denied negligence or ability in the matter.

Mr. A. Jones, K.C., appeared for laintiffs, and Sir Ellis Griffiths, K.C., presented the defendants.

Mr. Beckett, a member of the Institute f Civil Engineers and a consulting engineer, of Manchester and London, called n behalf of plaintiffs, said he was a ative of Northwich, and was familiar ith the salt district. His personal nowledge extended to the Nelson mine. e had inspected the plaintiffs' property. e was familiar with cracks in property used by ordinary subsidence. Statutory subsidence went on gradually.

His Lordship: I inspected several parts Northwich as I wanted to see the cracks elsewhere, and I also saw the plaintiffs' houses.

Witness, continuing, said with regard to subsidence it found the weakest spot in a house and then appeared there. He inspected all the plaintiffs' houses. He thought the cracks in the plaintiffs' houses, of which complaint was made, were not due to ordinary subsidence, but in his opinion were due to explosion—tremors of the earth following an explosion. There were traces that the cracks started at the top of the houses.

His Lordship: That is the problem we have to solve.

Witness: The cracks I saw were of recent origin, and they do not extend to the bottom, but they extend in various directions. That, in my opinion, is very strong evidence of shock from explosion against the end of the house. Earth tremor would cause the cracks of the kind I saw.

You mean it is earthquake and the buildings swaying?—I attribute the damage to earth tremor chiefly.

Cross-examined: Witness formed the opinion that the explosion caused material damage to the plaintiffs' houses. In his opinion one-third of the damage might be due to subsidence or explosion. The other two-thirds of the damage, in his opinion, was due entirely to explosion. He had not inspected with a view to estimating the cost of the damage, but with a view to giving his opinion as to the cause of the damage.

His Lordship (to Sir Ellis Griffiths): Do you say you are not responsible for this eruption, I won't say explosion, because it came in the course of nature?

Sir Ellis: Yes, that will be my submission.

Mr. William Bowyer, builder, of Northwich, said he examined the property and gave an estimate for doing the necessary work, viz., in respect of the decorative work on the property about £240, and the structural work at about £140.

Mr. H. Hughes, an auctioneer and valuer, of Northwich and Crewe, estimated the depreciation, or loss on this property, at £1,000 in 1920. From what witness could learn he attributed the damage to the property to the eruption or explosion.

This was the case for the plaintiffs.

Sir Ellis Griffiths pointed out that the eruption was in July, 1920, and the first claim of plaintiffs was for £3,000. A year later the claim was for £2,100. Under these circumstances he asked the court to view the case with care and attention.

His Lordship said his difficulty was to disentangle the damage caused by the eruption from the damage done by subsidence.

Mr. W. A. Bennett, a surveyor in the Cheshire district, gave evidence for the defendants.

Prof. Wilkinson, civil engineer, of the University of Liverpool, also gave expert evidence on behalf of the defendants.

His lordship gave judgment in favour of the plaintiffs, and assessed the damages at £50, stating that he thought the injuries to the property from the eruptions complained of were not more. He thought the eruption was the result of pressure from the rising brine on the air in the mine space, which forced it up the shaft, blocked by the platform put in by the defendants. He thought this amounted to negligence, for which the defendants were responsible. The houses, four in number the property of Mrs. Ellwood, were damaged to the extent of £50. There was no damage from the explosion to the houses owned by Mr. Ellwood.

Judgment for Mrs. Ellwood for £50, and judgment for defendants against Mr. Ellwood, but without costs. Defendants to pay Mrs. Ellwood's costs of the action generally, but to have costs of issue respecting three houses in which she had failed to show damage. His Lordship explained that he had made the order as to costs because the greater part of the cost was incurred through the defendants' denial of all liability.

Erection of a Bungalow

Arding and Hobbs v. *W. S. Sandison.*

Nov. 29. Official Referees' Court.
Before Sir Francis Newbolt.

This was an action by Messrs. Arding and Hobbs, Ltd., builders, of Lavender Hill, London, against Mr. W. S. Sandison, of Barnet Wood Lane, Ashtead, Surrey, to recover the balance of charges for building a bungalow at Ashtead. For work and labour done and materials supplied the total charge was £2,145 8s., to which was added 15 per cent. for profit and establishment charges, bringing the total up to £2,552 3s. 8d. Of this, £1,700 had been paid, leaving the balance of £852 3s. 8d., which was the subject of the claim. The main defence was alleged defective work and overcharge.

From the statement of Mr. Fortune, who appeared for the plaintiffs, it transpired that on July 8, 1920, the plaintiffs gave defendant an estimate which, together with correspondence that followed, constituted the contract, which was accepted verbally and confirmed by plaintiffs. The estimated cost was £1,478, based upon time and material plus 15 per cent. for establishment charges and profits. Of the net cost 90 per cent. was to be paid as the work proceeded and the balance on completion. Mr. Candish was the architect. When the contract was made the defendant thought the work would cost £1,478, but no one really knew what the work would cost as it had to be done at a time of great inconvenience for builders. The plaintiffs, said counsel, had to struggle against great difficulties, and it was not likely that they would enter into anything like a binding contract. The work was carried out on the terms arranged, and when completed an account was sent in to the amount of about £2,500. The alterations and extras came to between £500 and £600. The account was sent in showing the balance of £1,152 3s. 8d. due, on February 19, 1921. That amount was altered in the writ to £852 owing to payments made on account, and every facility had been given to defendant to investigate by going through plaintiffs' books. The total prime cost for work came to £1,024 13s. 5d.

and the prime cost for materials was £1,111 14s. That was the total prime cost of the whole job, and after charging the 15 per cent. and making certain deductions, the amount claimed worked out at £786 3s. 10d., and how the result was arrived at was shown by plaintiffs' prime-cost book.

The defendant said that there was an overcharging of £486, and met the claim, said counsel, by a blank denial of everything. Continuing, plaintiffs' counsel said that defendant took from October to February to put in the defence, when £300 was paid into court; but this the plaintiffs were not prepared to accept. They, however, would have accepted the prime cost only without claiming any profit for the firm.

Mr. B. Hammond, plaintiffs' manager, was examined on the details of the work done, the cost and the fairness of the charges, and he was in the box under examination and cross-examination for two days. In the course of his cross-examination he said that the fluctuation of prices at the time when the work was done made it difficult to fix the amount upon which the 15 per cent. could be charged.

The witness was questioned closely on book entries and invoices with a view to supporting defendant's allegation that there had been a great overcharge for materials, that articles invoiced at a few shillings had been increased (according to defendant's counsel) from 60 to 200 per cent., and that there had been much too heavy a charge for extras.

Mr. H. S. Candish, architect and surveyor, who gave evidence on subpœna, said that in May and June 1921 he was acting for the building owners in two cases where Messrs. Arding and Hobbs were employed as builders. He prepared plans from sketches supplied by Messrs. Arding and Hobbs, but he had nothing to do with the contract. Some time after that he was employed by the defendant and acted on his behalf throughout the job. The work was started about July 12, and after that date he supervised on behalf of the defendant, and visited the site once or twice a week. He inspected the work from time to time and gave certificates. Treating the job as a whole he was of opinion that substantially it was well done, especially considering the troubled times in which it was done.

At the assembling of the court on Thursday, the fourth day of the hearing, Mr. Fortune, plaintiffs' counsel, announced that the parties had come to terms. The defendant having paid a further sum beyond the money paid into court, he now asked for an order for payment out of the £300 in court, and judgment for plaintiffs on the claim and counter-claim with costs.

The Official Referee said that defendant had been well advised in settling the case. The defendant had no doubt been taken by surprise by the contract and felt that he had a grievance, but when his architect ordered extras he (defendant) was responsible for them.

Judgment was entered for the plaintiffs on terms endorsed on counsel's brief.

Liability for Fall of House Cornice

Kidd v. *A. and F. Hathaway.*

Nov. 29. Court of Appeal.

Before Lords Justices Bankes, Warrington, and Scrutton.

This was an appeal by the plaintiff, Mr. E. Kidd, of Greenmount Road, Tenenure, Dublin, against a verdict of a special jury at a trial before Mr. Justice Coleridge at Ruthin.

Mr. Artemus Jones, K.C., in support of the appeal, said the plaintiff based his application for a new trial on the ground that the verdict of the jury was perverse, the jury having entirely disregarded the directions of the learned judge. Mr. Kidd lived in Dublin, and he brought the action against the defendants, the Misses Hathaway, who ran a private hotel at Colwyn Bay, for damages for personal injuries sustained by him whilst a visitor at the hotel in these circumstances: Mr. Kidd, on July 23, 1920, was sitting on a chair in front of the steps of the house, Mrs. Kidd sitting a little below him, and a Mr. Roberts, who was the proprietor of the hotel, was sitting close by in a Dutch chair. Whilst they were sitting talking a portion of the cornice which ornamented the front of the hotel, and which was made of concrete or cement, fell down, and as it crashed down it knocked against the balcony just above Mr. Roberts's head. Mr. Kidd, on hearing the noise, jumped up and dashed into the doorway, and as he did that his foot caught in something and he fell on his back and sustained injuries which developed when he got back to Dublin. Afterwards there was found on the chair in which Mr. Kidd had been sitting a piece of the cornice. The action was founded on negligence, and the defence, said counsel, was that the plaintiff's injuries arose through his own negligence, and there was a plea of contributory negligence.

Amongst other questions left to the jury by the judge was whether the plaintiff was injured by the fall of the cornice and which the jury answered in the negative. He (counsel) contended there was not a scrap of evidence on which the jury could return such an answer.

Without calling upon counsel for the respondents their Lordships dismissed the appeal, with costs.

Lord Justice Bankes, in giving judgment, said that the jury might have come to the conclusion that the plaintiff was s unreasonably frightened by what had happened that he had not looked where he was going. He did not know whethe that was so; but it was for the jury on the evidence to form their own opinion and in the circumstances he thought tha Court could not interfere with the verdict

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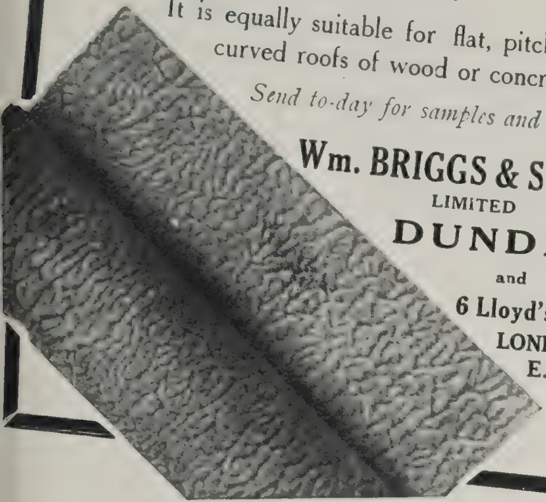

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BUILDING.

December 21.—**CONVENIENCE. Croydon.**—Construction of an underground convenience for men and women at the junction of Tamworth Road with Waddon New Road, West Croydon, for the Town Council. Apply Borough Engineer, Town Hall. Deposit £1 1s.

December 22.—**HOUSES. Leek, Staffs.**—Erection of 20 B-type and 98 A-type houses on the housing site off Buxton Road, Leek, for the Leek U.D.C. Apply Mr. W. E. Beacham, Architect and Surveyor, Town Hall, Leek.

December 22.—**MONUMENT. Dundee.**—Excavator, mason, and brickwork of the proposed monument on The Law, for the Dundee War Memorial Committee. Apply Mr. W. H. Blyth Martin, Clerk to the Committee, Town House, Dundee, or Mr. W. Gauldie, 26 Commercial Street, Dundee.

December 23.—**ADDITIONS. Ammanford.**—Additions to Bettws School, Ammanford, for the Carmarthenshire County Council. Apply Mr. W. V. Morgan, A.R.I.B.A., County Architect, County Offices, Carmarthen.

December 23.—**HOUSES. Perranporth, Cornwall.**—Erection of two dwelling-houses and business premises in Perranporth. Apply Mr. A. Mitchell, Beach Cottage, and Mr. H. V. Westcott, Post Office, Perranporth.

December 23.—**HOMES. Halifax.**—Erection of the John Mackintosh Memorial Cottage Homes, Halifax. Apply Messrs. Lumb and Walton, Architects, 19 Clifton Street, Blackpool; and Mr. Medley Hall, Resident Architect, 1 Harrison Road, Halifax. Deposit £1.

December 23.—**THEATRE. Merthyr.**—Erection of the Castle Theatre, High Street, Merthyr. Apply Messrs. Sir Charles T. Ruthen & Co., Architects, 44 Bedford Row, London, W.C.1, and Bank Chambers, Heathfield Street, Swansea.

December 28.—**HOUSES. Neath.**—Erection of 20 houses on Penyralley Road, Skewen, and 12 houses on Longford Road, Neath Abbey (type B, parlour), in brickwork, under the working classes housing scheme, upon roadside frontages, for the Neath R.D.C. Apply Mr. D. M. Davies, M.I.N. and C.E., M.S.A., Council Offices, Orchard Street, Neath. Deposit £2 2s.

December 28.—**HOUSES. Swansea.**—Erection of blocks of houses, for the Swansea R.D.C. :—(1) Alexandra Road site, Gorseinon, 10 blocks each of two houses of the A type and 10 blocks each of two houses of the B type; (2) Mount Street site, Gowerton, two blocks of two houses of A type and three blocks of two houses of B type. Apply Mr. J. T. J. Williams, M.S.A., 3 Temple Buildings, Goat Street, Swansea. Deposit £2 2s.

December 29.—**HOUSES. Halifax.**—All-trade tenders in erection of 32 scullery houses at Wakefield Road, Halifax, for the Housing Committee. Apply Mr. A. C. Tipple, Borough Engineer. Deposit £2 2s.

December 29.—**HOUSES. Dagenham, Essex.**—Erection of 222 houses and flats on the estate, for L.C.C. Apply Messrs. C. J. Wills and Sons, Ltd., Becontree Housing Estate, Chadwell Heath, Essex. Deposit £5 5s.

December 30.—**CHURCH. Leeds.**—Erection of the main portion of the First Church of Christ Scientist, Headingley, Leeds, adjacent to the existing school building. Apply Messrs. Schofield and Berry, Architects, 15 Park Row, Leeds. Deposit £2 2s.

December 30.—**HOUSES. Norton-on-Tees.**—Erection of houses on the Blue Hall Estate at Norton-on-Tees, for the Corporation of Stockton-on-Tees. Apply Housing Architect, 37a High Street, Norton-on-Tees.

December 31-January 23.—**UNIVERSITY BUILDINGS. Cape Town.**—Buildings for the University on the Groote Schuur estate at Rondebosch, near Cape Town, for the Council of the University of Cape Town. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C. Deposit £15.

January 1.—**HOUSES. Bristol.**—Construction of eight brick-built houses for lock-gatesmen at Cumberland Basin, Bristol, for the Docks Committee. Apply Chief Engineer, Avonmouth Dock. Deposit £2.

January 1.—**MEMORIAL HALL. Talgareg.**—Erection of proposed memorial hall at Talgareg. Apply Post Office, Talgareg.

January 1.—**ALTERATIONS. Croydon.**—Small alterations and internal decorations at (1) the Union House, Queen's Road, Croydon; (2) "Waingates," 316 London Road, Thornton Heath, for the Guardians. Apply Mr. H. Berney, Architect, 33-35 High Street, Croydon. Deposit £2 2s.

January 2.—**HOUSES. Glossop.**—Erection of 16 houses, in pairs and blocks of four, in Simmondley Lane, for the T.C. Apply Mr. H. C. Powell, A.R.I.B.A., 9 Albert Square, Manchester. Deposit £3 3s.

January 3.—**HOUSES. Mansfield.**—Erection of 24 houses, type A, in the borough, for the Town Council. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield.

January 5.—**HOUSES. Tunbridge Wells.**—Erection of houses for the working classes at the following sites, for the Tonbridge R.D.C. :—Two, Mount Pleasant Road, Paddock Wood; eight, Golden Green, Hadlow; four, Shipbourne Road, Hildenborough; eight, Capel. Apply Mr. F. Harris, Engineer and Surveyor, Broadway, Southborough, Tunbridge Wells. Deposit £1 1s.

January 8.—**REBUILDING. Church and Beddau.**—Rebuilding the Cross Inn, Church Village, and the Gelynog Inn, Beddau, for the Rhondda Valley and Ely Breweries, Ltd. Apply Rhondda Valley and Ely Breweries, Ltd., Taff Street, Pontypridd. Deposit £2 2s.

January 10.—**SUPERSTRUCTURE. Walton-on-Thames.**—Construction of the superstructure for the extension of the existing engine-house, boiler-house, elevated coal bunkers, and alterations to existing works, &c., at Walton-on-Thames, for the Metropolitan Water Board. Apply Mr. H. E. Stilgoe, M.I.C.E., Chief Engineer. Deposit £5.

January 17.—**IMPROVEMENTS, &c. Bettws.**—Carrying out improvements, interior reconstruction, new seating, &c., for the Committee of the C.M. Church, Bettws, near Newtown. Apply Mr. R. A. Ford, Architect and Surveyor, Llanidloes.

No Date.—**WINTER GARDENS, &c. Bangor, Ireland.**—Proposed winter gardens and palais de danse, Seacliffe Road, Bangor, for Mr. D. Nardini. Apply Mr. G. O'Neill, M.R.I.A.I., Architect, Bangor; or Messrs. M'Carthy and Lilburn, Quantity Surveyors, Belfast.

No Date.—**SHOPS, &c. Bangor, Ireland.**—Two shops and dwelling house, Central Avenue, Bangor. Apply Mr. G. O'Neill, M.R.I.A.I., Architect, Bangor.

No Date.—**ALTERATIONS, &c. Halifax.**—Alterations, &c., to premises in Bedford Street North, for Messrs. O. and C. Holdsworth. Apply Mr. W. Hall, M.S.A., Architect, 26 George Street, Halifax.

ELECTRICAL.

December 22.—**ELECTRIC TRAVERSER. London, E.C.**—Supply of 35-ton electric traverser, for the Bengal-Nagpur Railway Co., Ltd. Apply Company's Offices, 132 Gresham House, Old Broad Street, London, E.C.2. Deposit 10s. 6d.

January 1.—**SWITCHGEAR, &c. Cheadle.**—Sub-station switchgear (contract No. 2), and static transformers (contract No. 3), for the Cheadle and Gatley U.D.C. Apply Mr. C. H. Wordingham, C.B.E., M.I.C.E., M.I.E.E., 7 Victoria Street, Westminster, London, S.W.1, or 11 Mosley Street, Manchester. Deposit £3 3s. (contract No. 2); £1 1s. (contract No. 3).

January 1.—**ELECTRIFICATION. Manchester.**—Conversion of Davyhulme sewage works, Urmston, from steam to electric drive, for the Rivers Committee. Apply Secretary of the Rivers Department, Town Hall, Manchester.

January 9.—**CRANE. New Zealand.**—Supply and delivery of one electric travelling crane in connection with the Waikato power scheme, section 58. The crane is to be designed for lifting, traversing and travelling loads up to 27 tons. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, London, S.W.1.

January 9.—**PLANT. London, E.C.**—Supply of the following plant for electrification of Bombay suburban lines, for the Great Indian Peninsula Railway Co., viz. :—(1) Electrical equipment of coaches, fee for specification £2; (2) overhead equipment of permanent way and overhead distribution lines, £2. Apply Company's Offices, 48 Copthall Avenue, E.C.2.

January 15-31.—**PLANT. Melbourne.**—Supply, delivery, &c., of plant for the Morwell power scheme, for the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £2 2s.

January 17.—**TELEPHONE AND TELEGRAPH APPARATUS, &c. Perth; Australia.**—Supply and delivery of telephone apparatus, testing instruments, and protective apparatus (schedule No. W.A. 751). Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

January 26.—**ELECTRIC LIGHTING PLANT. Malmesbury, S. Africa.**—Electric lighting plant for Malmesbury as follows: (1) Supply, delivery, and erection of (a) superheated steam engines, boilers, pumps, piping, valves, alternatively (b) suction gas engines and producers, alternatively (c) Diesel oil engine and all accessories, with dynamos, and switchboard in power-station; the supply of all necessary cables and connections, trenches, chequer plating, hand rails, and the leaving of same in good working order, and completed according to specification and guarantee in a thoroughly efficient manner. (2) Supply, delivery, and erection of poles, overhead cables, street lamps and standards, house connections, &c., and all sundries and incidental material necessary to complete the outside work from the switchboard in the power-station to the consumer's premises, according to specification and guarantee, with the exception of items contained in (3). (3) Supply and delivery on site of meters and general testing instruments as specified. (4) Supply, delivery, erection of battery, connection to switchboard, and all sundries attached thereto as specified. Apply Department of Overseas Trade (Room 49).

ENGINEERING.

December 21.—**BRIDGE. Spalding.**—Taking down of a brick bridge over the Hammond Beck, Quadring Fen, known as Calf Bridge, and for the erection of a girder bridge with brick abutments, for the Spalding R.D.C. Apply Mr. A. K. Maples, Clerk, Spalding.

December 22.—**PUMP. Manchester.**—Supply of one circulating pump, hot-water tube and fittings, to the Crumpsall Institution, Crescent Road, Manchester, for the Guardians. Apply Mr. Hargreaves, Superintendent of Works, Union Offices, All Saints', Manchester.

December 28.—**WATER MAIN. Southborough, Kent.**—Provision and laying of about 1,500 yards of 10 in. cast-iron water main and 6 in., 4 in., and 3 in. connections to existing branches in the main road, Southborough, for the Southborough U.D.C. Apply Messrs. G. and F. W. Hodson, Bank Chambers, Loughborough and London. Deposit £5 5s.

January 1.—**CONDUIT. Littleton and Hampton.**—Construction of about 35 yards of twin 96 in. diameter reinforced concrete conduits and about 3,900 lineal yards of 72 in. reinforced concrete conduit from Littleton to Kempton, also the laying only of about 2,000 yards of 48 in. diameter cast-iron pipe from Kempton to Hampton, together with a concrete intake channel to the Staines aqueduct and for contingent works, for the Metropolitan Water Board. Apply Offices of the Board, Chief Engineer's Department (Room 201). Deposit £20.

January 6.—**BRIDGE. Glasgow.**—The Corporation of Glasgow invite designs and offers for the construction of a ferro-concrete bridge over the Clyde at Oswald Street. Apply Office of Public Works, City Chambers, 64 Cochrane Street.

January 8.—**WATERWORKS. Okehampton.**—Supply, laying, and jointing of about 1,000 yards of 5 in. and 4 in. cast-iron socket pipes with their appendages, including all necessary sluice and air valves, hydrants and other works, for the improvement of the water supply of the town, for the T.C. Apply Messrs. Nichols and Unwin, 11 Victoria Street, Westminster, S.W.1. Deposit £2.

January 27.—**PLANT. Birmingham.**—Supply and erection of plant for refuse destructor and salvage works, Brookvale Road, Witton, for the Salvage and Stables Committee. Apply Mr. J. Jackson, Superintendent, Salvage Department, 161 Corporation Street, Birmingham Deposit £1 1s.

March 7.—**ASH AND DUST EXTRACTION PLANT. Melbourne.**—Supply, delivery, &c., of ash and dust extraction plant (specification No. 23-6), fo the Morwell power scheme. Apply Agent-General fo Victoria, Melbourne Place, Strand, London, W.C.2 Deposit £2 2s.

PAINTING.

December 22.—**PAINTING. Carlisle.**—Paintin the following properties, for the Corporation, viz. Town Hall, English Street; Lowther House, Lowthe Street, and premises, English Street and New Grape Lane. Apply Mr. H. C. Marks, M.I.C.E., City Enginee and Surveyor, 18 Fisher Street, Carlisle.

December 22.—**PAINTING. Sheffield.**—(a) Cor Exchange Hall, internal painting; (b) Norfolk Market internal and external painting; (c) Sheaf Market, paintin of stalls, for the Markets Committee. Apply Mr. F. E. P Edwards, City Architect, Town Hall, Sheffield.

ROADS AND SEWERS.

December 22.—**SEWAGE DISPOSAL WORK EXTENSION. Southall.**—Extension of the sewag disposal works, for the Southall-Norwood Urban Distric Council. Apply Mr. J. B. Thomson, A.M.I.C.E., &c. Engineer and Surveyor, Town Hall, Southall.

December 28.—**ROAD WORKS. Little Stanmore Middlesex.**—Kerbing, channelling, paving, and making up of the following streets, all in the parish of Littl Stanmore, for the Hendon R.D.C.: Churchill Road Gresham Road, and Montgomery Road. Apply M H. W. Rackham, Engineer and Surveyor, Stanmore Deposit £2 2s.

December 28.—**STREET WORKS. Waterloo with-Seaforth, Lancs.**—Works of sett paving, con creting, flagging, kerbing, draining, &c., in Seafort Road, Seaforth, for the Waterloo-with-Seaforth U.D.C Apply Mr. J. R. Fothergill, A.M.I.C.E., Surveyor to th Council.

December 29.—**ROAD WORKS. Southport.**—Levelling, paving, metalling and making good Chesterfield Road and Sandringham Road, Ainsdale, for th Highways Committee. Apply Mr. A. E. Jackso M.I.C.E., Borough Engineer, Town Hall, Southport Deposit £2 2s

January 3.—**SEWAGE DISPOSAL WORKS Sedgley.**—Provision, laying, and jointing of 12 in. an 9 in. stoneware pipe sewers; also for the construction manholes, engine-house, pump well, sedimentatio tanks, storm-water tanks, bacteria beds, humus tank sludge beds and other incidental works, for the U.D.C Apply Engineers, Messrs. Willcox and Raikes, 63 Templ Row, Birmingham. Deposit £5 5s.

(*Continued on page* xxviii)

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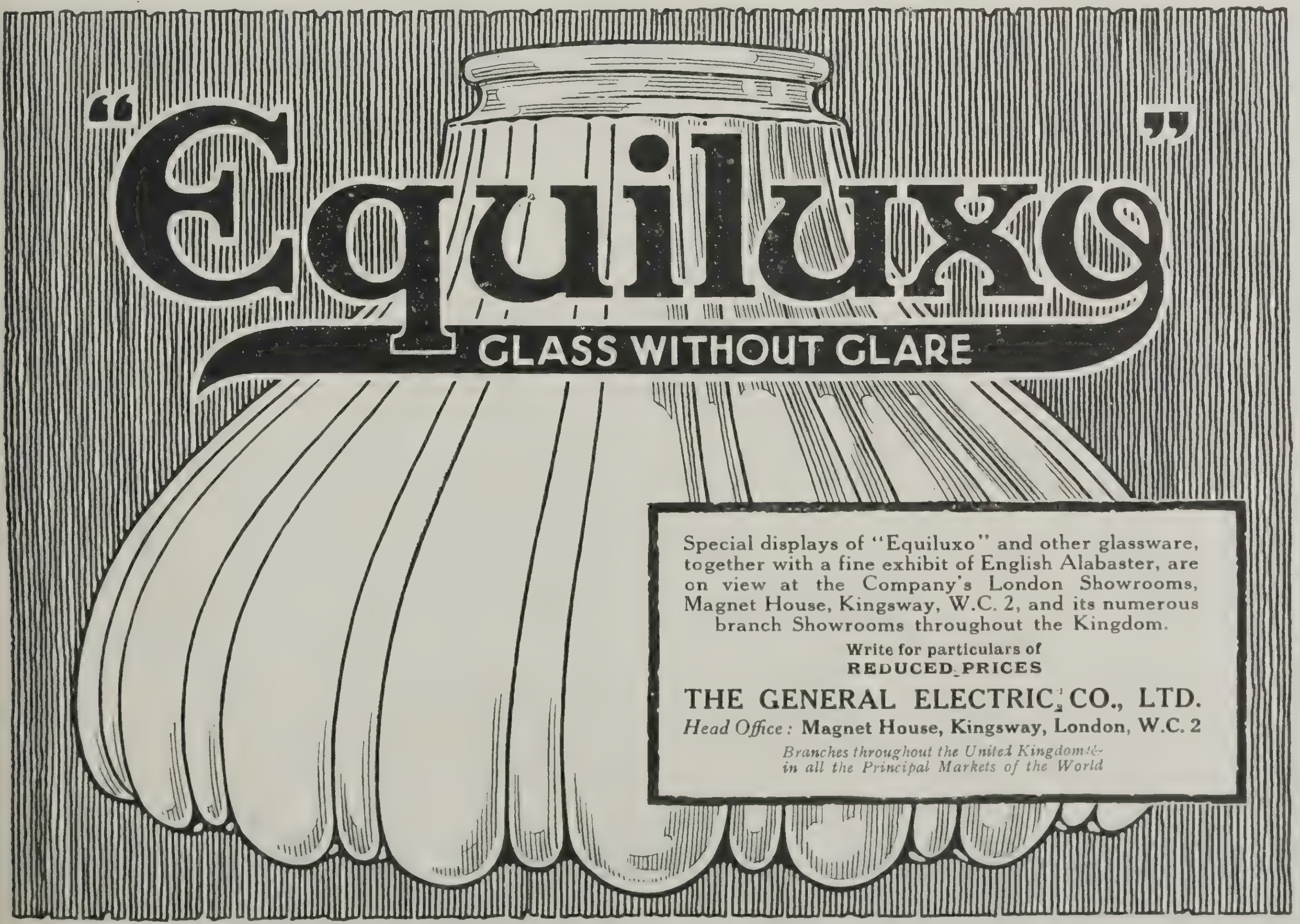

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January 9.—**SEWER. Lambeth, &c.**—Construction in tunnel of a 11 ft. 4 in. internal diameter sewer in iron of a total length of about $1\frac{3}{8}$ miles, with outlet to the River Thames, weir chambers, tumbling bays, side entrances, &c., in the Metropolitan boroughs of Lambeth, Wandsworth, and Battersea, for the L.C.C. Apply Chief Engineer of the Council at Old County Hall, Spring Gardens, S.W.1. Deposit £10.

January 16.—**ALTERATIONS, &c. Wheatley Carr, near Nelson.**—Alterations and additions at their sewage works, Wheatley Carr, near Nelson, for the Barrowford U.D.C. Apply Messrs. C. J. Lomax and Son, 37 Cross Street, Manchester. Deposit £3 3s.

New Inventions

Latest Patent Applications.

32397.—Buddicom, H. W.—Building construction. November 27.

32669.—Drake, J.—Underpinning walls, etc. November 29.

32790.—Fairbrass, H.—Reinforced-concrete buildings. December 1.

32879.—Frewen, E. J.—Buildings, and bricks therefor. December 1.

32386.—Pavement Publicity, Ltd.—Paving slabs, etc. November 27.

32673.—Zijil, H. van.—Building method. November 29.

Specifications Published.

188779.—Kirton, R. G.—Concrete buildings.

188805.—Wood, J. H. P., and Cameron, R. C.—Fencing and the like posts made of reinforced concrete, and moulds for producing the same.

188851.—Vaughan, F. E.—Surveying instruments or the like

188990.—Sandberg, J. T.—Building block.

188993.—Swan, Hunter, and Wigham Richardson, Ltd., and Temple, G. T.—Vertically sliding windows and the like.

188995.—Albrecht, T. J. J.—Walls or other constructions, and building blocks therefor.

189038.—Pitou, E.—Suspended scaffolds.

Abstract Published.

186745.—Walls.—Rammage, A. W., 29 Amerland Road, West Hill, Wandsworth, and G. H. Pittaway, 65 Onslow Gardens, Muswell Hill, both in London. A double slab or block wall is formed by placing the slabs against a permanent light wooden framework composed of verticals and rails. The framework acts as a guide only and carries no load. The bottom is set in concrete, and, at the window and door openings, the frame seals the cavity and is rendered with cement. A space is left at the top of the wall, and is sealed with concrete in which are set straps to tie down the roof timbers. The slabs are secured by metal ties and the exterior is rendered in rough-cast cement or lime.

The above particulars are specially prepared by Messrs. Rayner & Co., registered patent agents, of 5 Chancery Lane, London, W.C. 2, from whom readers of the Journal may obtain all information free relating to patents, trade marks, and designs. Messrs. Rayner & Co. will obtain printed copies of the published specifications and forward on post free for the official price of 1/- each.

List of Competitions Open

Date of Delivery.	COMPETITION.
1923 Jan. 15	Hospital for a typical small community in America. Competition open to all Architects. Premiums $500, $300, and $200. Apply The Modern Hospital Publishing Company. Inc., 22 E. Ontario Street, Chicago, Ill. Closing date for applications, November 15.
Feb. 28	Scheme for the distribution of drinking water for the town of Mantes-sur-Seine. Apply Mairie, Mantes, or at the offices of La Renaissance des Cités, 23 Rue Louis le Grand (11e). Premiums: 4,000, 3,000, and 2,000 francs.
March 31	War Memorial for Port Said, Egypt, to the memory of the soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during 1916, 1917, and 1918. Premiums: 250 guineas, 100 guineas, and 50 guineas. Apply High Commissioner for Australia, Australia House, Strand, W.C.
March 31	War Memorial in Crow Nest Park, Dewsbury. Assessor, Professor C. H. Reilly, O.B.E., M.A., F.R.I.B.A. A copy of the conditions together with plans of the site may be obtained on application to Mr. H. Dearden, A.R.I.B.A., Borough Surveyor, Town Hall, Dewsbury, on payment of one shilling.

Coming Events

Wednesday, December 20.

British Empire Union.—Annual meeting, 4 p.m., Holborn Restaurant. "Trade within the Empire." By the Rt. Hon. L. C. M. S. Amery, First Lord of the Admiralty.

Thursday, December 21.

Institute of Mechanical Engineers, N.W. Branch.—"Ring Spinning Machinery." By W. A. Walsh.

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SOUTHWARK STREET, LONDON, S.E.

The Week's News

A Reading Architect's Estate.

Mr. Spencer S. Stallwood, a Reading architect, left £28,416.

Rochford Bungalow Costs.

Rochford Rural District Council are building bungalows at £360 each.

Town Planning at Luton.

The Luton Town Council have adopted a town-planning scheme.

The London County Hall.

It is proposed to make arrangements for the new County Hall to be open for public inspection on Saturday afternoons.

New Sports Ground for Folkestone.

A new sports ground, to cost £72,890, is to be constructed by the Folkestone Corporation.

London Heating Engineer's Estate.

Mr. Richard Crittall, of Bournemouth, and of Messrs. Richard Crittall & Co., Ltd., of London, engineers, left £7,345.

Repairs to a London Hospital.

£2,500 is urgently required for repairs to the Infants' Hospital, Vincent Square, Westminster.

New Industry for Middlesbrough.

A new industry for the manufacture of wire fabric for the reinforcement of concrete in road and building construction is shortly to be started at Middlesbrough.

St. George's Chapel, Windsor.

Towards the £80,000 still required for the restoration of St. George's Chapel, Windsor, an anonymous donor has given £1,000 a month for six months.

The Manchester Building Guild.

Messrs. J. A. Mactaggart & Co., Ltd., of Glasgow, contractors, are taking over the sole control of the National Building Guild, Ltd., of Manchester, for three years. The firm are also investing £50,000 in the business.

A Proposed Huddersfield Church.

Messrs. Lunn and Kaye, of Milnesbridge, Huddersfield, architects, have prepared plans for a new church in Huddersfield. It is for the Spiritualist denomination of Huddersfield.

Doncaster's New Sewage Scheme.

The Doncaster Corporation have begun the laying of new main sewers throughout the town. The total cost will amount to about £250,000. It is estimated that the work will take about five years to complete.

New County Hall's Acoustics.

The acoustics of the new London County Council Hall are as bad as ever. A large white sheet was suspended above the members at a recent meeting, but the speeches were no more audible than before.

New Yorkshire Light Railway.

Messrs. Stephen Sellon and Partners, of London, engineers, have prepared plans for a proposed light railway which will run from Barnsley to Mexborough. The work will include in addition to the railway, street widening, bridge work, rolling stock, buildings, and overhead wires, etc.

L.C.C. Housing Progress.

Under the State scheme of building, states a report by the L.C.C. Housing Committee, 6,477 houses have been completed up to date. The committee express the opinion that the provision of additional housing accommodation is desirable.

Doncaster's Proposed New Infirmary.

The Doncaster Infirmary Governors have decided to erect a new infirmary. The Infirmary Committee, the local doctors, and the miners' hospital committee have decided upon a site near Greenhouse in Thorne Road, Doncaster. The Governors are to be asked to sanction the scheme and to put the work in hand immediately.

Bournemouth's Pavilion Scheme.

Approval has been given by the Ministry of Health to the scheme of Bournemouth Corporation for the erection of a £100,000 pavilion on the Bellevue and Westover site near the pier. A competition is to be promoted in connection with which the corporation will offer prizes of £300, £200, and £100 for the most suitable designs.

Brighton Aquarium.

The Brighton Town Council have decided to retain the Aquarium under municipal control and to reject offers to lease the building at rentals varying from £1,000 to £4,000 a year. The Aquarium Committee have been instructed to bring up proposals for dealing with the site on lines of public improvement. Councillor H. B. Lewis has outlined a scheme for converting the site into public gardens, with a restaurant in the centre.

Roman Remains at Colchester.

Further discoveries of Roman remains have been made at Colchester, where excavations are taking place in connection with drainage works. In Culver Street, near the centre of the town, and well within the walls, Roman polished marble, Roman pottery fragments, and stone material have been unearthed in considerable quantity, as well as a stonemason's tools, shaped brickwork, buff ware, a bone hairpin, etc. The marble is believed to have been used in the wall design of some Roman building. In another part of the town, in a private garden on North Hill, Roman tesselated pavement, measuring 13 ft. by 5 ft., and apparently part of a 15 ft. square, has been discovered and is a very fine specimen. Of special interest is the discovery of the remains of ashes over the pavement. This is believed to indicate the destruction of the earliest Roman buildings by fire, possibly in the devastation of Camulodunum, caused by Boadicea when she attacked the Roman colony.

Incorporation of Architects in Scotland.

At the last meeting of the Council, held in Edinburgh, with Mr. T. P. Marwick in the chair, the scholarship and bursaries recommended by the Education Committee for the promotion of architectural education were approved. It was reported that considerable progress had been made in the matter of instituting a Scottish Degree in Architecture, and that the Architects' Registration Bill and the Landed Property Practitioners' Registration Bill were under consideration. A report was submitted by the incorporation's representative as to the work done in connection with formulating a new building code for Scotland. The president was appointed representative on the Grand Committee making arrangements for Sir Christopher Wren's bi-centenary celebration. The election was made of two associates and one student; and there were applications for membership from one Fellow, six Associates, and seven students.

R.I.B.A. Council Meeting

Appended are notes from the minutes of the last meeting of the Council of the R.I.B.A. :—

The Federal Council of the Australian Institutes of Architects.—Under the provisions of the Charter and By-laws, the Federal Council of the Australian Institutes of Architects was admitted as an allied society of the Royal Institute.

The University of London.—Mr. Paul Waterhouse and Mr. Arthur Keen were nominated for re-appointment as representatives of the Royal Institute on the Architectural Education Committee of the University of London.

The Joint Archæological Committee.—Mr. E. P. Warren, F.S.A., was appointed as representative of the Royal Institute on the Joint Archæological Committee.

Retired Fellowship. — Messrs. Harry Sirr, W. M. Dowdall, and C. H. Brodie were transferred to the class of retired Fellows.

"Architecture Reviewed"

Once again the Lyric Club of the A.A. has proved its versatility and wit. In "Architecture Reviewed," produced in aid of the Architects' Benevolent Fund, a light-hearted, but eminently successful attempt was made to present in nine "slides" the progress through the ages of the art.

Particular attention was devoted to the abuses thereof. In ancient Britain the workmen would not work, the students of Greece were not altogether appreciative of those set in authority over them, and competition awards led to dissatisfaction even in mediæval Italy.

The Georgian scene, frankly and skilfully "pinched from Mr. Gay," was a sheer delight, indeed, the scenery and effects all through were a matter for sincere congratulation.

Dr. Oscar Faber conducted an excellent orchestra with verve and abandon, and the numerous musical numbers, rich in topical allusions, added considerably to the gaiety of the entertainment.

Southend Competition Awards

The full awards have been made in the Southend-on-Sea Secondary School Competition. As announced in our issue for December 6 the first place was secured by the late Mr. H. H. Thomson, F.R.I.B.A., Leicester. The other awards are: Second, Messrs. Sharman and Moore and Stockdale, Harrison and Sons, Leicester; and third, Mr. T. R. Somerford, A.R.I.B.A., London.

Uses of "Alundum" Tiles

Seven or eight years ago the engineers of the subways in New York were confronted with the difficulty of finding a substance which would withstand the wear of many thousands of foot passengers over the subways and stairs. An experiment was made by breaking up some "Alundum" abrasive wheels, which are used in the engineering trade for grinding hardened steel and other metals, it being thought that such a substance would be practically wear-proof.

This experiment proved so successful that the Norton Co., Worcester, Mass., who had for many years manufactured "Alundum" abrasive wheels, were consulted, and after further experiments tiles were produced made entirely of "Alundum," bonded with a slight percentage of clay, and afterwards vitrified in a high-temperature furnace.

These tiles are comparatively smooth, but are claimed to be "slip-proof under wet, dry, or greasy conditions, and as the surface does not wear the tiles remain slip-proof through their long life." After forty millions of people had passed over the portion of the subway and stairs thus treated, it is stated that there was not the slightest trace of wear. Several colours which harmonize with existing building materials are supplied, and the tiles are made in all standard shapes. They are specially useful as the nosing for stair-treads, and can be easily fixed either by screwing direct to wood, or laying in cement on staircases of all constructions. The tiles may also be supplied as mats for the running boards of stairways of omnibuses, trams, and motors.

"Alundum" can also be supplied in crushed aggregates for mixing with cement and marble chips to make aggregate floors, or, if preferred, can be supplied as pre-cast aggregate tiles.

Half the stairs leading from the booking-office to the platforms at Victoria Underground Station, London, have been fitted with "Alundum" stair-treads, and a very moderate estimate, based on figures kindly given by the railway company, shows that one million two hundred thousand persons walk over these "Alundum" treads each month. Tramcars have also been fitted with them in London and the provinces.

The chief advantages claimed for "Alundum" are as follows: The surface remains slip-proof during its entire life; its non-wearing quality eliminates the cost of maintenance; the first cost is the only cost; it combines slip-proof effectiveness and durability with architectural attractiveness; the tread is restful and quiet, imparting to the step a sense of security. Full particulars of the "Alundum" tiles may be obtained from Messrs. Charles Churchill & Co., Ltd., Engineers, 9–15 Leonard Street, Finsbury, E.C.2.

Copper Alloy Pipe Fittings

Report No. 99-1922 on the subject of copper-alloy pipe fittings for pipe sizes from $\frac{1}{8}$ in. to 4 in. has just been issued by the British Engineering Standards Association. The report deals with the material to be employed, testing, and dimensions for equal and reducing sockets, elbows, tees, plugs, crosses, return bends, etc., and both short turn and long sweep fittings are included. The report contains numerous tables for equal fittings and the methods to be adopted for calculating the dimensions of reducing fittings, accompanied by explanatory figures in each case. Tables of centre to face dimensions for reducing fittings are given, and also the standard sizes of these fittings in both short and long sweep varieties. Each type of fitting dealt with is illustrated by a figure. Some notes follow on the design of the fittings. Copies of this specification, price 1s. 2d. post free, may be obtained from the offices of the B.E.S.A., 28 Victoria Street, London, S.W.1.

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BUILDING.

December 28.—**HOUSES. Neath.**—Erection of 20 houses on Penyralley Road, Skewen, and 12 houses on Longford Road, Neath Abbey (type B, parlour), in brickwork, under the working classes housing scheme, upon roadside frontages, for the Neath R.D.C. Apply Mr. D. M. Davies, M.I.N. and C.E., M.S.A., Council Offices, Orchard Street, Neath. Deposit £2 2s.

December 28.—**HOUSES. Swansea.**—Erection of blocks of houses, for the Swansea R.D.C. :—(1) Alexandra Road site, Gorseinon, 10 blocks each of two houses of the A type and 10 blocks each of two houses of the B type; (2) Mount Street site, Gowerton, two blocks of two houses of A type and three blocks of two houses of B type. Apply Mr. J. T. J. Williams, M.S.A., 3 Temple Buildings, Goat Street, Swansea. Deposit £2 2s.

December 28.—**SUB-STATIONS. Cleckheaton.**—Erection of sub-stations at Webster Lane, Scholes, and Whitechapel Road, Cleckheaton, for the Spenborough U.D.C. (Electricity Department). Apply Messrs. R. Castle and Son, Architects, Midland Bank Chambers, Cleckheaton.

December 29.—**HOUSES. Hereford.**—Erection of 28 non-parlour type houses at Hereford, for the T.C. Apply Mr. W. McNeil Shimmin, A.M.I.C.E., City Engineer and Surveyor, Town Hall, Hereford.

December 29.—**HOUSES. Halifax.**—All-trade tenders in erection of 32 scullery houses at Wakefield Road, Halifax, for the Housing Committee. Apply Mr. A. C. Tipple, Borough Engineer. Deposit £2 2s.

December 29.—**HOUSES. Dagenham, Essex.**—Erection of 222 houses and flats on the estate, for L.C.C. Apply Messrs. C. J. Wills and Sons, Ltd., Becontree Housing Estate, Chadwell Heath, Essex. Deposit £5 5s.

December 30.—**HOUSES. Abercorn.**—Erection of 36 additional three-story tenement houses at Abercorn, for the Edinburgh City Council. Apply Messrs. Fairlie, Reid and Forbes, Architects, 14 Randolph Place.

December 30.—**CHURCH. Leeds.**—Erection of the main portion of the First Church of Christ Scientist, Headingley, Leeds, adjacent to the existing school building. Apply Messrs. Schofield and Berry, Architects, 15 Park Row, Leeds. Deposit £2 2s.

December 30.—**HOUSES Norton-on-Tees.**—Erection of houses on the Blue Hall Estate at Norton-on-Tees, for the Corporation of Stockton-on-Tees. Apply Housing Architect, 37a High Street, Norton-on-Tees.

December 30.—**HOUSES. Clydebank.**—Erection of 22 houses at Whitecrook, for the Town Council. Apply Town Clerk, Municipal Buildings, Clydebank. Deposit £1 1s.

December 30.—**SHOP, &c. Dipton.**—Erection and completion of shop, &c., in reinforced concrete at Flint Hill, Dipton, for the Annfield Plain Industrial Co-operative Society, Ltd. Apply Architect's Office, The Grove, Lanchester.

December 30.—**ORGAN CHAMBER. Masham.**—Construction of a small building of stone, with reinforced concrete roof, for a blowing chamber for new organ at St. Mary's Church, Masham, for the Organ Fund Committee. Apply Messrs. T. and R. Theakston, Ltd., Masham.

December 30.—**HOUSE, &c. Tynewydd.**—Building of a new dwelling-house and adaptation of farm buildings at Tynewydd, near Whitland, for the Carmarthenshire C.C. Apply Mr. W. Vincent Morgan, A.R.I.B.A., County Offices, Carmarthen.

December 30.—**HOUSE. Woolacombe, Devon.**—Erection of a house at Woolacombe for Mr. S. W. Slatter. Apply Mr. J. C. Southcombe, P.A.S.I., Architect and Surveyor, Barnstaple.

December 30-January 20.—**STORES, &c. Rotherham.**—Erection of new stores and workshops at the Highways Depot, and of new municipal offices in Howard Street, for the Corporation. Apply Mr. V. Turner, A.M.I.C.E., Borough Engineer, Town Hall, Rotherham. Deposit £5.

December 31-January 23.—**UNIVERSITY BUILDINGS. Cape Town.**—Buildings for the University on the Groote Schuur estate at Rondebosch, near Cape Town, for the Council of the University of Cape Town. Apply office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W.C. Deposit £15.

January 1.—**HOUSES. Bristol.**—Construction of eight brick-built houses for lock-gatesmen at Cumberland Basin, Bristol, for the Docks Committee. Apply Chief Engineer, Avonmouth Dock. Deposit £2.

January 1.—**MEMORIAL HALL. Talgareg.**—Erection of proposed memorial hall at Talgareg. Apply Post Office, Talgareg.

January 1.—**ALTERATIONS. Croydon.**—Small alterations and internal decorations at (1) the Union House, Queen's Road, Croydon; (2) "Waingates," 316 London Road, Thornton Heath, for the Guardians. Apply Mr. H. Berney, Architect, 33-35 High Street, Croydon. Deposit £2 2s.

January 1.—**ADAPTATION, &c. Cherington.**—Adaptation and repairs to three cottages and four sets of farm buildings at Cherington, near Shipston-on-Stour, for the Warwickshire C.C. Apply Mr. A. C. Bunch, F.R.I.B.A., County Architect, 27 Binswood Avenue, Leamington. Deposit £2 2s.

January 1.—**HOUSES. Colchester.**—Erection of a block of six houses (non-parlour type) to be built at the Harwich Road housing site, for the Housing Committee. Apply Borough Surveyor.

January 2.—**HOUSES. Cwmbran.**—Erection of 10 houses on the Two Locks site, Cwmbran, for the Llantarnam U.D.C. Apply Mr. A. G. Jones, Engineer and Surveyor, Council Offices, Cwmbran. Deposit £2 2s.

January 2.—**HOUSES. Glossop.**—Erection of 16 houses, in pairs and blocks of four, in Simmondley Lane, for the T.C. Apply Mr. H. C. Powell, A.R.I.B.A., 9 Albert Square, Manchester. Deposit £3 3s.

January 3.—**HOUSES. Mansfield.**—Erection of 24 houses, type A, in the borough, for the Town Council. Apply Mr. W. Thompson, A.M.I.C.E., Borough Engineer and Surveyor, Market Street, Mansfield.

January 3.—**FOUNDATIONS. Aylesbury.**—Construction of concrete foundations, &c., for the new electrical plant at the Electricity Works, Exchange Street, Aylesbury, for the T.C. Apply Mr. W. H. Taylor, Borough Engineer and Surveyor.

January 3.—**CHIMNEY STACK REPAIRS. Homerton.**—Repairs to chimney stacks at the Eastern Fever Hospital, Homerton Grove, Homerton, E.9, for the Metropolitan Asylums Board. Apply Mr. T. Cooper, M.I.C.E., M.I.M.E., Engineer-in-Chief. Apply Office of the Board, Embankment, E.C.4. Deposit £1.

January 3.—**ALTERATIONS, &c. Rochdale.**—Alterations and additions at Marland Hospital, for the Health Committee. Apply Borough Surveyor, Town Hall, Rochdale.

January 4.—**HOUSES. Eltham, Kent.**—Erection of 50 houses on their housing estate at Eltham, for the Woolwich B.C. Apply Mr. G. Allen, F.R.I.B.A., 435 Strand, W.C.2. Deposit £3 3s.

January 5.—**HOUSES. Tunbridge Wells.**—Erection of houses for the working classes at the following sites, for the Tonbridge R.D.C. :—Two, Mount Pleasant Road, Paddock Wood; eight, Golden Green, Hadlow; four, Shipbourne Road, Hildenborough; eight, Capel. Apply Mr. F. Harris, Engineer and Surveyor, Broadway, Southborough, Tunbridge Wells. Deposit £1 1s.

January 8.—**REBUILDING. Church and Beddau.**—Rebuilding the Cross Inn, Church Village, and the Gelynog Inn, Beddau, for the Rhondda Valley and Ely Breweries, Ltd. Apply Rhondda Valley and Ely Breweries, Ltd., Taff Street, Pontypridd. Deposit £2 2s.

January 8.—**LAUNDRY. Birmingham.**—Erection of central establishment laundry, Woodcock Street, for the Baths Committee. Apply Mr. A. McKewan, F.R.I.B.A., Architect, King's Court, 115 Colmore Row, Birmingham. Deposit £2.

January 8.—**HOUSES. Saltcoats.**—Erection of 10 additional houses on the site adjoining Jacks Road, Saltcoats, for the T.C. Apply Mr. H. Thomson, Architect, 60 Hamilton Street, Saltcoats. Deposit £1.

January 10.—**SUPERSTRUCTURE. Walton-on-Thames.**—Construction of the superstructure for the extension of the existing engine-house, boiler-house, elevated coal bunkers, and alterations to existing works, &c., at Walton-on-Thames, for the Metropolitan Water Board. Apply Mr. H. E. Stilgoe, M.I.C.E., Chief Engineer. Deposit £5.

January 12.—**ADDITIONS, &c. Lingwood, &c., Norfolk.**—Additions and repairs to the farmhouses at the Church Farm, Lingwood, and the Green Farm, North Burlingham, Norfolk, for the Norfolk Small Holdings Committee. Apply County Land Agent, Shirehouse, Norwich. Deposit £1 1s.

January 13.—**HOUSE. Blaenanerch.**—Erection of a dwelling-house and outbuildings at Tremain. Apply Brynhyfryd, Blaenanerch.

January 17.—**IMPROVEMENTS, &c. Bettws.**—Carrying out improvements, interior reconstruction, new seating, &c., for the Committee of the C.M. Church, Bettws, near Newtown. Apply Mr. R. A. Ford, Architect and Surveyor, Llanidloes.

January 19.—**MARKET EXTENSION. Leeds.**—Extension of the Wholesale Meat Market, slaughterhouse, lairage, &c., in New York Street, for the Markets Committee. Apply Messrs. Braithwaite and Jackman, 6 South Parade, Leeds. Deposit £2 2s.

January 19.—**REBUILDING. London, E.C.**—Rebuilding of the Branch Post Office, Threadneedle Street, London, E.C., for H.M.O.W. Apply Contracts Branch, H.M. Office of Works, King Charles Street, London, S.W.1. Deposit £1 1s.

No Date.—**COVERING. Armley, Leeds.**—All trades except plasterers for covering over of yard in Hall Lane, Armley, for Messrs. Charles Hepworth and Son. Apply Mr. J. A. Webster, Architect, 12 Henley View, Hough Lane, Bramley.

No Date.—**PICTURE HOUSE. Bradford.**—Erection of picture house, North Wing, Bradford. Apply Messrs. Moore and Crabtree, Architects, Queensgate Chambers' Bradford.

ELECTRICAL.

December 30.—**WIRING. Halton, near Leeds.**—Electric wiring of 12 houses at Halton, near Leeds, for the Hunslet R.D.C. Apply Mr. W. P. Pindar, Clerk, Leek Street, Hunslet, Leeds.

January 1.—**SWITCHGEAR, &c. Cheadle.**—Sub-station switchgear (contract No. 2), and static transformers (contract No. 3), for the Cheadle and Gatley U.D.C. Apply Mr. C. H. Wordingham, C.B.E., M.I.C.E., M.I.E.E., 7 Victoria Street, Westminster, London, S.W.1, or 11 Mosley Street, Manchester. Deposit £3 3s. (contract No. 2); £1 1s. (contract No. 3).

January 1.—**ELECTRIFICATION. Manchester.**—Conversion of Davyhulme sewage works, Urmston, from steam to electric drive, for the Rivers Committee. Apply Secretary of the Rivers Department, Town Hall, Manchester.

January 9.—**CRANE. New Zealand.**—Supply and delivery of one electric travelling crane in connection with the Waikato power scheme, section 58. The crane is to be designed for lifting, traversing and travelling loads up to 27 tons. Apply Department of Overseas Trade (Room 50), 35 Old Queen Street, Westminster, London, S.W.1.

January 9.—**PLANT. London, E.C.**—Supply of the following plant for electrification of Bombay suburban lines, for the Great Indian Peninsula Railway Co., viz. :—(1) Electrical equipment of coaches, fee for specification £2; (2) overhead equipment of permanent way and overhead distribution lines, £2. Apply Company's Offices, 48 Copthall Avenue, E.C.2.

January 15-31.—**PLANT. Melbourne.**—Supply, delivery, &c., of plant for the Morwell power scheme. for the State Electricity Commission of Victoria. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £2 2s.

January 17.—**TELEPHONE AND TELEGRAPH APPARATUS, &c. Perth; Australia.**—Supply and delivery of telephone apparatus, testing instruments, and protective apparatus (schedule No. W.A. 751). Apply Department of Overseas Trade (Room 49), 35 Old Queen Street, Westminster, London, S.W.1.

January 26.—**ELECTRIC LIGHTING PLANT. Malmesbury, S. Africa.**—Electric lighting plant for Malmesbury as follows: (1) Supply, delivery, and erection of (a) superheated steam engines, boilers, pumps, piping, valves, alternatively (b) suction gas engines and producers, alternatively (c) Diesel oil engine and all accessories, with dynamos, and switchboard in power-station; the supply of all necessary cables and connections, trenches, chequer plating, hand rails, and the leaving of same in good working order, and completed according to specification and guarantee in a thoroughly efficient manner. (2) Supply, delivery, and erection of poles, overhead cables, street lamps and standards, house connections, &c., and all sundries and incidental material necessary to complete the outside work from the switchboard in the power-station to the consumer's premises, according to specification and guarantee, with the exception of items contained in (3). (3) Supply and delivery on site of meters and general testing instruments as specified. (4) Supply, delivery, erection of battery, connection to switchboard, and all sundries attached thereto as specified. Apply Department of Overseas Trade (Room 49).

ENGINEERING.

December 28.—**WATER MAIN. Southborough, Kent.**—Provision and laying of about 1,500 yards of 10 in. cast-iron water main and 6 in., 4 in., and 3 in. connections to existing branches in the main road, Southborough, for the Southborough U.D.C. Apply Messrs. G. and F. W. Hodson, Bank Chambers, Loughborough and London. Deposit £5 5s.

December 30.—**WIDENING BRIDGE. Mirfield.**—Widening of Nun Brook Bridge, which carries the Dewsbury and Elland main road over Nun Brook, within the urban district of Mirfield, for the West Riding C.C. Apply West Riding Surveyor, County Hall, Wakefield. Deposit £1.

January 1.—**CONDUIT. Littleton and Hampton.**—Construction of about 35 yards of twin 96 in. diameter reinforced concrete conduits and about 3,900 lineal yards of 72 in. reinforced concrete conduit from Littleton to Kempton, also the laying only of about 2,000 yards of 48 in. diameter cast-iron pipe from Kempton to Hampton, together with a concrete intake channel to the Staines aqueduct and for contingent works, for the Metropolitan Water Board. Apply Offices of the Board, Chief Engineer's Department (Room 201). Deposit £20.

January 1.—**ECONOMISER. Basford.**—Removal of the existing economiser and the supply, delivery and erection of a new economiser, for the Guardians of Basford Union. Apply Mr. H. Stone, Clerk, Public Offices, Basford, Nottingham. Deposit £2 2s.

January 1.—**BRIDGE. Oxford.**—Reconstruction of Bulstake Bridge, for the T.C. Apply Mr. J. E. Wilkes, City Engineer, Town Hall, Oxford. Deposit £5 5s.

(*Continued on page* xx.)

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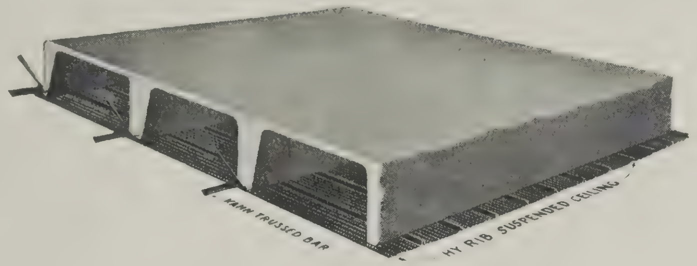

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January 3.—**WEIGHBRIDGES. London, E.C.**—Providing and fixing new self-contained coal-weighing weighbridges in the boiler-houses at several of the Board's institutions, for the Metropolitan Asylums Board. Apply Mr. T. Cooper, M.I.C.E., M.I.M.E., Engineer-in-Chief, Office of the Board, Embankment, E.C.4. Deposit £1.

January 6.—**BRIDGE. Glasgow.**—The Corporation of Glasgow invite designs and offers for the construction of a ferro-concrete bridge over the Clyde at Oswald Street. Apply Office of Public Works, City Chambers, 64 Cochrane Street.

January 8.—**WATERWORKS. Okehampton.**—Supply, laying, and jointing of about 1,000 yards of 5 in. and 4 in. cast-iron socket pipes with their appendages, including all necessary sluice and air valves, hydrants and other works, for the improvement of the water supply of the town, for the T.C. Apply Messrs. Nichols and Unwin, 11 Victoria Street, Westminster, S.W.1. Deposit £2.

January 8.—**BRIDGE. Southport.**—Construction of a new bridge over the London and North Western Railway, near Lloyds Siding, Birkdale, for the Town Planning and Improvement Committee. Apply Mr. A. E. Jackson, M.I.C.E., Borough Engineer, Town Hall, Southport. Deposit £4 4s.

January 9.—**PIPELAYING. Bideford.**—Supplying and laying about 3,500 lineal yards (about 100 tons) of 6 in., 4 in., 3 in., and 2 in. cast-iron pipes, together with sundry valves, for the U.D.C. Apply Messrs. St. George-Moore and La Trobe-Bateman, MM.I.C.E., 91 Victoria Street, Westminster, S.W.1, or Mr. R. E. L. Hookway, Borough Engineer, Bideford. Deposit £1.

January 11.—**STEEL ROOF, &c. Preston.**—Designs and tenders for the supply and erection of steel roof and covering over the Fish Market, Preston, for the Corporation. Apply Borough Surveyor, Town Hall, Preston.

January 27.—**PLANT. Birmingham.**—Supply and erection of plant for refuse destructor and salvage works, Brookvale Road, Witton, for the Salvage and Stables Committee. Apply Mr. J. Jackson, Superintendent, Salvage Department, 161 Corporation Street, Birmingham Deposit £1 1s.

February 8.—**FLOATING CRANES. Antwerp.**—Supply, in one lot, of two 10-ton floating cranes complete with the necessary accessories required for the Port of Antwerp. Apply Department of Overseas Trade (Room 50). Deposit 50,000 frcs.

March 7.—**ASH AND DUST EXTRACTION PLANT. Melbourne.**—Supply, delivery, &c., of ash and dust extraction plant (specification No. 23–6), for the Morwell power scheme. Apply Agent-General for Victoria, Melbourne Place, Strand, London, W.C.2. Deposit £2 2s.

ROADS AND SEWERS.

December 28.—**ROAD WORKS. Little Stanmore, Middlesex.**—Kerbing, channelling, paving, and making-up of the following streets, all in the parish of Little Stanmore, for the Hendon R.D.C.: Churchill Road, Gresham Road, and Montgomery Road. Apply Mr. H. W. Rackham, Engineer and Surveyor, Stanmore. Deposit £2 2s.

December 28.—**STREET WORKS. Waterloo-with-Seaforth, Lancs.**—Works of sett paving, concreting, flagging, kerbing, draining, &c., in Seaforth Road, Seaforth, for the Waterloo-with-Seaforth U.D.C. Apply Mr. J. R. Fothergill, A.M.I.C.E., Surveyor to the Council.

December 29.—**ROAD WORKS. Southport.**—Levelling, paving, metalling and making good Chesterfield Road and Sandringham Road, Ainsdale, for the Highways Committee. Apply Mr. A. E. Jackson, M.I.C.E., Borough Engineer, Town Hall, Southport. Deposit £2 2s.

January 1.—**SANITARY FITTINGS, &c. Burghill, Hereford.**—Providing and fixing sanitary fittings and hot-water supply at the Burghill Isolation Hospital. Apply Mr. E. G. Davies, M.S.A., Architect, 132 Widemarsh Street, Hereford.

January 1.—**ROAD WORKS. Tipton.**—Levelling, forming, making, fencing and other work as required for the construction of four hard tennis courts at the Victoria Park, Tipton, for the Tipton U.D.C. Apply Office of Mr. W. H. Jukes, M.E., Engineer and Surveyor, Public Offices, Tipton. Deposit £1 1s.

January 3.—**FOOTPATHS. Carlisle.**—Works of excavation, providing and laying wood verges and tarmacadam footpaths in Rickerby Park, for the Corporation. Apply City Engineer, Fisher Street. Deposit 10s.

January 3.—**PAVING. Hammersmith.**—Paving of the carriageways and footways on the L.C.C. Old Oak estate (Eastern Section, Part 3), for the Hammersmith B.C. Apply Mr. R. H. Clucus, M.I.C.E., Borough Engineer and Surveyor, Town Hall, Hammersmith, W.6.

January 3.—**SEWAGE DISPOSAL WORKS. Sedgley.**—Provision, laying, and jointing of 12 in. and 9 in. stoneware pipe sewers; also for the construction of manholes, engine-house, pump well, sedimentation tanks, storm-water tanks, bacteria beds, humus tanks, sludge beds and other incidental works, for the U.D.C. Apply Engineers, Messrs. Willcox and Raikes, 63 Temple Row, Birmingham. Deposit £5 5s.

January 5.—**RELAYING SEWER. Eastrington, Yorks.**—Relaying 45 yards of sewer at Eastrington, for the Howden R.D.C. Apply Mr. W. Maston, Market Place, Howden.

January 6.—**CLOSETS, &c. Northallerton.**—Works proposed to be done at the Newby Wiske Council School, including the provision of new earth closets and iron fencing, for the North Riding of Yorkshire C.C. (Education Committee). Apply Mr. J. C. Wrigley, Education Offices, Northallerton.

January 8.—**R[illegible] Notts.**—Construction of about 100 yards [illegible] including pulling down small buildings [illegible] provision and fixing of new fencing, &c., in the parish of Selston, Notts, for the Basford R.D.C. Apply Mr. S. Maylan, Engineer and Surveyor, Public Offices, Rock House, Basford, Nottingham. Deposit £1 1s.

January 9.—**SEWER. Lambeth, &c.**—Construction in tunnel of a 11 ft. 4 in. internal diameter sewer in iron of a total length of about 1⅜ miles, with outlet to the River Thames, weir chambers, tumbling bays, side entrances, &c., in the Metropolitan boroughs of Lambeth, Wandsworth, and Battersea, for the L.C.C. Apply Chief Engineer of the Council at Old County Hall, Spring Gardens, S.W.1. Deposit £10.

January 16.—**ALTERATIONS, &c. Wheatley Carr, near Nelson.**—Alterations and additions at their sewage works, Wheatley Carr, near Nelson, for the Barrowford U.D.C. Apply Messrs. C. J. Lomax and Son, 37 Cross Street, Manchester. Deposit £3 3s.

List of Competitions Open

Date of Delivery.	COMPETITION.
1923 Jan. 15	Hospital for a typical small community in America. Competition open to all Architects. Premiums $500, $300, and $200. Apply The Modern Hospital Publishing Company. Inc., 22 E. Ontario Street, Chicago, Ill. Closing date for applications, November 15.
Feb. 28	Scheme for the distribution of drinking water for the town of Mantes-sur-Seine. Apply Mairie, Mantes, or at the offices of La Renaissance des Cités, 23 Rue Louis le Grand (11e). Premiums: 4,000, 3,000, and 2,000 francs.
March 31	War Memorial for Port Said, Egypt, to the memory of the soldiers of the Australian and New Zealand Forces who fell in Egypt, Palestine, and Syria during 1916, 1917, and 1918. Premiums: 250 guineas, 100 guineas, and 50 guineas. Apply High Commissioner for Australia, Australia House, Strand, W.C.
March 31	War Memorial in Crow Nest Park, Dewsbury. Assessor, Professor C. H. Reilly, O.B.E., M.A., F.R.I.B.A. A copy of the conditions together with plans of the site may be obtained on application to Mr. H. Dearden, A.R.I.B.A., Borough Surveyor, Town Hall, Dewsbury, on payment of one shilling.

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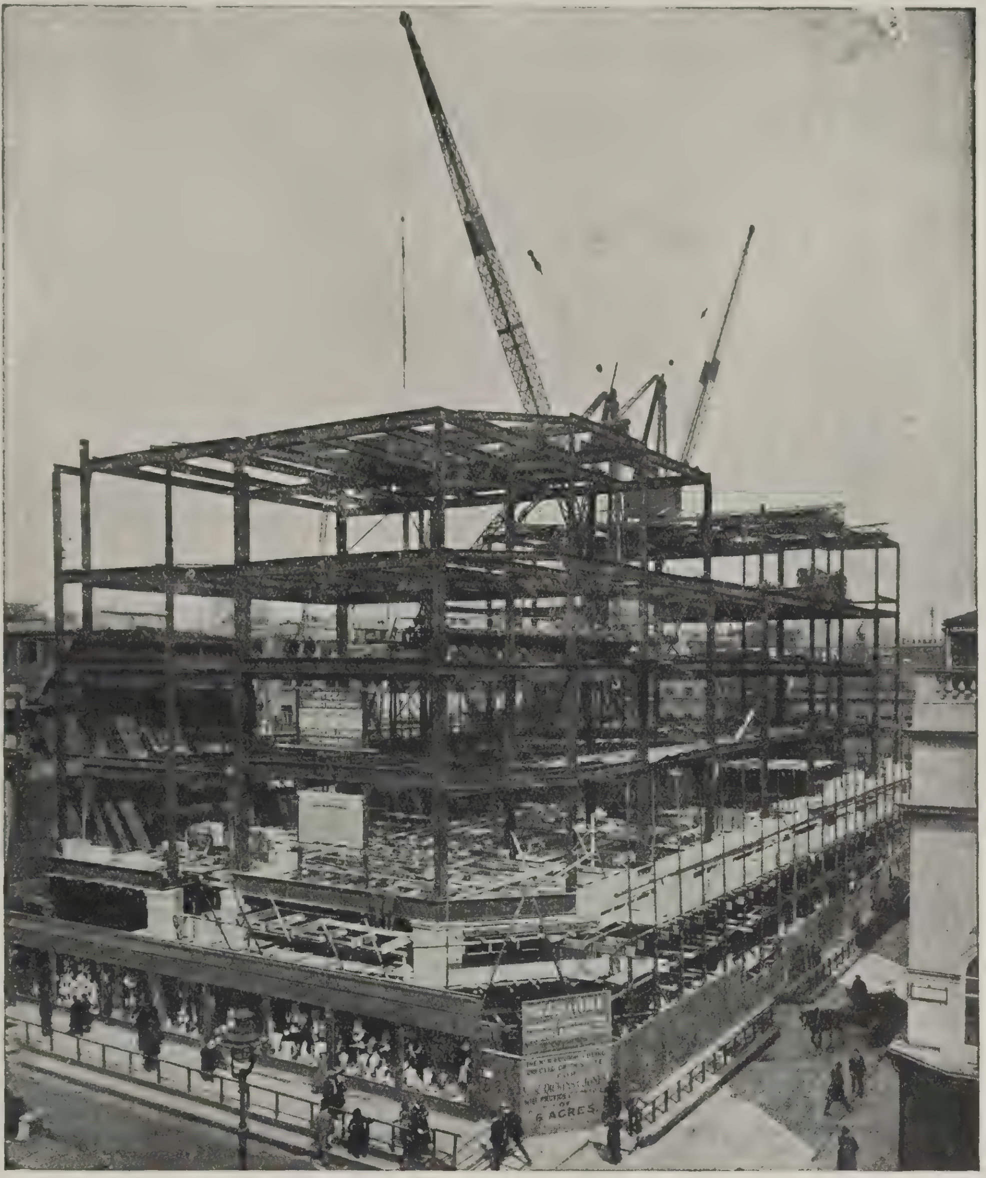

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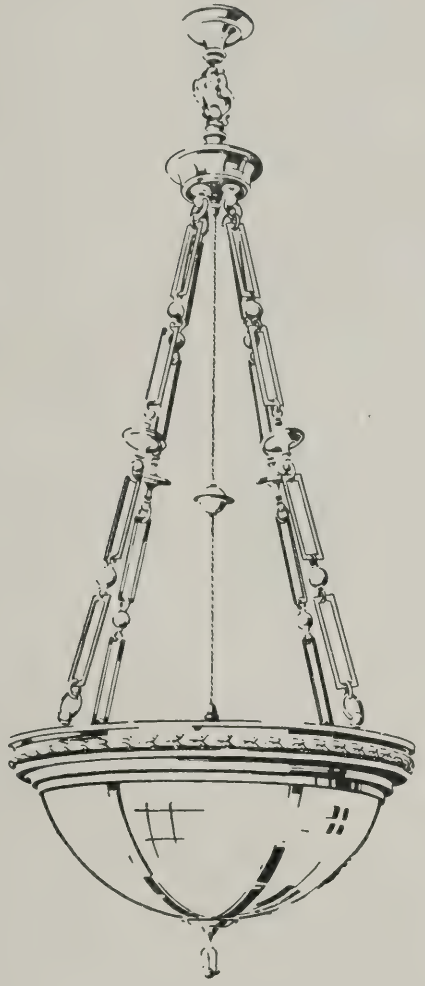

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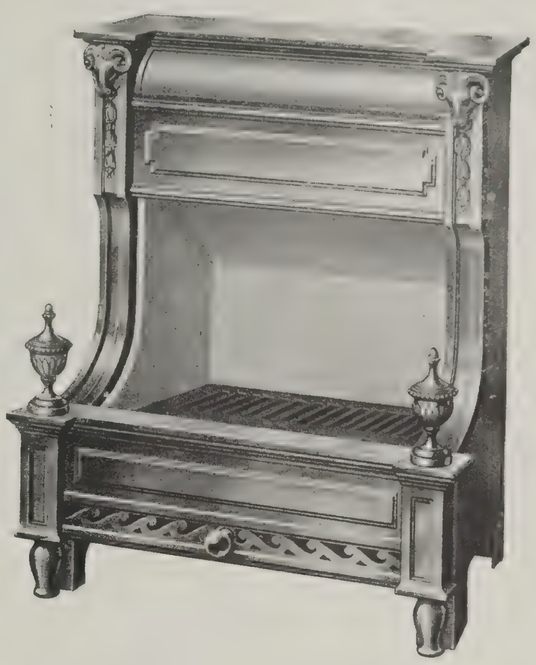

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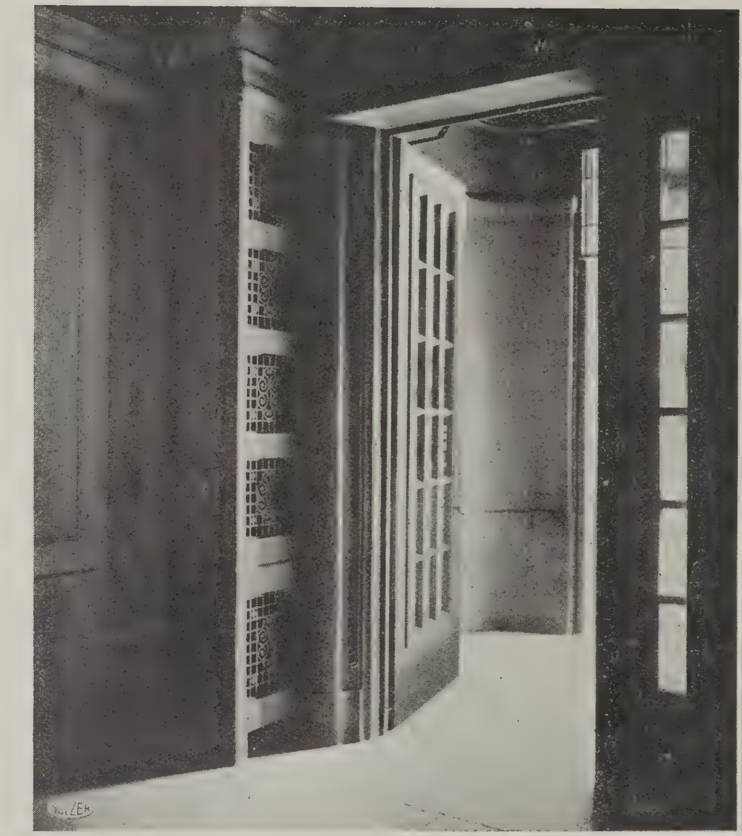

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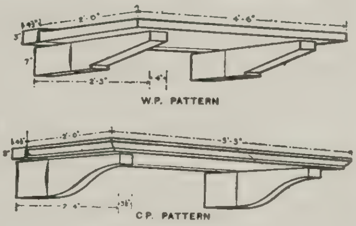

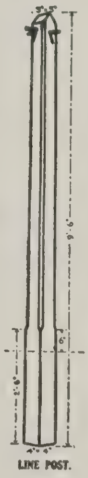

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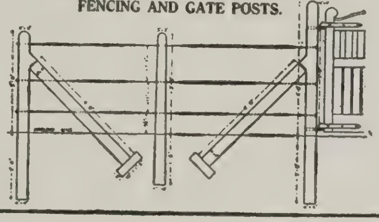

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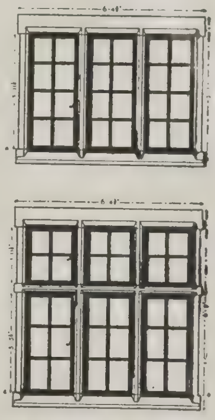

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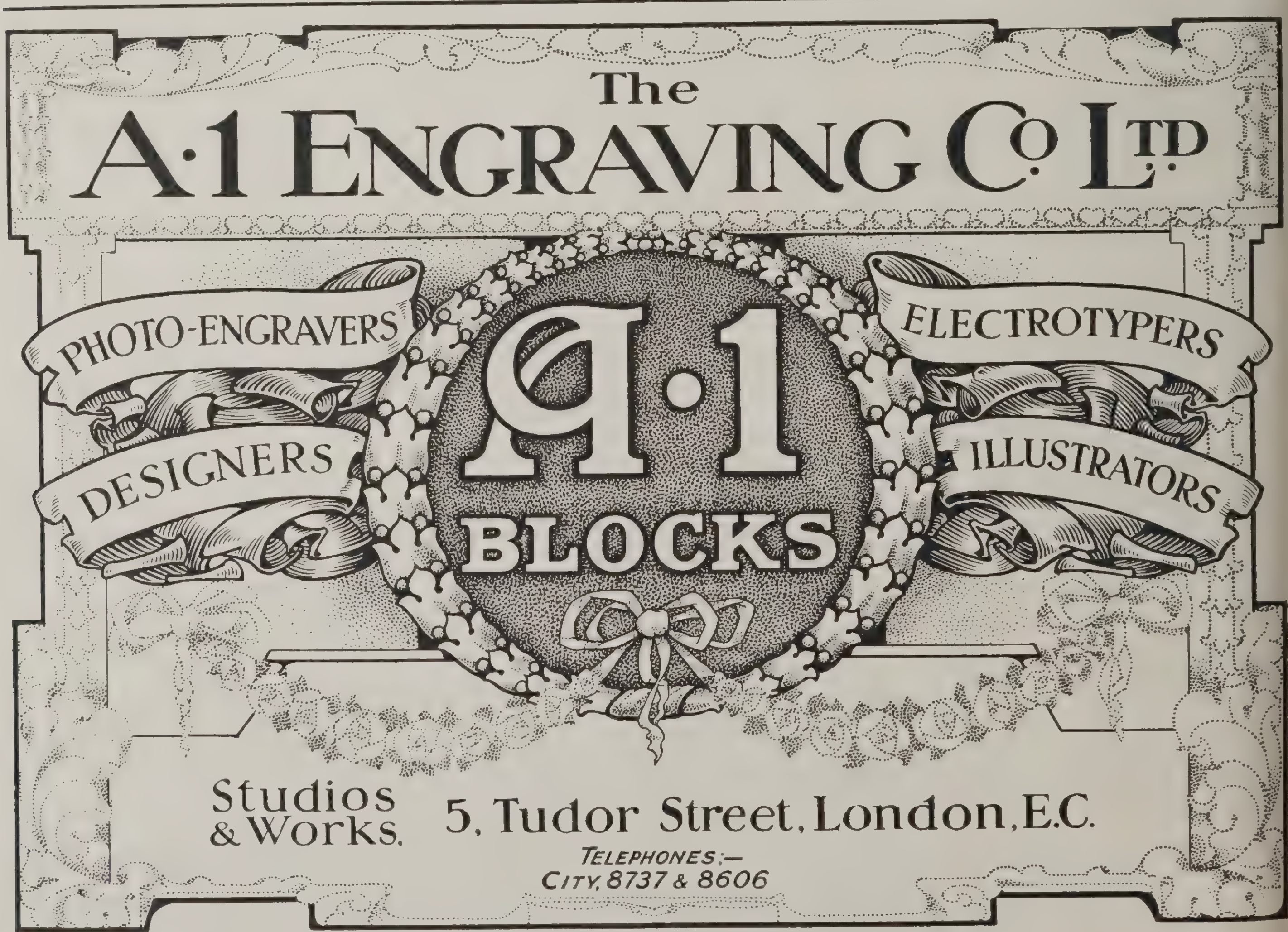

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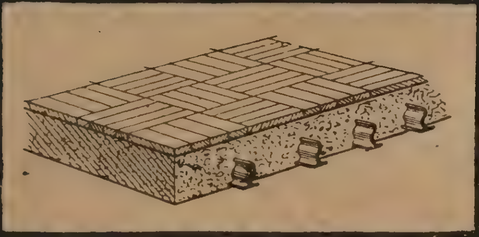

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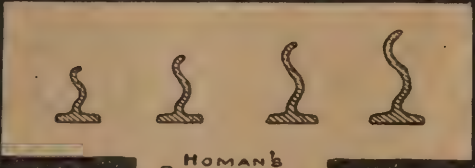

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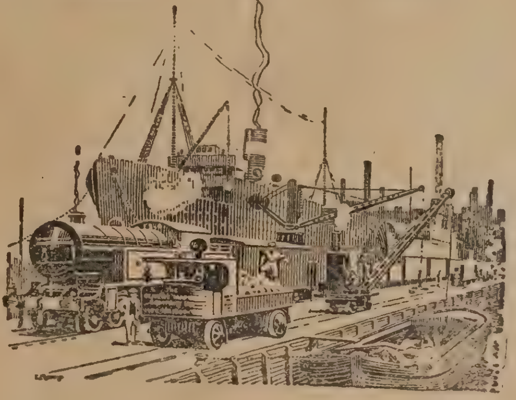

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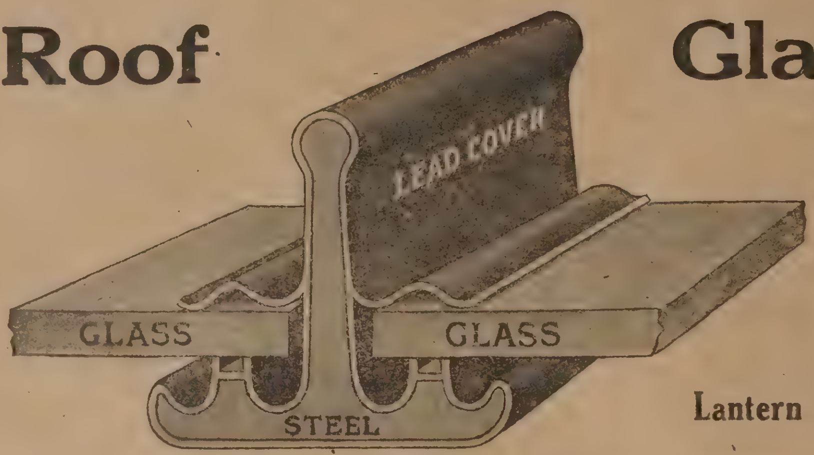

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